



# PCB Connector



## PCB Connector



### Technical specification

Specifications	DIN EN 60 664 DIN EN 61 984
Approvals	
Inserts	
No.of contact	48
Termination length	4.5mm
Contact rows	3
Contact spacing	3.81mm/5.08mm
Rated current	6A
Test voltage Ur.m.s	1.5KV(contact-contact) 2.5KV(contact-ground)
Insulatin resistance	$\geq 10^{12}\Omega$
Flammability acc.to UL94	V0
Material	thermoplastic rsein
Colour	RAL 7032(light grey)
Temperature range	-55°C ...+125°C
Mating cycles	$\geq 50$
Contacts	
Terminal	wave soldering termination
Contact	$\leq 15m\Omega$
Material	copper alloy
Susface	selective gold plating

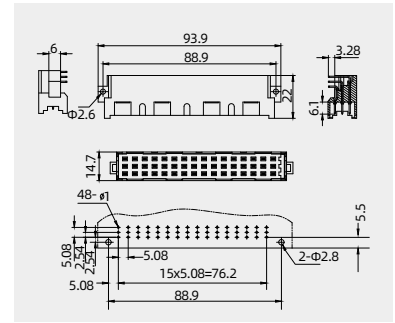
PCB Connector

6A 48

Inserts

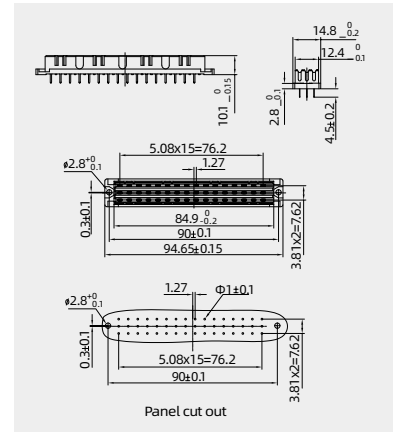
Inserts

Inserts	Designation	Order No.
male	WBF-048-MSHT	139 048 013 0001



Inserts

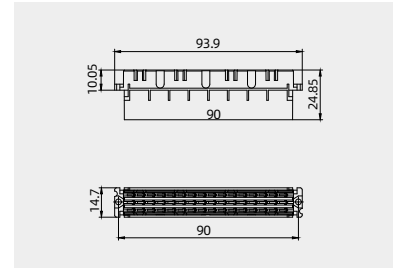
Description	Designation	Order No.
female	WBF-048-FTHT	139 048 024 0001



Inserts

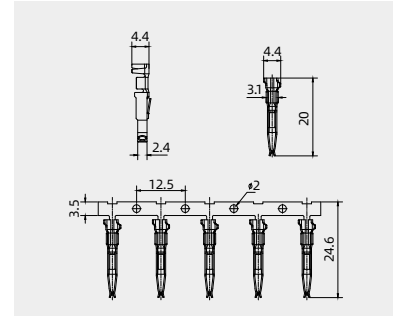
order crimp contacts separately

Description	Designation	Order No.
female	WBF-048-FC	139 048 020 0001



contacts

Description	Designation	Order No.
	CBGF-1.5P	101 040 202 0901

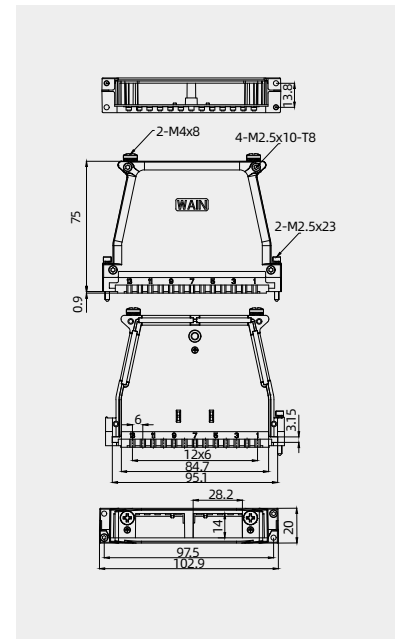


PCB Connector

6A 48

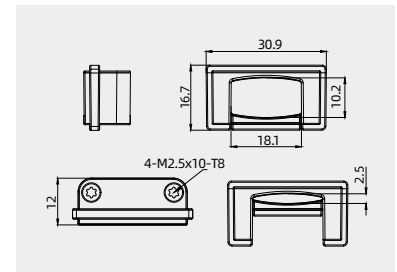
Hoods/Housings

Description	Designation	Order No.
	W20D-2TE/2SE	120 120 900 1001



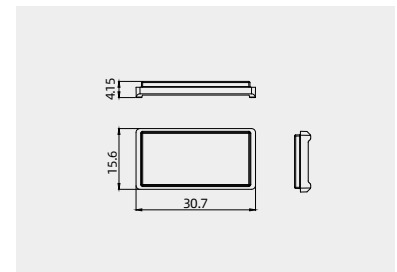
Cable clamp

Description	Designation	Order No.
	W20D-CLP	198 002 006 0021



Outlet-hole cover plate

Description	Designation	Order No.
	W20D-CV	120 120 000 8001



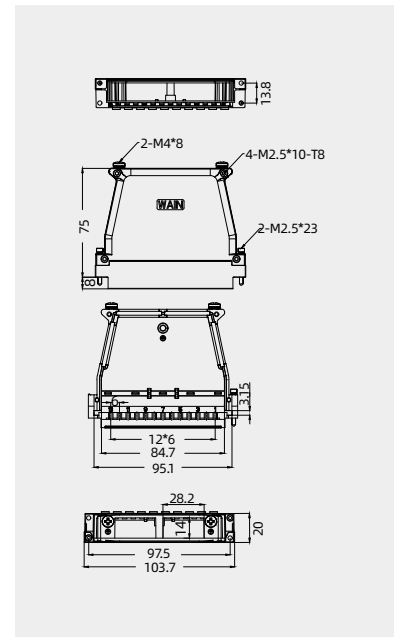
PCB Connector

6A 48



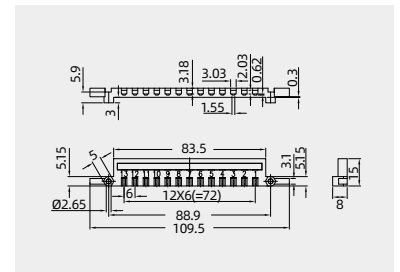
Hoods/Housings

Description	Designation	Order No.
	EMC.W20D-2TE/2SE	120 120 900 1002



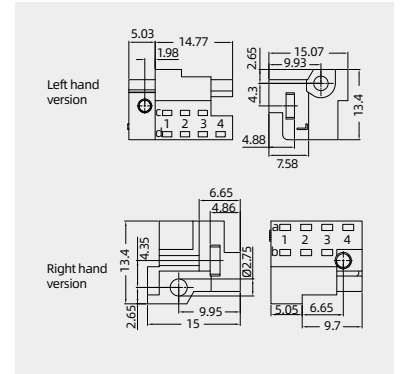
Encoding comb

Description	Designation	Order No.
	W20D-PCC	139 000 099 0500



Adapter

Description	Designation	Order No.
	W20D-Code-B/L	139 000 099 0501
	W20D-Code-B/R	139 000 099 0502



PCB Connector

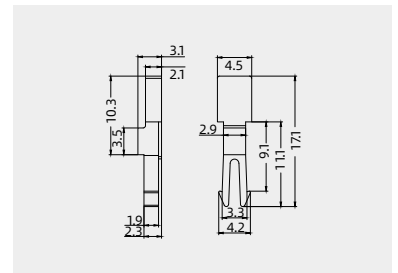
6A 48



Coding pin



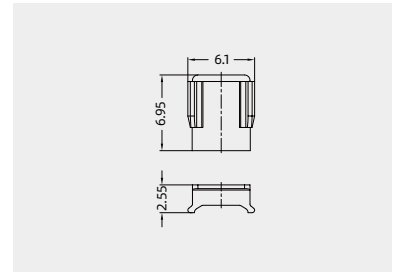
Description	Designation	Order No.
	CODE-W	198 002 005 0037



Coding pin



Description	Designation	Order No.
	CODE-F	198 002 005 0040

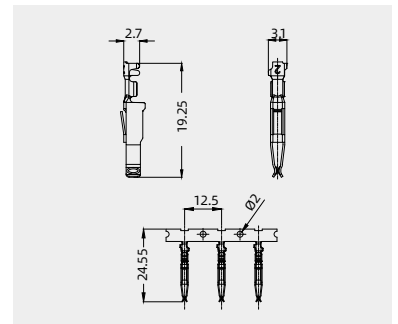


Contacts



Description	Designation	Order No.
	CBGF-0.5P	101 040 202 0551

2500pcs/roll



# Circular connector



C



## Contents

Series	Rated voltage	Rated current	Number of contacts	Terminal	Page
Technical characteristics					P16-02 ~ P16-10
M8	30V,60V	4A	3,4,5	screw clamp connection, solder, dip solder, moulded	P17-01 ~ P17-22
M12-A	60V, 125V, 250V	2A, 4A, 8A	3,4,5,8,12	screw clamp connection, solder, dip solder, moulded, single wires	P18-01 ~ P18-41
M12-B	125V, 250V	4A, 8A	2,3,4,5	screw clamp connection, solder, dip solder, moulded, single wires	P18B-01 ~ P18B-28
M12-D	250V	4A	4	screw clamp connection, solder, dip solder, moulded, single wires	P19-01 ~ P19-16
M12-S ★	630V	16A, 12A	3, 4	crimp terminal	P19S-01 ~ P19S-16
M12-X	250V	4A	8	crimp terminal, single wires	P19X-01 ~ P19X-09
M8/M12 Distributor M8/M12 Sensor junction box	60/250V 10~30V DC	4A 2A, 9A	4,5 4,5	- pluggable M23	P20-01 ~ P20-05
7/8	300V	8A, 9A, 10A, 12A	3(2+PE),4(3+PE),5(4+PE)	screw clamp connection,	P21-01 ~ P21-08
M17	32V, 60V, 630V	3.6A, 7A, 14A	7,12,17	crimp terminal	P21S-01 ~ P21S-11
HR23(M23)	25V~/60V-	7A, 15A	6,9,12,17,19	crimp terminal, (PCB)solder terminal screw clamp connection	P22-01 ~ P22-14
MR23	25V~/60V-	7A	12,17	crimp terminal	P23-01 ~ P23-07
M23	250V, 630V	9A, 30A	6,8	crimp terminal	P24-01~ P24-10
M40	250V	20A, 60A	4/4	crimp terminal	P25-01~ P25-05
Q38 ★	250V	13A, 30A	12+19, 32 (28+4), 48	Quick connect card slot	P25Q-01~ P25Q-06
Power electrical connector	220V, 250V	1A, 13A, 20A, 25A, 40A	4,5,6,10,26,RJ45&3	crimp terminal, solder terminal	P26-01~ P26-08
HW	1000V	800A	1	crimp terminal	P27-01~ P27-04
MI	400/30V	6/1A	6+6(5+PE)	crimp terminal, solder terminal	P27-05~ P27-06

## • Technical data

- Binding for the applications of connectors are the requirements of the equipment specifications of the users.
- We reserve the right to change the design due to improvements in quality, further development or production requirements.
- All technical data mentioned in this catalog are related to connectors, meaning connecting devices which in normal use (when under load) shall not be inserted or withdrawn.
- Regarding the CE marking it has to be noted that electronic components such as connectors are not subject to a marking, and therefore must not be marked with a CE mark. This is confirmed by the rules of the European commission for low voltage and EMC guidelines.
- The listed technical data are intended to help selecting the appropriate product and to secure a proper application.
- The connectors are developed and designed for the use in the field of equipment, control and electrical appliances. Whether they also can be used in other applications has to be checked by the user.
- When mounting electrical conductive socket housings, they have to be integrated into the protection measures.
- The wires to be connected shall be stripped only so far that distances to conductive parts are not shortened. When wires are soldered, it has to be beared in mind that no single strands stick out and no short circuit can occur.
- All dimensions in this catalog are in mm.
- For connectors with strain relief the following minimum parameters are valid:

		Recommended tightening torque of the pressing screw
2-3	Cable $\Phi$ : min.20N	30-40 Ncm
3-4	Cable $\Phi$ : min.30N	30-40 Ncm
4-5	Cable $\Phi$ : min.40N	80-100 Ncm
5-6	Cable $\Phi$ : min.50N	80-100 Ncm
6-7	Cable $\Phi$ : min.60N	80-100 Ncm
7-8	Cable $\Phi$ : min.70N	80-100 Ncm
8-12	Cable $\Phi$ : min.80N	100-140 Ncm

### • Connectors

Connectors are components which are not to be engaged or disengaged in normal use (under live).

### • Plug and socket devices

Plug and socket devices are components which in normal use (under live or load) may be engaged or disengaged when live or under load.

## • Termination methods

### • Screw termination

A Screw termination is a detachable electrical connection between a conductor and a screw clamp. Screw clamps are designed acc. to DIN/EN 60999/VDE 0609. The chart below shows the screw size and the required clamping and testing torque.

Screw size	M2.5	M3	M3.5
Torque(Ncm) Cap screw	40	50	60
Headless screw	20	25	40

### • Solder connection

Besides the soldering of single wires with solder irons or soldering machines, the method of wave soldering or infra-red vapor phase soldering has gained great importance for connectors for printed boards or flexible wiring.

We recommend the following soldering parameters

- hand-soldering: soldering bold temperature max. 370° C/max. 4s
- dip soldering: soldering bath temperature max. 270° C/max. 4s
- alternativ dip soldering: soldering bath temperature max. 260° C/max. 10s

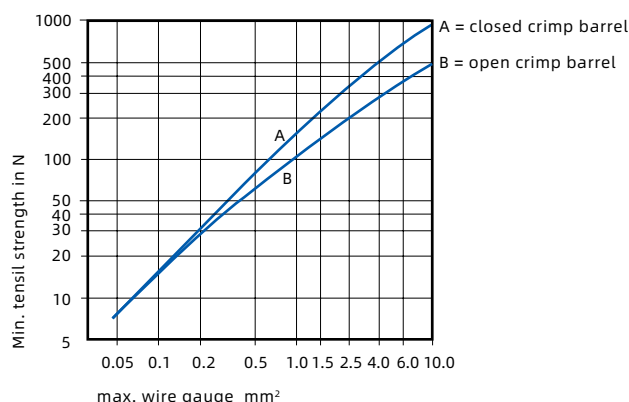
When wires are soldered, it has to be watched that no single strands stick out which could lead to a short circuit and that no large solder joints occur which would reduce the clearance and creepage distances unfavourably. Testing and valuation of solder joints and the relevant components is regulated in DIN EN 60068

• Technical data

• Crimp connection

A crimp connection is a non-detachable electrical connection between a conductor and a crimp contact produced with the crimp technology. The requirements for crimp connections are defined in DIN IEC 60352 part 2.

An important point for the quality of a crimp connection is the achieved tensile strength of the termination. Since easy to measure, the tensile strength is a practicable means for quality control purposes. The diagram below shows the required minimum tensile strength depending on the wire size.



• American Wire Gauges

Since various areas of industry are also using wires according to the American Wire Gauge (AWG), the following comparison chart is included to allow a cross reference between AWG and metric wire sizes

AWG	Wire composition (mm)	Wire-Ø(mm)	Wire gauge(mm²)
30	1 x 0.25 7 x 0.10	2-3	2-3
28	1 x 0.32 7 x 0.13	3-4	3-4
26	1 x 0.40 7 x 0.16 19 x 0.10	0.40 0.48 0.51	0.13 0.14 0.15
24	1 x 0.51 7 x 0.20 19 x 0.13	0.51 0.61 0.64	0.21 0.22 0.25
22	1 x 0.64 7 x 0.25 19 x 0.16	0.64 0.76 0.81	0.33 0.34 0.38
20	1 x 0.81 7 x 0.32 19 x 0.20	0.81 0.97 1.02	0.52 0.56 0.60
18	1 x 1.02 19 x 0.25	1.02 0.27	0.82 0.93
16	19 x 0.29	1.44	1.25
14	19 x 0.36	1.80	1.93
12	19 x 0.46	2.29	3.16
10	19 x 0.56	3.10	4.65

• Composition and dimensions of commonly used copper wires based on VDE 0295

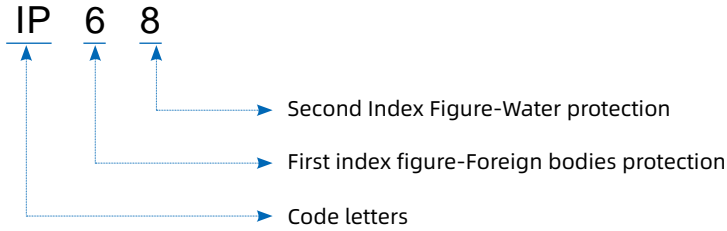
Wire gauge(mm²)	Wire composition (mm)	Wire-Ø(mm)
0.09	12 x 0.10	0.5
0.14	18 x 0.10	0.5
0.25	14 x 0.16 32 x 0.10	0.7 0.7
0.34	19 x 0.16 42 x 0.10	0.8 0.9
0.5	7 x 0.30 16 x 0.21 28 x 0.16	1.0 1.1 1.1
0.75	7 x 0.37 24 x 0.21 42 x 0.16	1.2 1.2 1.3
1.0	7 x 0.43 32 x 0.21 56 x 0.16	1.4 1.4 1.5
1.5	7 x 0.52 30 x 0.26 84 x 0.16	1.6 1.7 1.8
2.5	7 x 0.67 50 x 0.26 140 x 0.16	2.2 2.3 2.3
4.0	7 x 0.85 56 x 0.31 224 x 0.16	2.7 2.8 2.9

It has to be noted that wires of the same AWG number but with different composition have slightly different mm²!

## • Hoods/housings connector insert protection

For safety reasons, connectors have to be protected from outside influences like dust, foreign objects, direct contact, moisture and water. This protection is provided on industrial connectors by their housings with their latching devices and sealed cable entries. The degree of protection can be selected depending on the type of intended use. The standard IEC 60529 and/or DIN EN 60529 has specified and divided the degree of protection into several classes.

The degree of protection is indicated in the following way:



Index figure	Degree of protection	Index figure	Degree of protection
0	No protection: No protection against accidental contact, no protection against solid foreign bodies	0	No protection against water
1	Protection against large foreign bodies: Protection against contact with any large area by hand and against large solid foreign bodies with $\varnothing > 50$ mm	1	Drip-proof: Protection against vertical water drips
2	Protection against medium sized foreign bodies: Protection against contact with the fingers, protection against solid foreign bodies with $\varnothing > 12$ mm	2	Drip-proof: Protection against water drips (up to a $15^\circ$ angle)
3	Protection against small solid foreign bodies: Protection against tools, wires or similar objects with $\varnothing > 2.5$ mm, protection against small foreign solid bodies with $\varnothing > 2.5$ mm	3	Spray-proof: Protection against diagonal water drips (up to a $60^\circ$ angle)
4	Protection against grain-shaped foreign bodies: As 3 however $\varnothing > 1$ mm	4	Spray-proof: Protection against splashed water from all directions
5	Protection against injurious deposits of dust: Full protection against contact. Protection against interior injurious dust deposits	5	Hose-proof: Protection against water (out of a nozzle) from all directions
6	Protection against ingress of dust: Total protection against contact. Protection against penetration of dust	6	Strong hose-proof: Protection against strong water (out of a nozzle) from all directions
		7	Protected against immersion: Protected against temporary immersion
		8	Water-tight: Protected against water pressure

## • Electrotechnical information

### • Voltage grading of connectors (insulation coordination)

Clearances and creepage distances are the base of voltage grading of connectors. Valuation and dimensioning of clearances and creepage distances have changed since the introduction of insulation coordination. The following standards apply for this:

- IEC 60664-1/11.92 Insulation coordination for equipment within low-voltage systems
- DIN VDE 0110/4.97 Insulation coordination for equipment within low-voltage systems

Insulation coordination comprises the selection of the electrical insulation performances of an equipment (e.g. connector), taking into account the expected use and its environment.

#### • In this respect some definitions are explained in short:

**Rated voltage:** The value of voltage assigned by the manufacturer to the connector and to which operation and performance characteristics are referred.

**Rated impulse voltage:** The value of an impulse withstand voltage assigned by the manufacturer to the connector characterising the specified withstand capability of its insulation against transient overvoltages.

**Clearance:** The shortest distance in air between two conductive parts.

**Creepage distance:** The shortest distance along the surface of the insulating material between two conductive parts.



### • Voltage grading of connectors (insulation coordination)

**Overvoltage categories:** The standard has divided the possible overvoltages into four categories. The three categories which relate to connectors are shortly described below:

#### Overvoltage category I

Equipment (e.g. connectors) intended for the use in applications or parts of installations in which no overvoltage can occur. Examples are low voltage equipments.

#### Overvoltage category II

Equipment (e.g. connectors) intended for the use in installations or parts of it, in which lightning overvoltages do not need to be considered, however switching overvoltages generated by the equipment. Examples are household appliances.

#### Overvoltage category III

Equipment (e.g. connectors) intended for the use in installations or parts of it in which lightning overvoltages do not need to be considered, however switching overvoltages generated by the equipment, and for cases where the reliability and the availability of the equipment (e.g. connectors) or its dependent circuits are subject to special requirements. Examples are protecting means, switches and sockets.

#### Material groups

For the dimensioning of the creepage distance, the tracking formation of the insulating material used by the manufacturer has to be considered. The materials are separated into three groups according to their CTI values (Comparative Tracking Index):

Material group I  $600 \leq \text{CTI}$

Material group II  $400 \leq \text{CTI} < 600$

Material group III  $175 \leq \text{CTI} < 400$

### • Pollution degree of connectors

**Pollution degree:** The expected pollution around the equipment (e.g. connector) was established in the standard in four degrees:

**Pollution degree 1:** No pollution or only dry, non-conductive pollution occurs. The pollution has no influence. Examples: The inside of electrical measuring instruments, electronic measuring devices.

**Pollution degree 2:** Only non-conductive pollution occurs. Except that occasionally a temporary conductivity caused by condensation is to be expected.

Examples: Household appliances, installation material, lamps, power supplies of office equipment.

**Pollution degree 3:** Conductive pollution occurs or dry non-conductive pollution occurs which becomes conductive due to condensation which is to be expected.

Examples: Electrical equipment of machine tools and processing machines, low voltage switches at machine tools.

**Pollution degree 4:** The pollution generates persistent conductivity caused by conductive dust or by rain or snow.

Examples: Equipment on wagon roofs and beneath wagons at electrical locomotives, rail cars, trolley busses. Equipment at electrical locomotives underground.

**Additional remarks:** If connectors being defined for pollution degree 1 and overvoltage categorie 1 are applied for other conditions (higher pollution degree and higher overvoltage category), voltage levels reduce correspondingly. But the connectors can be used without any problems at reduced maximum voltages.

It has to be noted that for a connector with a degree of protection of at least IP 54 the parts inside the enclosure may be dimensioned for a lower pollution degree. This also applies to mated connectors whose enclosure is ensured through the connector housing and which may only be disengaged for test and maintenance purposes.

## • Current carrying capacity

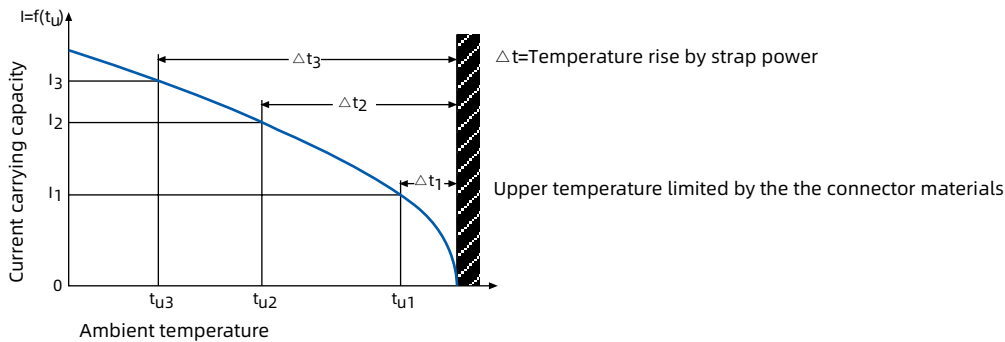
The current carrying capacity of a connector denotes the current that can be carried continuously and simultaneously through all its contacts. It is determined by testing following the standard DIN IEC 60512.

The upper limit temperature results from the thermal properties of the contact and insulating materials. The sum of the ambient temperature and the temperature created by the current flow may not exceed the upper limit temperature of the connector.

This means, that the current carrying capacity is no fixed value but decreases with increasing ambient temperatures. This relation between current, the caused temperature rise and ambient temperature of the connector is depicted in a curve, the so-called derating curve. As one can see, the current carrying capacity decreases with increasing ambient temperature.

On the other hand, very often not all contacts are loaded simultaneously with the whole rated current, so that some single contacts can carry a higher current than that according to the derating curve. These currents have to be determined by testing.

### Derating curve:



## • Shielding, Electromagnetic compatibility (EMC)

Since the issue of the German law about electromagnetic compatibility of equipment, more attention is paid to EMC within the concerned equipment.

The equipment has to be designed in such a way that:

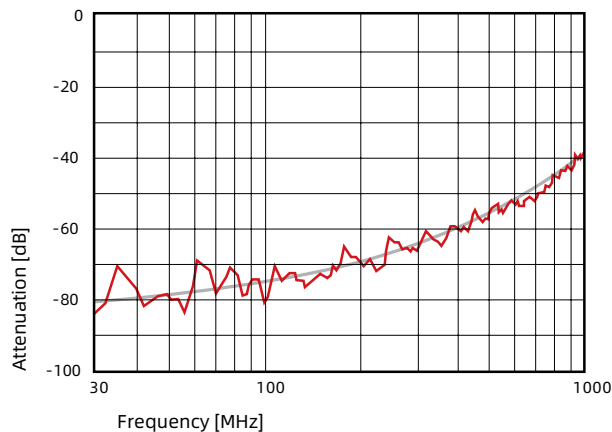
1. the generation of electromagnetic interference is limited to such extend that the determined operation of this equipment is not hampered,
2. the equipment has a reasonable resistance against electromagnetic interference so that the determined operation is not hampered.

To satisfy the requirements of the equipment manufacturers, more and more connectors with shielding properties are applied where shielded cables can be connected. In use are conductive housings to which the cable shield can be terminated. In case of circular connectors, it should be watched that the cable shield is carefully connected to the connector shield. A circumferentially (360°) contact is optimal in this case. Good shielding values (and very often sufficient for practical use) are also achieved when the shielding braid is firmly connected to the conductive housing. Not sufficient are fully plastic connectors without metal sleeves with no possibility to terminate the cable shield.

Furthermore, it is important that during mating a secure electrical connection between plug and socket housing is achieved and that the panel mounted connector part has a good metallic connection with the chassis wall.

The shielding attenuation is stated in decibel (db) and depends on the frequency. Good shieldings have a high attenuation, which over a large frequency band (MHz) does not decrease too heavily.

Attenuation curve acc. to DIN 47250-6  
Example 360° shielding: M12-A series



## • Information about used materials

Two material groups are used to manufacture the connectors described in this catalog:

- 1: Metals for contacts and housings
- 2: Plastic material for inserts and housings

Materials for contacts

The properties of contacts are defined to a large extent by the used materials. Decisive features are:

- strength and spring properties
- electrical conductivity
- max. operating temperature

Considering these points, Wain is using proven copper-alloys for the manufacture of contacts;

### Materials for metal housings

Depending on the application, the metal housings are produced from either brass, zinc die-cast or an aluminium alloy. For circular housing parts, mainly brass is used due to its good machine ability and strength. For angled housings and parts with minor finishing work, zinc diecast or an aluminium alloy is used.

### Plastic material for inserts

The inserts of Wain-connectors are manufactured primarily from PBT (Polybutylen-terephthalate), a plastic material with a temperature stability of up to 130 °C and special properties for high grade moulded parts. The material has very good chemical and electrical properties and very good dimensional stability.

### Surface finishes

In order to protect contacts and housings from aggressive environments and to improve the conductivity, the surfaces are treated accordingly. At wain, contacts are gold or silver plated. These platings improve the conductivity and are very corrosion-proof. For applications in the mA-range at very low voltages, gold plated contacts are recommended to improve the electrical properties and in addition, it increases the corrosion-proofness. Housings are anodised or covered with a plating of either nickel or chromium for anti-corrosion and decorative reasons.

### Material for sealing gaskets

To achieve the required protection class, all Wain circular connectors are equipped with sealing rings of an elastomeric material. Depending on the final use, wain has selected Chloroprene Rubber (Trademark Neoprene), Nitrid Rubber (Trademark Perbunan) or Fluorsilicon Rubber (Trademark Viton). The chemical resistance of these elastomeric materials can be depicted from table on page 16-09.

### Plastic material for housings

Plastic housings are primarily manufactured from PA (Polyamide). This wellproven material (internationally known under the name Nylon) is very tough, non-abrasive, resistant against solvents, oils and greases and can be used at temperatures up to 120 °C.

## • Important data of used metals

Material	Letter symbol	Conductivity ( $\frac{m}{\Omega \times mm^2}$ )	Tensile strength (N/mm <sup>2</sup> )	Limit temperature (°C)	Corrosion resistance <sup>1)</sup>
<b>Coatings</b>					
Gold	Au	44	-	-	Very good
Silver	Ag	62	-	-	Good
Nickel	Ni	10	-	-	Very good
Optaloy	CuSnZn	15	-	-	Good
<b>Basic material</b>					
Copper	Cu	55	ca.400	90	Partially resistant. Surface coating recommended.
Brass	CuZn	15	ca.500	90	Partially resistant. Surface coating recommended.
Phos. bronze	CuSn	9	ca.700	120	Good
Zinc die-cast	GD-Zn	16	ca.300	-	Non-resistant. Surface coating required.
Aluminium die-cast	GD-Al	20	ca.250	-	Partially resistant. Surface coating recommended.

1) Depends on environmental influences.

- Information about used materials

- Chemical resistance of used plastic material and elastomeres

	PA	PBT	CR	NBR	FPM	PUR(Ester) <sup>1)</sup>	PUR(Ether) <sup>1)</sup>
<b>Hydrocarbons</b>							
Gasolin	+	+	0	+	+	+	+
Fuel oil	+	+	+	+	+	+	+
Benzole	+	0	-	-	+	0	0
Naphthalene	+	0	-	+	+	0	0
<b>Alcohols</b>							
Ethyl alcohol	0	+	+	+	+	+	+
Isopropanol	0	0	+	+	+	+	+
Glycol	-	0	+	+	+	+	+
Glycerine	+	+	+	+	0	+	+
<b>Ketons</b>							
Acetone	+	+	0	-	-	-	-
<b>Acids</b>							
Hydrochloric acid(20% )	-	0	0	0	+	-	+
Nitric acid(10% )	-	0	0	0	+	-	-
Phosphoric acid(30% )	-	0	+	+	+	-	+
Sulphuric(30% )	-	0	+	+	+	-	+
Citric acid(10% )	+	+	+	+	+	0/-w	+
Lactic acid(10% )	+	+	0	0	+	0/-	+
Acetic acid(10% )	0	0	+	+	+	0/-	+
<b>Bases (solutions)</b>							
Caustic soda(10% )	+	-	0	0	0	0	+
Ammonia, diluted	+	+	+	+	+	-	+
<b>Oils, greases</b>							
Soybean oil	+	+	+	+	0	0/-	0
Olive oil	+	+	+	+	+	0/-	0
Butter	+	+	+	+	+	0/-	0/-
Salt water	+	+	+	+	+	0	+
<b>Cleaning agents</b>							
Detergents	+	0	+	+	+	+/-	+/-
Detergents	+	+	+	+	+	+/-	+/-



## • Information to used standards

- The standards used in this catalog for definition and testing of the connectors are described below in more detail. These are:

### IEC 60664-1; (2007-4), Insulation coordination

This international standard, which is identical to the German standard DIN VDE 0110-1 issued April 1997, is a basic safety standard to achieve insulation coordination. It provides the information necessary to specify clearances, creepage distances and solid insulation for electrical equipment (e.g. connectors), taking into account the expected micro-environment and other influencing stresses to which it is likely to be subjected during its anticipated lifetime. Included are methods for voltage testing in regards to the insulation coordination.

### IEC 60512; (2001-1), Testing procedures and measuring methods

This international standard, which is identical with the European standard DIN EN 60512, has replaced the earlier German standard DIN 41640. It is the basic standard for testing procedures and measuring methods for electromechanical components (e.g. connectors). The standard is very comprehensive and consists of nine parts in total in which all electrical, mechanical and climatic tests are described. Furthermore, it contains tests about solderability, sealing, shielding and cable strain relieve.

### IEC 60529; (2001-2), Degrees of protection provided by enclosures (IP-Code)

This international standard, which is identical with the European standard DIN EN 60529 and the German standard DIN VDE 0470-1 of Nov. 1992, defines the designation, requirements and testing for the classification of degrees of protection by enclosures for electrical equipment (e.g. connectors). It classifies the protection against access to hazardous parts, protection against foreign objects and protection against ingress of water. The degree of protection is indicated by an IP-Code.

### IEC 60068-1; March 1995, Environmental testing

This international standard, which is identical with the European standard DIN EN 60068, contains basic procedures for environmental tests and test severities. The test procedures are intended to prove the resistance of components against expected environmental influences under working conditions. Typical tests are: cold, dry and damp heat, shock, vibration, temperature change and more.

### DIN EN 61984 (VDE 0627); 2009-11, Connectors and Connection devices

This international standard is applicable for plug connectors with rated voltages ranging from 50 V to 1000 V AC and DC and rated currents up to 500 A per contact for which there is either no detail specification (DS), or if the detail specification with reference to the safety requirements is based on this standard. This standard may be used as a guide for plug connector with rated voltages up to 50 V. In this case the design for clearances and leakage paths must be based on IEC 60664-1.

This standard may also be used as a guide for plug connectors with rated voltages greater than 125 V per pole.

This standard is not applicable for plug connectors in or on equipment for which there are application-specific safety requirements for plug connectors.

## M8 Circular connectors

Standards: IEC-61076-2-104



- **Cable Connector**
  - Versions with assembly
  - Thread locking M8x1
  - Screw-, solder termination
  - Connector moulded on cable
  - Degree of protection IP67/IP65 1)
  - Cable length 2m and 5m (PVC and PUR)
  - Further Cable length upon request, minimum order quantity 200 pieces
- **Cable Connector shielded**
  - Assembly possible, moulded on cable
  - Thread locking M8x1
  - Solder-, screw termination

## M8 Circular Connector

30/60V 4A

## Technical characteristics

	3-pole	4-pole
Rated current(40°C )	4A	4A
Rated voltage	60V	30V
Rated impulse voltage	800V	800V
Pollution degree	3	3
Overvoltage categorie	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw	screw
Termination	screw, solder	screw, solder
Wire gauge	screw 0.14-0.5mm <sup>2</sup> (AWG26-20) ,solder 0.25mm <sup>2</sup> (AWG24)	screw 0.14-0.5mm <sup>2</sup> (AWG26-20) ,solder 0.25mm <sup>2</sup> (AWG24)
Cable outlet	3.5-5 mm	3.5-5 mm
Degree of protection	IP67	IP67
Mechanical operation	> 100	> 100
Limiting temperature	-40°C ...+85°C	-40°C ...+85°C
Material group	III	III
Material of contact	copper alloy	copper alloy
Contact plating	Au	Au
Insulating material	PA	PA
Material of housing	PA	PA

## Straight cable connectors

## Male cable connector, solder

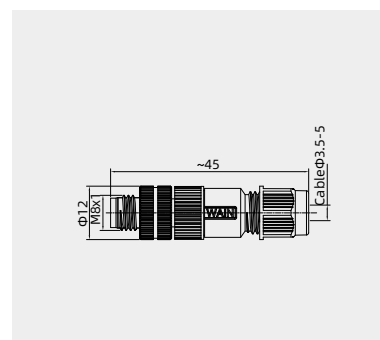


## Contact arrangements



3pin 4pin

Contacts	Cable outlet	Designation	Order No.
3	3.5-5 mm	M8-MST03-T-D5	162 003 413 3001
4	3.5-5 mm	M8-MST04-T-D5	162 004 413 3001

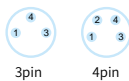


## Male cable connector, screw

## Recommend to use

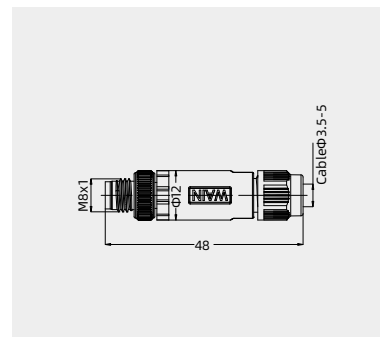


## Contact arrangements



3pin 4pin

Contacts	Cable outlet	Designation	Order No.
3	3.5-5 mm	M8-M03-T-D5	162 003 411 3001
4	3.5-5 mm	M8-M04-T-D5	162 004 411 3001



M8

## M8 Circular Connector

30/60V 4A

### Technical characteristics

	3-pole	4-pole
Rated current(40°C )	4A	4A
Rated voltage	60V	30V
Rated impulse voltage	800V	800V
Pollution degree	3	3
Overvoltage categorie	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw	screw
Termination	screw, solder	screw, solder
Wire gauge	screw 0.14-0.5mm <sup>2</sup> (AWG26-20),solder 0.25mm <sup>2</sup> (AWG24)	screw 0.14-0.5mm <sup>2</sup> (AWG26-20),solder 0.25mm <sup>2</sup> (AWG24)
Cable outlet	3.5-5 mm,3.5-5.5 mm	3.5-5 mm,3.5-5.5 mm
Degree of protection	IP67	IP67
Mechanical operation	> 100	> 100
Limiting temperature	-40°C ...+85°C	-40°C ...+85°C
Material group	III	III
Material of contact	copper alloy	copper alloy
Contact plating	Au	Au
Insulating material	PA	PA
Material of housing	CuZn	CuZn

### Straight cable connectors,shielded

Male cable connector, solder, shielded

Recommend to use

Contacts	Cable outlet	Designation	Order No.
3	3.5-5 mm	M8-MST03-T-D5-SH	162 003 413 2001
4	3.5-5 mm	M8-MST04-T-D5-SH	162 004 413 2001



Contact arrangements



3pin

4pin

Male cable connector, screw, shielded

Contacts	Cable outlet	Designation	Order No.
3	3.5-5 mm	M8-M03-T-D5.5-SH	162 003 411 2001
4	3.5-5 mm	M8-M04-T-D5.5-SH	162 004 411 2001

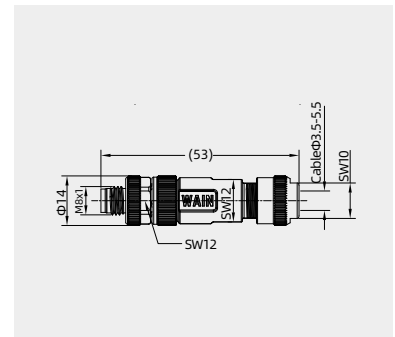
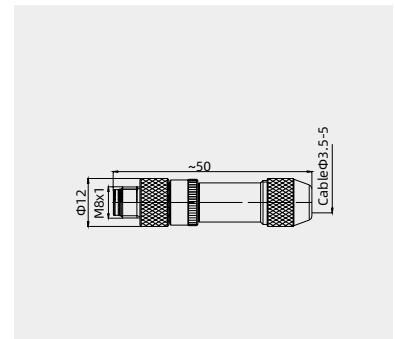


Contact arrangements



3pin

4pin



## M8 Circular Connector

30/60V 4A

## Technical characteristics

	3-pole	4-pole
Rated current(40°C )	4A	4A
Rated voltage	60V	30V
Rated impulse voltage	800V	800V
Pollution degree	3	3
Overvoltage categorie	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw	screw
Termination	screw, solder	screw, solder
Wire gauge	screw 0.14-0.5mm <sup>2</sup> (AWG26-20) ,solder 0.25mm <sup>2</sup> (AWG24)	screw 0.14-0.5mm <sup>2</sup> (AWG26-20) ,solder 0.25mm <sup>2</sup> (AWG24)
Cable outlet	3.5-5 mm	3.5-5 mm
Degree of protection	IP67	IP67
Mechanical operation	> 100	> 100
Limiting temperature	-40°C ...+85°C	-40°C ...+85°C
Material group	III	III
Material of contact	copper alloy	copper alloy
Contact plating	Au	Au
Insulating material	PA	PA
Material of housing	PA	PA

## Angled cable connectors

## Male cable connector, solder



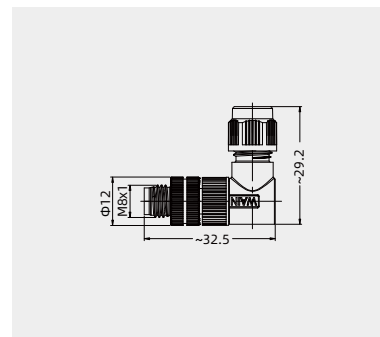
## Contact arrangements



3pin

4pin

Contacts	Cable outlet	Designation	Order No.
3	3.5-5 mm	M8-MST03-S-D5	162 003 513 3001
4	3.5-5 mm	M8-MST04-S-D5	162 004 513 3001



## Male cable connector, screw



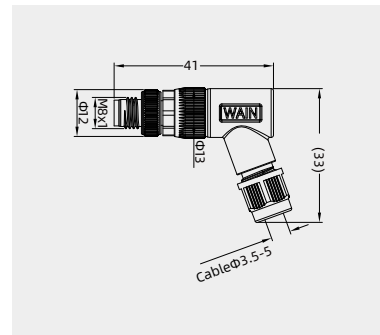
## Contact arrangements



3pin

4pin

Contacts	Cable outlet	Designation	Order No.
3	3.5-5 mm	M8-M03-S-D5	162 003 511 3001
4	3.5-5 mm	M8-M04-S-D5	162 004 511 3001



M8

## M8 Circular Connector

30/60V 4A

## Technical characteristics

	3-pole	4-pole
Rated current(40°C )	4A	4A
Rated voltage	60V	30V
Rated impulse voltage	800V	800V
Pollution degree	3	3
Overvoltage categorie	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw	screw
Termination	screw	screw,
Wire gauge	screw 0.14-0.5mm <sup>2</sup> (AWG26-20)	screw 0.14-0.5mm <sup>2</sup> (AWG26-20)
Cable outlet	3.5-5.5 mm	3.5-5.5 mm
Degree of protection	IP67	IP67
Mechanical operation	> 100	> 100
Limiting temperature	-40°C ...+85°C	-40°C ...+85°C
Material group	III	III
Material of contact	copper alloy	copper alloy
Contact plating	Au	Au
Insulating material	PA	PA
Material of housing	CuZn	CuZn

## Angled cable connectors, shielded

Male cable connector, screw, shielded

Recommend to use

Contacts	Cable outlet	Designation	Order No.
3	3.5-5 mm	M8-M03-S-D5.5-SH	162 003 501 2003
4	3.5-5 mm	M8-M04-S-D5.5-SH	162 004 501 2003

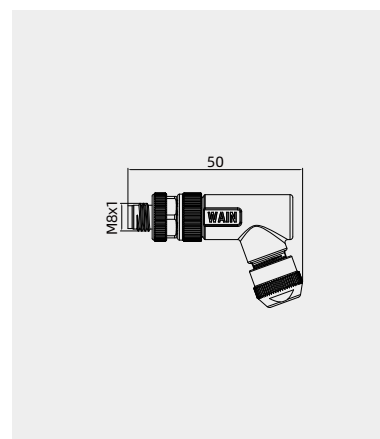


Contact arrangements



3pin

4pin



## M8 Circular Connector

30/60V 4A

## Technical characteristics

	3-pole	4-pole
Rated current(40°C )	4A	4A
Rated voltage	60V	30V
Rated impulse voltage	800V	800V
Pollution degree	3	3
Overvoltage categorie	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw	screw
Termination	screw, solder	screw, solder
Wire gauge	screw 0.14-0.5mm <sup>2</sup> (AWG26-20) ,solder 0.25mm <sup>2</sup> (AWG24)	screw 0.14-0.5mm <sup>2</sup> (AWG26-20) ,solder 0.25mm <sup>2</sup> (AWG24)
Cable outlet	3.5-5 mm	3.5-5 mm
Degree of protection	IP67	IP67
Mechanical operation	> 100	> 100
Limiting temperature	-40°C ...+85°C	-40°C ...+85°C
Material group	III	III
Material of contact	copper alloy	copper alloy
Contact plating	Au	Au
Insulating material	PA	PA
Material of housing	PA	PA

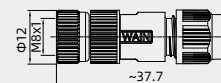
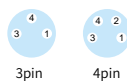
## Straight cable connectors

## Female cable connector, solder

Contacts	Cable outlet	Designation	Order No.
3	3.5-5 mm	M8-FST03-T-D5	162 003 423 3001
4	3.5-5 mm	M8-FST04-T-D5	162 004 423 3001



## Contact arrangements



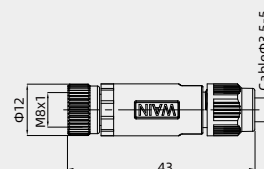
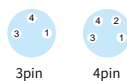
## Female cable connector, solder

## Recommend to use

Contacts	Cable outlet	Designation	Order No.
3	3.5-5 mm	M8-F03-T-D5	162 003 421 3001
4	3.5-5 mm	M8-F04-T-D5	162 004 421 3001



## Contact arrangements



M8

## M8 Circular Connector

30/60V 4A

## Technical characteristics

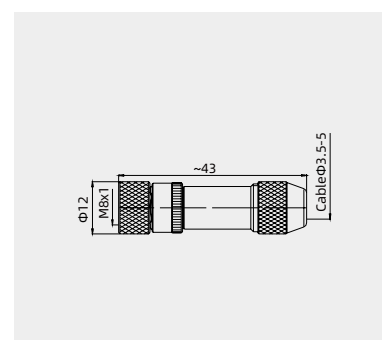
	3-pole	4-pole
Rated current(40°C )	4A	4A
Rated voltage	60V	30V
Rated impulse voltage	800V	800V
Pollution degree	3	3
Overvoltage categorie	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw	screw
Termination	screw, solder	screw, solder
Wire gauge	screw0.14-0.5mm <sup>2</sup> (AWG26-20),solder 0.25mm <sup>2</sup> (AWG24)	screw0.14-0.5mm <sup>2</sup> (AWG26-20),solder 0.25mm <sup>2</sup> (AWG24)
Cable outlet	3.5-5 mm,3.5-5.5 mm	3.5-5 mm,3.5-5.5 mm
Degree of protection	IP67	IP67
Mechanical operation	> 100	> 100
Limiting temperature	-40°C ...+85°C	-40°C ...+85°C
Material group	III	III
Material of contact	copper alloy	copper alloy
Contact plating	Au	Au
Insulating material	PA	PA
Material of housing	CuZn	CuZn

## Straight cable connectors

Female cable connector, solder, shielded

Recommend to use

Contacts	Cable outlet	Designation	Order No.
3	3.5-5 mm	M8-FST03-T-D5-SH	162 003 423 2001
4	3.5-5 mm	M8-FST04-T-D5-SH	162 004 423 2001



Contact arrangements

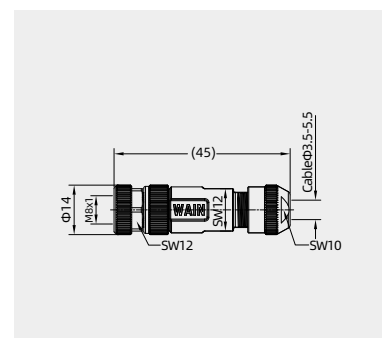


3pin

4pin

Female cable connector, solder, shielded

Contacts	Cable outlet	Designation	Order No.
3	3.5-5 mm	M8-F03-T-D5.5-SH	162 003 421 2001
4	3.5-5 mm	M8-F04-T-D5.5-SH	162 004 421 2001



Contact arrangements



3pin

4pin



## M8 Circular Connector

30/60V 4A

## Technical characteristics

	3-pole	4-pole
Rated current(40°C )	4A	4A
Rated voltage	60V	30V
Rated impulse voltage	800V	800V
Pollution degree	3	3
Overvoltage categorie	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw	screw
Termination	screw, solder	screw, solder
Wire gauge	screw 0.14-0.5mm <sup>2</sup> (AWG26-20) ,solder 0.25mm <sup>2</sup> (AWG24)	screw 0.14-0.5mm <sup>2</sup> (AWG26-20) ,solder 0.25mm <sup>2</sup> (AWG24)
Cable outlet	3.5-5 mm	3.5-5 mm
Degree of protection	IP67	IP67
Mechanical operation	> 100	> 100
Limiting temperature	-40°C ...+85°C	-40°C ...+85°C
Material group	III	III
Material of contact	copper alloy	copper alloy
Contact plating	Au	Au
Insulating material	PA	PA
Material of housing	PA	PA

## Angled cable connectors

## Female cable connector, solder



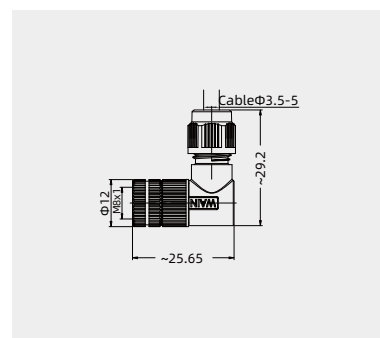
Contact arrangements



3pin

4pin

Contacts	Cable outlet	Designation	Order No.
3	3.5-5 mm	M8-FST03-S-D5	162 003 523 3001
4	3.5-5 mm	M8-FST04-S-D5	162 004 523 3001



## Female cable connector, solder



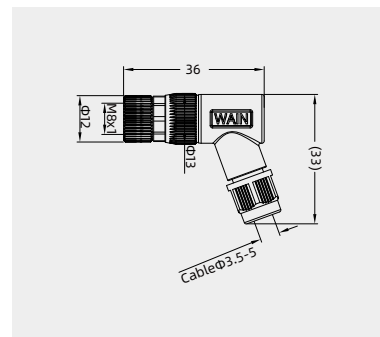
Contact arrangements



3pin

4pin

Contacts	Cable outlet	Designation	Order No.
3	3.5-5 mm	M8-F03-S-D5	162 003 521 3001
4	3.5-5 mm	M8-F04-S-D5	162 004 521 3001



## M8 Circular Connector

30/60V 4A

## Technical characteristics

	3-pole	4-pole
Rated current(40°C )	4A	4A
Rated voltage	60V	30V
Rated impulse voltage	800V	800V
Pollution degree	3	3
Overvoltage categorie	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw	screw
Termination	screw	screw,
Wire gauge	screw 0.14-0.5mm <sup>2</sup> (AWG26-20)	screw 0.14-0.5mm <sup>2</sup> (AWG26-20)
Cable outlet	3.5-5.5 mm	3.5-5.5 mm
Degree of protection	IP67	IP67
Mechanical operation	> 100	> 100
Limiting temperature	-40°C ...+85°C	-40°C ...+85°C
Material group	III	III
Material of contact	copper alloy	copper alloy
Contact plating	Au	Au
Insulating material	PA	PA
Material of housing	CuZn	CuZn

## Straight cable connectors, shielded

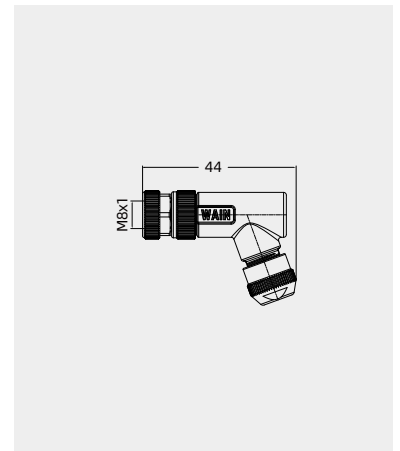
Female cable connector, solder, shielded

Recommend to use

Contacts	Cable outlet	Designation	Order No.
3	3.5-5 mm	M8-F03-S-D5.5-SH	162 003 502 2007
4	3.5-5 mm	M8-F04-S-D5.5-SH	162 004 502 2003



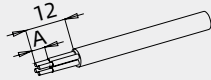
## Contact arrangements



## Assembly instruction

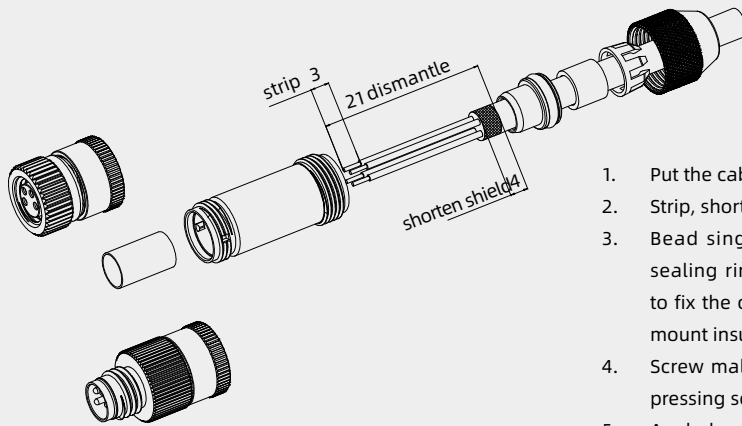
### • Assembly instruction

- Strip length cable connectors



	Screw termination	solder version
Strip length A/mm	4mm	3mm

- Straight cable connectors, **shielded, solder**

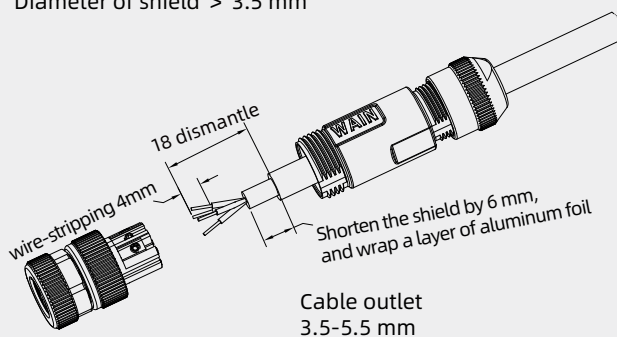


1. Put the cable through all the parts of the connector.
2. Strip, shorten, widen shield and lay around shielding ring.
3. Bead single wires through housing, mount shielding ring, sealing ring and pinch ring. Slightly tighten pressing screw to fix the cable. Bead insulating tube, solder single wires and mount insulating tube.
4. Screw male or female contact carrier to housing and tighten pressing screw.
5. Angled version: tighten locking screw.

M8

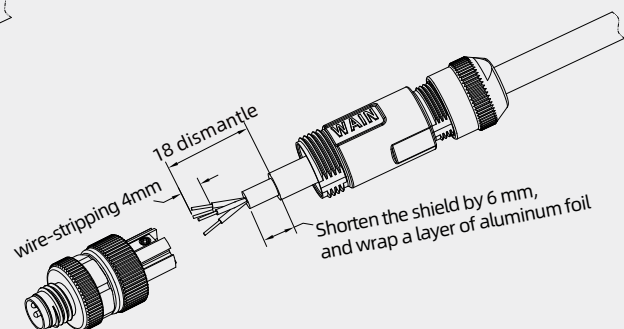
### Straight cable connectors, **shielded, screw clamp connection**

- Diameter of shield > 3.5 mm



1. Put the cable through the housing.
2. Strip cable, shorten shielding braid.
3. Connect single wires.
4. Screw housing to either male or female contact carrier and tighten pressing screw.

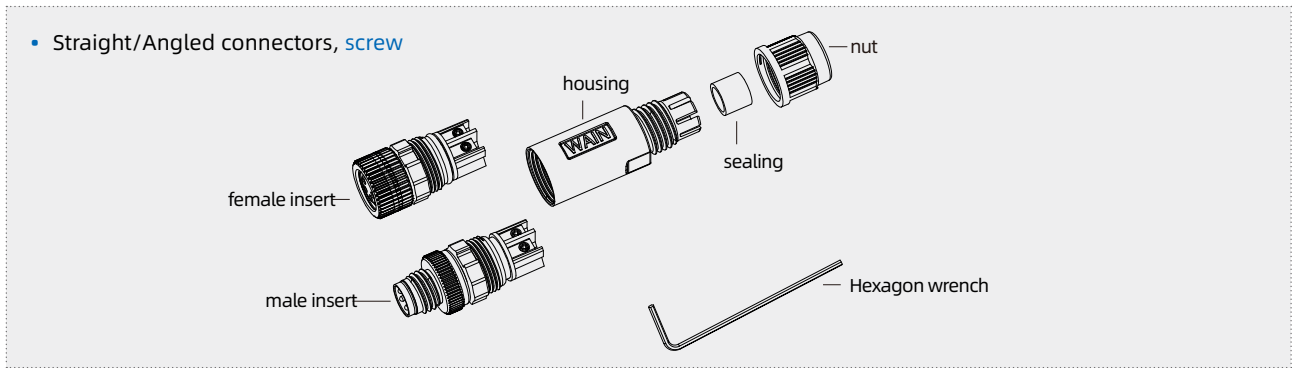
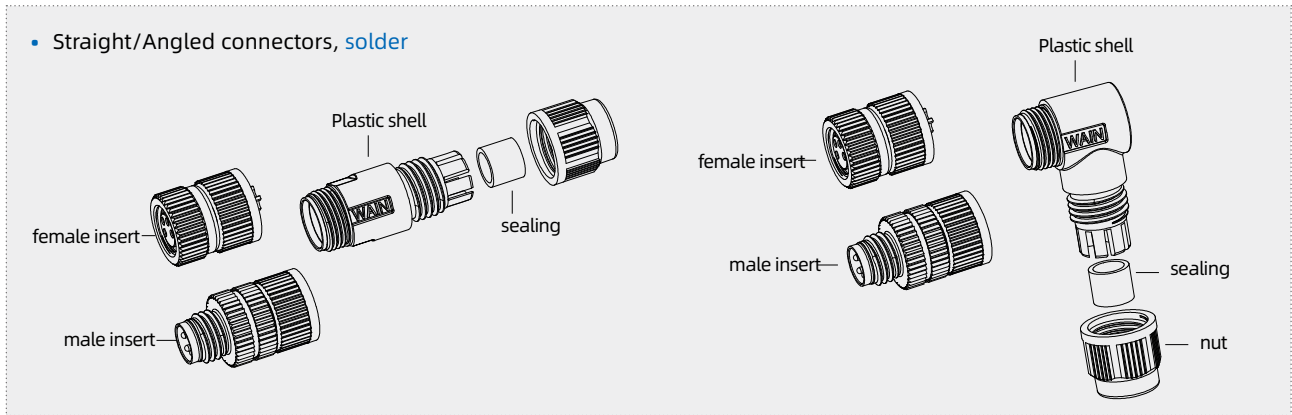
- Diameter of shield ≤ 3.5 mm



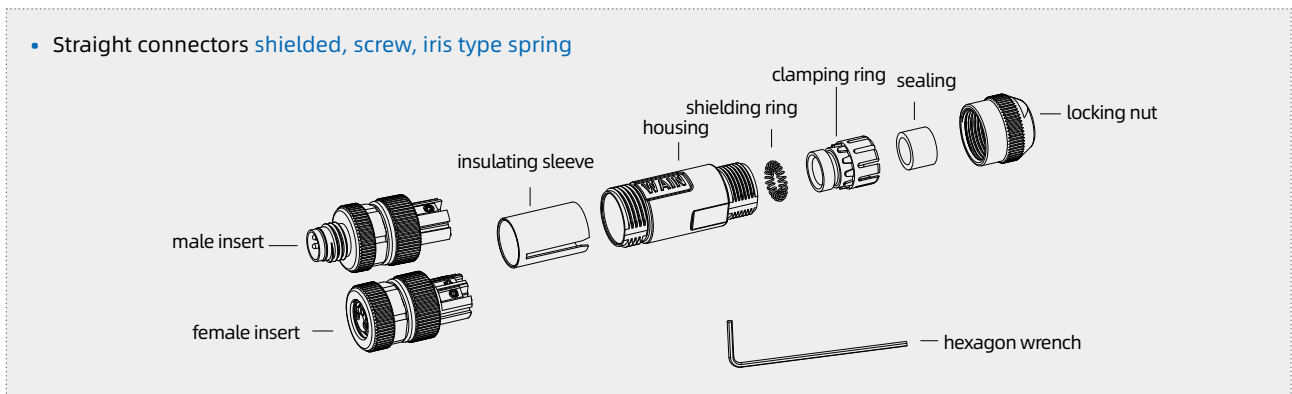
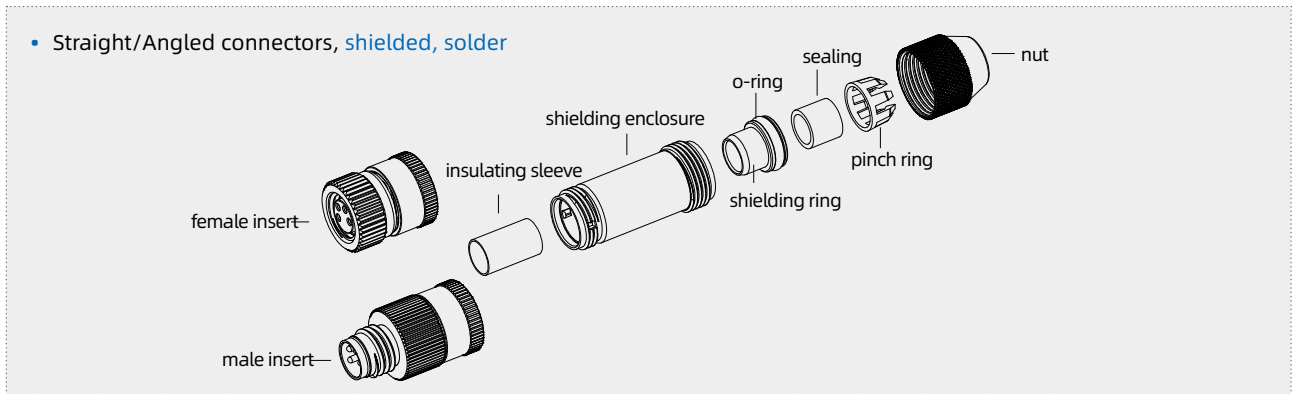
1. Put the cable through the housing.
2. Strip cable, shorten shielding braid, place it over cable coating and wrap it with copper tape.
3. Connect single wires.
4. Screw housing to either male or female contact carrier and tighten pressing screw.

Component part drawing

• Component part drawing



M8

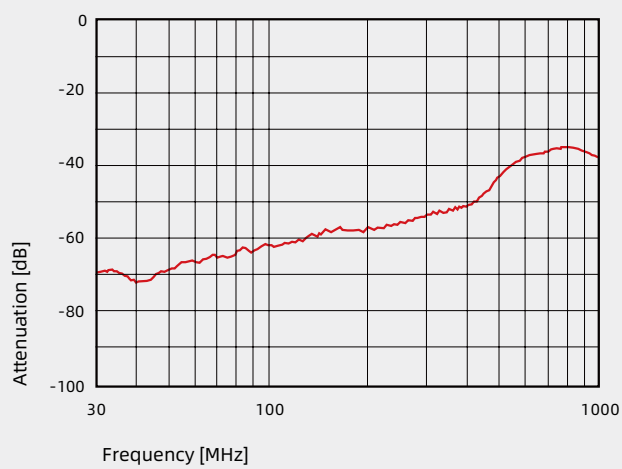


## Rating

## • Rating

## • Attenuation curve

- Attenuation curve according to DIN 47250-6
- For straight cable connectors (cable version IEEE 802.3) shielded



## M8 Circular Connector

30/60V 4A

## Technical characteristics

	3-pole	4-pole
Rated current(40°C )	4A	4A
Rated voltage	60V	30V
Rated impulse voltage	800V	800V
Pollution degree	3	3
Overvoltage categorie	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw	screw
Termination	crimp, moulded	crimp, moulded
Wire gauge	0.25mm <sup>2</sup> (AWG24)	0.25mm <sup>2</sup> (AWG24)
Cable outlet	-	-
Degree of protection	IP67	IP67
Mechanical operation	> 100	> 100
Limiting temperature	-25°C ...+85°C	-25°C ...+85°C
Material group	II	II
Material of contact	copper alloy	copper alloy
Contact plating	Au	Au
Insulating material	PA	PA
Material of housing	TPU	TPU

## Straight cable connectors,cable

Male cable connector moulded,  
screw

Recommend to use



Contacts	Cable length	Cable	Designation	Order No.
3	1.5m	3x0.25PVC	M8-M03-T-1.5-PVC	162 003 401 4001
		3x0.25PUR	M8-M03-T-1.5-PUR	162 003 401 4041
	5.0m	3x0.25PVC	M8-M03-T-5.0-PVC	162 003 401 4002
		3x0.25PUR	M8-M03-T-5.0-PUR	162 003 401 4042
4	1.5m	4x0.25PVC	M8-M04-T-1.5-PVC	162 004 401 4001
		4x0.25PUR	M8-M04-T-1.5-PUR	162 004 401 4041
	5.0m	4x0.25PVC	M8-M04-T-5.0-PVC	162 004 401 4002
		4x0.25PUR	M8-M04-T-5.0-PUR	162 004 401 4042

Contact arrangements



3pin 4pin

Male cable connector moulded,  
screw, shielded

Recommend to use

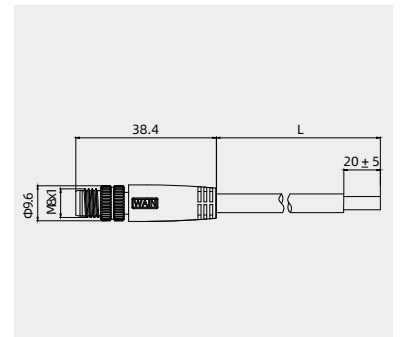
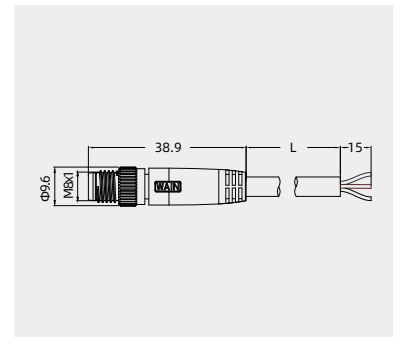


Contacts	Cablelength	Cable	Designation	Order No.
3	1.5m	3x0.25PVC	M8-M03-T-1.5-PVC-SH	162 003 401 2001
		3x0.25PUR	M8-M03-T-1.5-PUR-SH	162 003 401 2041
	5.0m	3x0.25PVC	M8-M03-T-5.0-PVC-SH	162 003 401 2002
		3x0.25PUR	M8-M03-T-5.0-PUR-SH	162 003 401 2042
4	1.5m	4x0.25PVC	M8-M04-T-1.5-PVC-SH	162 004 401 2001
		4x0.25PUR	M8-M04-T-1.5-PUR-SH	162 004 401 2041
	5.0m	4x0.25PVC	M8-M04-T-5.0-PVC-SH	162 004 401 2002
		4x0.25PUR	M8-M04-T-5.0-PUR-SH	162 004 401 2043

Contact arrangements



3pin 4pin



•Further cable length upon request, minimum order quantity 200 pieces.

## M8 Circular Connector

30/60V 4A

## Technical characteristics

	3-pole	4-pole
Rated current(40°C )	4A	4A
Rated voltage	60V	30V
Rated impulse voltage	800V	800V
Pollution degree	3	3
Overvoltage categorie	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw	screw
Termination	crimp, moulded	crimp, moulded
Wire gauge	0.25mm <sup>2</sup> (AWG24)	0.25mm <sup>2</sup> (AWG24)
Cable outlet	-	-
Degree of protection	IP67	IP67
Mechanical operation	> 100	> 100
Limiting temperature	-25°C ...+85°C	-25°C ...+85°C
Material group	II	II
Material of contact	copper alloy	copper alloy
Contact plating	Au	Au
Insulating material	PA	PA
Material of housing	TPU	TPU

## Angled cable connectors,cable

Male cable connector moulded,  
screw

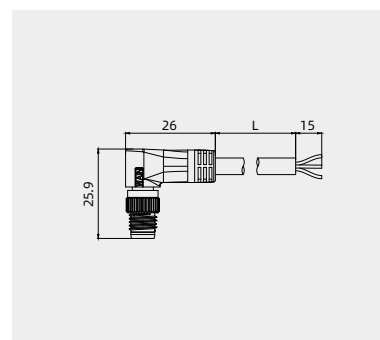
Recommend to use



Contact arrangements



Contacts	Cable length	Cable	Designation	Order No.
3	1.5m	3x0.25PVC	M8-M03-S-1.5-PVC	162 003 501 4001
		3x0.25PUR	M8-M03-S-1.5-PUR	162 003 501 4041
	5.0m	3x0.25PVC	M8-M03-S-5.0-PVC	162 003 501 4002
		3x0.25PUR	M8-M03-S-5.0-PUR	162 003 501 4042
4	1.5m	4x0.25PVC	M8-M04-S-1.5-PVC	162 004 501 4001
		4x0.25PUR	M8-M04-S-1.5-PUR	162 004 501 4041
	5.0m	4x0.25PVC	M8-M04-S-5.0-PVC	162 004 501 4002
		4x0.25PUR	M8-M04-S-5.0-PUR	162 004 501 4042

Male cable connector moulded,  
screw, shielded

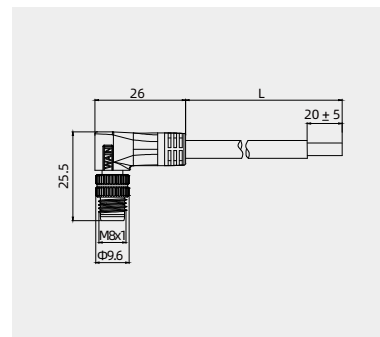
Recommend to use



Contact arrangements



Contacts	Cable length	Cable	Designation	Order No.
3	1.5m	3x0.25PVC	M8-M03-S-1.5-PVC-SH	162 003 501 2001
		3x0.25PUR	M8-M03-S-1.5-PUR-SH	162 003 501 2041
	5.0m	3x0.25PVC	M8-M03-S-5.0-PVC-SH	162 003 501 2002
		3x0.25PUR	M8-M03-S-5.0-PUR-SH	162 003 501 2042
4	1.5m	4x0.25PVC	M8-M04-S-1.5-PVC-SH	162 004 501 2001
		4x0.25PUR	M8-M04-S-1.5-PUR-SH	162 004 501 2041
	5.0m	4x0.25PVC	M8-M04-S-5.0-PVC-SH	162 004 501 2002
		4x0.25PUR	M8-M04-S-5.0-PUR-SH	162 004 501 2042



•Further cable length upon request, minimum order quantity 200 pieces.

## M8 Circular Connector

30/60V 4A

### Technical characteristics

	3-pole	4-pole
Rated current(40°C )	4A	4A
Rated voltage	60V	30V
Rated impulse voltage	800V	800V
Pollution degree	3	3
Overvoltage categorie	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw	screw
Termination	crimp, moulded	crimp, moulded
Wire gauge	0.25mm <sup>2</sup> (AWG24)	0.25mm <sup>2</sup> (AWG24)
Cable outlet	-	-
Degree of protection	IP67	IP67
Mechanical operation	> 100	> 100
Limiting temperature	-25°C ...+85°C	-25°C ...+85°C
Material group	II	II
Material of contact	copper alloy	copper alloy
Contact plating	Au	Au
Insulating material	PA	PA
Material of housing	TPU	TPU

### Straight cable connectors,cable

Female cable connector moulded, screw

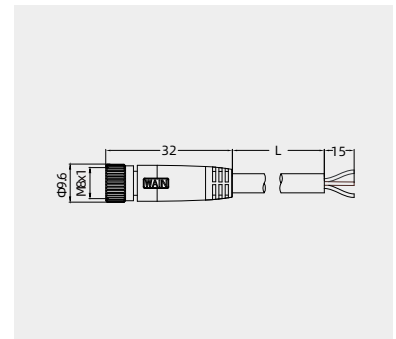
Recommend to use



Contact arrangements



Contacts	Cable length	Cable	Designation	Order No.
3	1.5m	3x0.25PVC	M8-F03-T-1.5-PVC	162 003 402 4001
		3x0.25PUR	M8-F03-T-1.5-PUR	162 003 402 4041
	5.0m	3x0.25PVC	M8-F03-T-5.0-PVC	162 003 402 4002
		3x0.25PUR	M8-F03-T-5.0-PUR	162 003 402 4042
4	1.5m	4x0.25PVC	M8-F04-T-1.5-PVC	162 004 402 4001
		4x0.25PUR	M8-F04-T-1.5-PUR	162 004 402 4041
	5.0m	4x0.25PVC	M8-F04-T-5.0-PVC	162 004 402 4002
		4x0.25PUR	M8-F04-T-5.0-PUR	162 004 402 4042



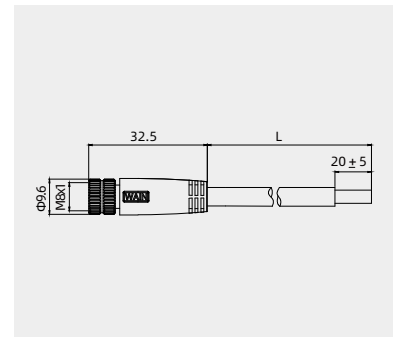
Female cable connector moulded, screw, shielded



Contact arrangements



Contacts	Cable length	Cable	Designation	Order No.
3	1.5m	3x0.25PVC	M8-F03-T-1.5-PVC-SH	162 003 402 2001
		3x0.25PUR	M8-F03-T-1.5-PUR-SH	162 003 402 4061
	5.0m	3x0.25PVC	M8-F03-T-5.0-PVC-SH	162 003 402 4022
		3x0.25PUR	M8-F03-T-5.0-PUR-SH	162 003 402 4062
4	1.5m	4x0.25PVC	M8-F04-T-1.5-PVC-SH	162 004 402 2001
		4x0.25PUR	M8-F04-T-1.5-PUR-SH	162 004 402 2041
	5.0m	4x0.25PVC	M8-F04-T-5.0-PVC-SH	162 004 402 2002
		4x0.25PUR	M8-F04-T-5.0-PUR-SH	162 004 402 2042



•Further cable length upon request, minimum order quantity 200 pieces.



## M8 Circular Connector

30/60V 4A

## Technical characteristics

	3-pole	4-pole
Rated current(40°C )	4A	4A
Rated voltage	60V	30V
Rated impulse voltage	800V	800V
Pollution degree	3	3
Overvoltage categorie	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw	screw
Termination	crimp, moulded	crimp, moulded
Wire gauge	0.25mm <sup>2</sup> (AWG24)	0.25mm <sup>2</sup> (AWG24)
Cable outlet	-	-
Degree of protection	IP67	IP67
Mechanical operation	> 100	> 100
Limiting temperature	-25°C ...+85°C	-25°C ...+85°C
Material group	II	II
Material of contact	copper alloy	copper alloy
Contact plating	Au	Au
Insulating material	PA	PA
Material of housing	TPU	TPU

## Angled cable connectors,cable

Female cable connector moulded,  
screw,shielded

Recommend to use

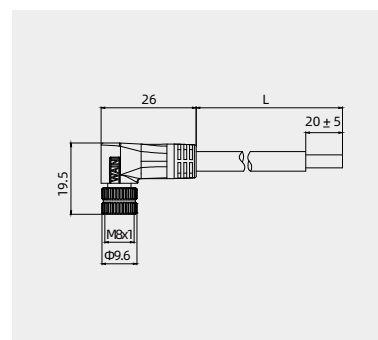


Contact arrangements



3pin 4pin

Contacts	Cablelength	Cable	Designation	Order No.
3	1.5m	3x0.25PVC	M8-F03-S-1.5-PVC-SH	162 003 502 2001
		3x0.25PUR	M8-F03-S-1.5-PUR-SH	162 003 502 4061
	5.0m	3x0.25PVC	M8-F03-S-5.0-PVC-SH	162 003 502 2002
		3x0.25PUR	M8-F03-S-5.0-PUR-SH	162 003 502 4062
4	1.5m	4x0.25PVC	M8-F04-S-1.5-PVC-SH	162 004 502 2001
		4x0.25PUR	M8-F04-S-1.5-PUR-SH	162 004 502 2041
	5.0m	4x0.25PVC	M8-F04-S-5.0-PVC-SH	162 004 502 2002
		4x0.25PUR	M8-F04-S-5.0-PUR-SH	162 004 502 2042

Male cable connector moulded,  
screw, shielded

Recommend to use

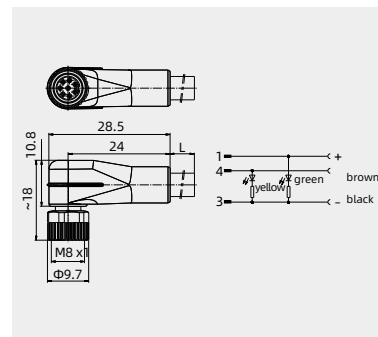


Contact arrangements



3pin

Contacts	Cablelength	Cable	Designation	Order No.
3	1.5m	3x0.25PVC	M8-F03-S-1.5-PVC-LED	162 003 502 4003
		3x0.25PUR	M8-F03-S-1.5-PUR-LED	162 003 502 4043
	5.0m	3x0.25PVC	M8-F03-S-5.0-PVC-LED	162 003 502 4004
		3x0.25PUR	M8-F03-S-5.0-PUR-LED	162 003 502 4044



•Further cable length upon request, minimum order quantity 200 pieces.

## M8 Circular Connector

30/60V 4A

## Technical characteristics

	3-pole	4-pole
Rated current(40°C )	4A	4A
Rated voltage	60V	30V
Rated impulse voltage	800V	800V
Pollution degree	3	3
Overvoltage categorie	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw	screw
Termination	crimp, moulded	crimp, moulded
Wire gauge	0.25mm <sup>2</sup> (AWG24)	0.25mm <sup>2</sup> (AWG24)
Cable outlet	-	-
Degree of protection	IP67	IP67
Mechanical operation	> 100	> 100
Limiting temperature	-25°C ...+85°C	-25°C ...+85°C
Material group	II	II
Material of contact	copper alloy	copper alloy
Contact plating	Au	Au
Insulating material	PA	PA
Material of housing	TPU	TPU

## Cable connectors-wire jumper

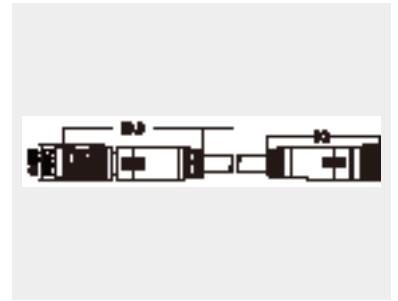
## Male/female cable connector



## Contact arrangements



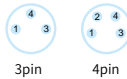
Contacts	Cable length	Cable	Designation	Order No.
3	1.5m	3x0.25PVC	M8-M03-T/F03-T-1.5-PVC	162 003 401 4010
		3x0.25PUR	M8-M03-T/F03-T-1.5-PUR	162 003 401 4011
	5.0m	3x0.25PVC	M8-M03-T/F03-T-5.0-PVC	162 003 401 4506
		3x0.25PUR	M8-M03-T/F03-T-5.0-PUR	162 003 401 4004
4	1.5m	4x0.25PVC	M8-M04-T/F04-T-1.5-PVC	162 004 401 4010
		4x0.25PUR	M8-M04-T/F04-T-1.5-PUR	162 004 401 4011
	5.0m	4x0.25PVC	M8-M04-T/F04-T-5.0-PVC	162 004 401 4007
		4x0.25PUR	M8-M04-T/F04-T-5.0-PUR	162 004 401 4008



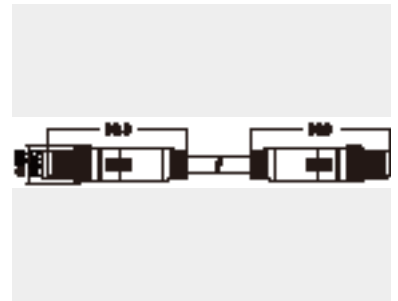
## Male cable connector



## Contact arrangements



Contacts	Cable length	Cable	Designation	Order No.
3	1.5m	3x0.25PVC	M8-M03-T/M03-T-1.5-PVC	162 003 401 4012
		3x0.25PVC	M8-M03-T/M03-T-5.0-PVC	162 003 401 4013
4	5.0m	4x0.25PVC	M8-M04-T/M04-T-1.5-PVC	162 004 401 4012
		4x0.25PVC	M8-M04-T/M04-T-5.0-PVC	162 004 401 4009



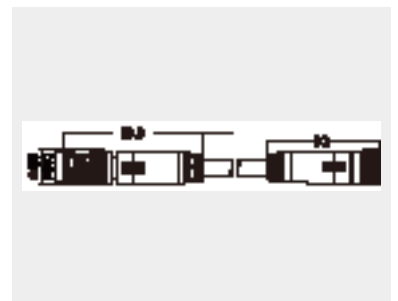
## Female cable connector



## Contact arrangements



Contacts	Cable length	Cable	Designation	Order No.
3	1.5m	3x0.25PVC	M8-F03-T/F03-T-1.5-PVC	162 003 402 4006
		3x0.25PVC	M8-F03-T/F03-T-5.0-PVC	162 003 402 4005
4	5.0m	4x0.25PVC	M8-F04-T/F04-T-1.5-PVC	162 004 402 4014
		4x0.25PVC	M8-F04-T/F04-T-5.0-PVC	162 004 402 4013



•Other cable lengths can be customized, PVC/PUR double-ended connectors, male/female, straight/angled, shielded/unshielded, freely combinable.

## M8 Circular Connector

30V 4A

## Technical characteristics

	4-pole
Rated current(40°C )	4A
Rated voltage	30V
Rated impulse voltage	800V
Pollution degree	3
Overvoltage categorie	II
Contact resistance	≤ 10 mΩ
Connector locking system	screw
Termination	crimp, moulded
Wire gauge	0.25mm <sup>2</sup> (AWG24)
Cable outlet	-
Degree of protection	IP67
Mechanical operation	> 100
Limiting temperature	-25°C ...+85°C
Material group	II
Material of contact	copper alloy
Contact plating	Au
Insulating material	PA
Material of housing	TPU

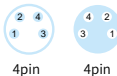
## Cable connectors-wire jumper

## Male/female cable connector



Contacts	Cable length	Cable	Designation	Order No.
4	1.5m	4x0.25PUR	M8-M04-T/F04-T-1.5-PUR-EtherCat	162 004 401 4077
	5.0m	4x0.25PUR	M8-M04-T/F04-T-5.0-PUR-EtherCat	162 004 401 4045

## Contact arrangements



4pin 4pin



## Male cable connector

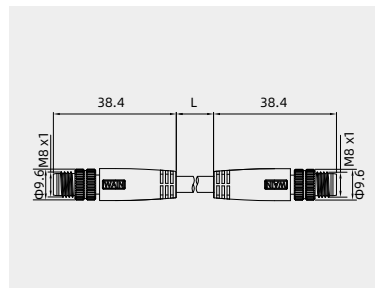


Contacts	Cable length	Cable	Designation	Order No.
4	1.5m	4x0.25PUR	M8-M04-T/M04-T-1.5-PUR-EtherCat	162 004 401 4080
	5.0m	4x0.25PUR	M8-M04-T/M04-T-5.0-PUR-EtherCat	162 004 401 4014

## Contact arrangements



4pin



## Female cable connector

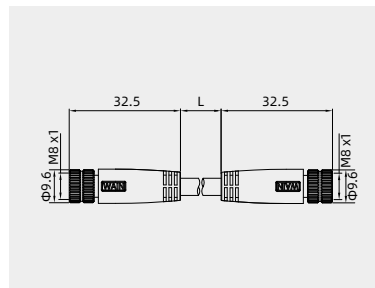


Contacts	Cable length	Cable	Designation	Order No.
4	1.5m	4x0.25PUR	M8-F04-T/F04-T-1.5-PUR-EtherCat	162 004 402 4021
	5.0m	4x0.25PUR	M8-F04-T/F04-T-5.0-PUR-EtherCat	162 004 402 4022

## Contact arrangements



4pin



•Other cable lengths can be customized, PVC/PUR double-ended connectors, male/female, straight/angled, shielded/unshielded, freely combinable.

## M8 Circular Connector

30V 4A

### Technical characteristics

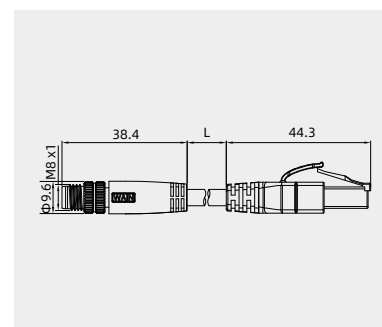
	4-pole
Rated current(40°C )	4A
Rated voltage	30V
Rated impulse voltage	800V
Pollution degree	3
Overvoltage categorie	II
Contact resistance	≤ 10 mΩ
Connector locking system	screw
Termination	crimp, moulded
Wire gauge	0.25mm <sup>2</sup> (AWG24)
Cable outlet	-
Degree of protection	IP67
Mechanical operation	> 100
Limiting temperature	-25°C ...+85°C
Material group	II
Material of contact	copper alloy
Contact plating	Au
Insulating material	PA
Material of housing	TPU

### Cable connectors-wire jumper

#### Male cable connector



Contacts	Cable length	Cable	Designation	Order No.
4	1.5m	4x0.25PUR	M8-M04-T/RJ45-T-1.5-PUR-EtherCat	162 004 401 4087
	5.0m	4x0.25PUR	M8-M04-T/RJ45-T-5.0-PUR-EtherCat	162 004 401 4097



#### Contact arrangements



4pin

•Other cable lengths can be customized, PVC/PUR double-ended connectors, male/female, straight/angled, shielded/unshielded, freely combinable.

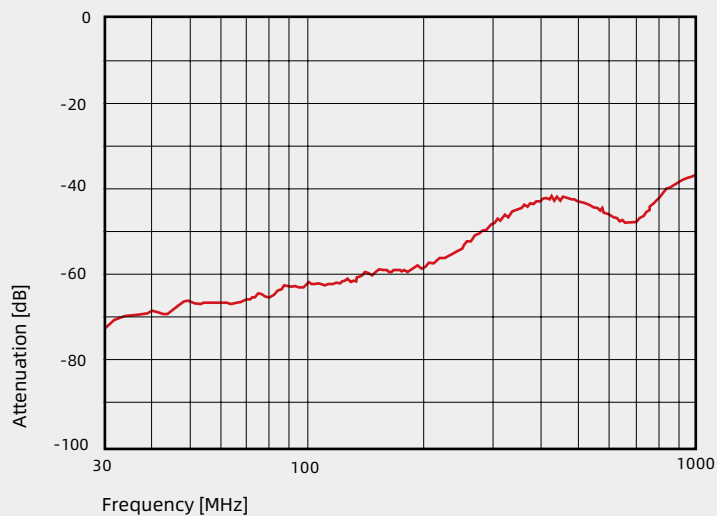
## Technical characteristics

### Specifications of standard cable

	3-pole	4-pole
Wire gauge mm <sup>2</sup>	3x0.14mm <sup>2</sup> / 3x0.25mm <sup>2</sup>	4x0.25mm <sup>2</sup>
Material jacket	PVC/PUR / PVC/PUR	PUR / PVC
Insulation wire	PVC	PVC
Design of wire (mm)	18x0.1 / 32x0.1	32x0.1
Cable jacket (mm)	3 / 4.5	4.5
Resistance of wire	148Ω/Km / 79.5Ω/Km / 72Ω/Km	79.9Ω/Km
Temperature range (cable in move)	-5°C ...+70°C	-5°C ...+70°C
Temperature range (cable not in move)	-15°C ...+70°C	-15°C ...+70°C
Bending radius (cable in move)	min. 10xD	min. 10xD
Bending radius (cable not in move)	min. 5xD	min. 5xD
Approval	-	-

### Attenuation curve

- Attenuation curve according to DIN 47250-6
- For straight cable connectors



## M8 Circular Connector

30/60V 4A

### Technical characteristics

	3-pole	4-pole
Rated current(40°C )	4A	4A
Rated voltage	60V	30V
Rated impulse voltage	800V	800V
Pollution degree	3	3
Overvoltage categorie	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw	screw
Termination	dip solder, single-strand 0.25mm <sup>2</sup>	dip solder, single-strand 0.25mm <sup>2</sup>
Wire gauge	0.25mm <sup>2</sup> (AWG24)	0.25mm <sup>2</sup> (AWG24)
Cable outlet	-	-
Degree of protection	IP67	IP67
Mechanical operation	> 100	> 100
Limiting temperature	-40°C ...+85°C	-40°C ...+85°C
Material group	II	II
Material of contact	copper alloy	copper alloy
Contact plating	Au	Au
Insulating material	PA	PA
Material of housing	CuZn	CuZn

### Socket

Male panel mount connector  
with single wires 0.25mm<sup>2</sup>  
length 0.2m

Recommend to use

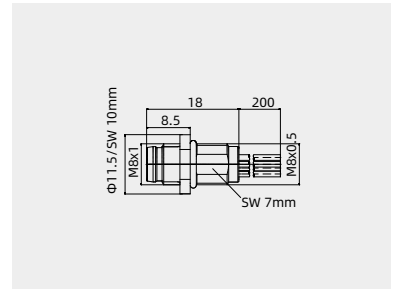


Contact arrangements



Contacts	Thread	Designation	Order No.
3	M8	M8-M03-BK-M8-W0.25	162 003 301 4001
4	M8	M8-M04-BK-M8-W0.25	162 004 301 4001

Customized cable length upon request



Male panel mount connector,  
front fastened, with single wires  
0.25mm<sup>2</sup>  
length 0.2m

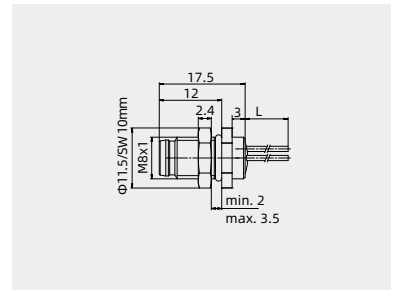


Contact arrangements



Contacts	Thread	Designation	Order No.
3	M8	M8-M03-BKR-M8-W0.25	162 003 301 4011
4	M8	M8-M04-BKR-M8-W0.25	162 004 301 4011

Customized cable length upon request



Male panel mount connector,  
front fastened, dip solder

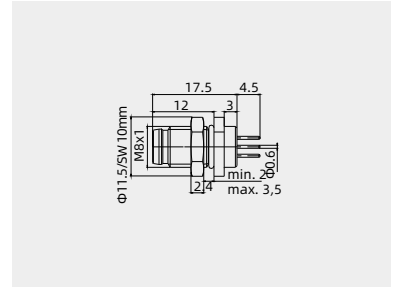


Contact arrangements



Contacts	Thread	Designation	Order No.
3	M8	M8-M03-BKR-M8-D	162 003 314 1011
4	M8	M8-M04-BKR-M8-D	162 004 314 1011

Customized cable length upon request



## M8 Circular Connector

30/60V 4A

## Technical characteristics

	3-pole	4-pole
Rated current(40°C )	4A	4A
Rated voltage	60V	30V
Rated impulse voltage	800V	800V
Pollution degree	3	3
Overvoltage categorie	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw	screw
Termination	dip solder	dip solder
Wire gauge	-	-
Cable outlet	-	-
Degree of protection	IP67	IP67
Mechanical operation	> 100	> 100
Limiting temperature	-40°C ...+85°C	-40°C ...+85°C
Material group	II	II
Material of contact	copper alloy	copper alloy
Contact plating	Au	Au
Insulating material	PA	PA
Material of housing	CuZn	CuZn

## Socket

Male panel mount connector,  
dip solder

Contact arrangements

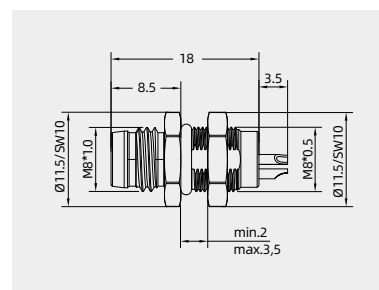


3pin



4pin

Contacts	Thread	Designation	Order No.
3	M8	M8-M03-BK-M8-C	162 003 301 2500
4	M8	M8-M04-BK-M8-C	162 004 313 1001

Male panel mount connector,  
front fastened, dip solder

Contact arrangements

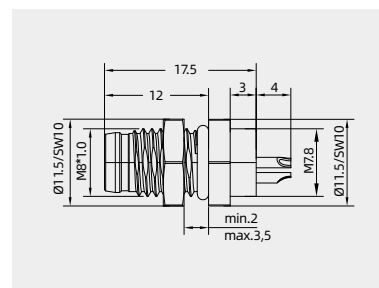


3pin



4pin

Contacts	Thread	Designation	Order No.
3	M8	M8-M03-BKR-M8-C	162 003 301 1012
4	M8	M8-M04-BKR-M8-C	162 004 301 2501



M8

## M8 Circular Connector

30/60V 4A

## Technical characteristics

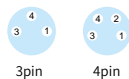
	3-pole	4-pole
Rated current(40°C )	4A	4A
Rated voltage	60V	30V
Rated impulse voltage	800V	800V
Pollution degree	3	3
Overvoltage categorie	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw	screw
Termination	dip solder, single-strand 0.25mm <sup>2</sup>	dip solder, single-strand 0.25mm <sup>2</sup>
Wire gauge	-	-
Cable outlet	-	-
Degree of protection	IP67	IP67
Mechanical operation	> 100	> 100
Limiting temperature	-40°C ...+85°C	-40°C ...+85°C
Material group	II	II
Material of contact	copper alloy	copper alloy
Contact plating	Au	Au
Insulating material	PA	PA
Material of housing	CuZn	CuZn

## Socket

Female panel mount connector  
with single wires 0.25mm<sup>2</sup>  
length 0.2m

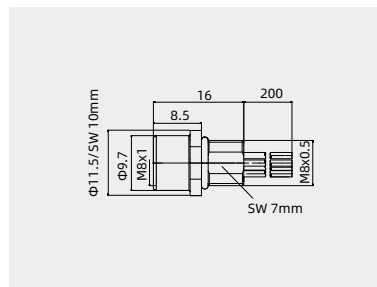


## Contact arrangements



Contacts	Thread	Designation	Order No.
3	M8	M8-F03-BK-M8-W0.25	162 003 302 4001
4	M8	M8-F04-BK-M8-W0.25	162 004 302 4001

Customized cable length upon request



Female panel mount connector,  
front fastened,  
with single wires 0.25mm<sup>2</sup>  
length 0.2m

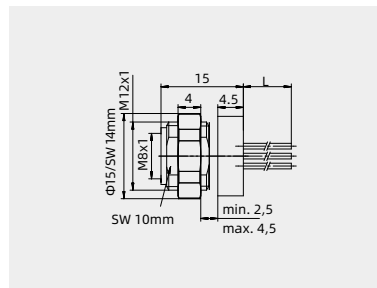


## Contact arrangements



Contacts	Thread	Designation	Order No.
3	M8	M8-F03-BKR-M8-W0.25	162 003 302 4011
4	M8	M8-F04-BKR-M8-W0.25	162 004 302 4011

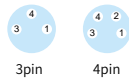
Customized cable length upon request



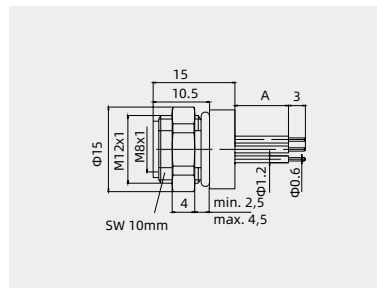
Female panel mount connector,  
front fastened, with single wires



## Contact arrangements



Contacts	Contact length A	Thread	Designation	Order No.
3	9.5 mm	M8	M8-F03-BKR-M8-D9.5	162 003 324 1013
	4.7 mm	M8	M8-F03-BKR-M8-D4.7	162 003 324 1012
4	0.5 mm	M8	M8-F03-BKR-M8-D0.5	162 003 324 1011
	9.5 mm	M8	M8-F04-BKR-M8-D9.5	162 004 324 1013
4	4.7 mm	M8	M8-F04-BKR-M8-D4.7	162 004 324 1012
	0.5 mm	M8	M8-F04-BKR-M8-D0.5	162 004 324 1011





## M8 Circular Connector

30/60V 4A

## Technical characteristics

	3-pole	4-pole
Rated current(40°C )	4A	4A
Rated voltage	60V	30V
Rated impulse voltage	800V	800V
Pollution degree	3	3
Overvoltage categorie	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw	screw
Termination	dip solder	dip solder
Wire gauge	-	-
Cable outlet	-	-
Degree of protection	IP67	IP67
Mechanical operation	> 100	> 100
Limiting temperature	-40°C ...+85°C	-40°C ...+85°C
Material group	II	II
Material of contact	copper alloy	copper alloy
Contact plating	Au	Au
Insulating material	PA	PA
Material of housing	CuZn	CuZn

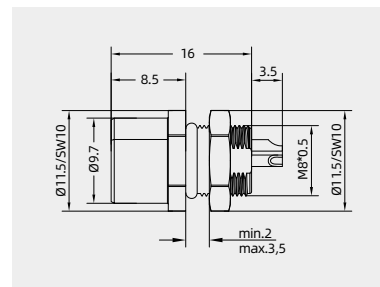
## Socket

Female panel mount connector,  
dip solder

Contact arrangements



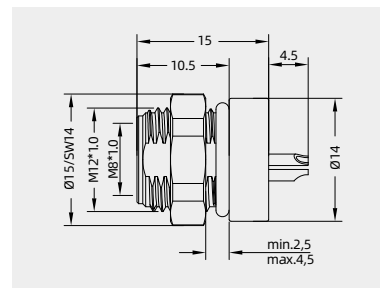
Contacts	Thread	Designation	Order No.
3	M8	M8-F03-BK-M8-C	162 003 302 2500
4	M8	M8-F04-BK-M8-C	162 004 302 2500

Female panel mount connector,  
front fastened, dip solder

Contact arrangements



Contacts	Thread	Designation	Order No.
3	M8	M8-F03-BKR-M12-C	162 003 302 2501
4	M8	M8-F04-BKR-M12-C	162 004 302 2501



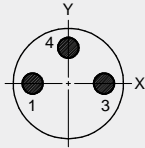
M8

# M8 Circular Connector

## • Contact arrangements

### • Male insert (mating side)

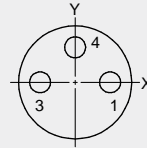
#### 3contacts



	X	Y	
1	-1.75	0.00	1 brown
2	-	-	2 -
3	1.75	0.00	3 blue
4	0.00	1.75	4 black

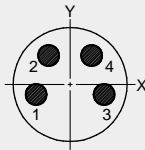
### • Female insert (mating side)

#### 3contacts



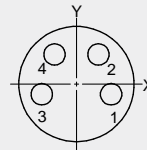
	X	Y	
1	1.75	0.00	1 brown
2	-	-	2 -
3	-1.75	0.00	3 blue
4	0.00	-1.75	4 black

#### 4contacts



	X	Y	
1	-1.70	-0.50	1 brown
2	-1.08	1.45	2 white
3	1.70	-0.50	3 blue
4	1.08	1.45	4 black

#### 4contacts



	X	Y	
1	1.70	-0.50	1 brown
2	1.08	1.45	2 white
3	-1.70	-0.50	3 blue
4	-1.08	1.45	4 black

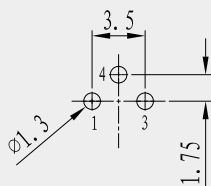
M8 Circular Connector

Panel cut out

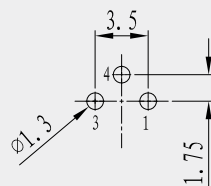
- Drilling schemes male insert (PCB), shielding sheet

- Drilling schemes male insert (PCB), shielding sheet

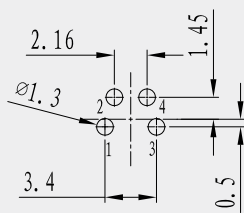
3contacts



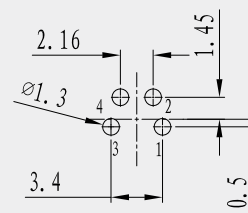
3contacts



4contacts



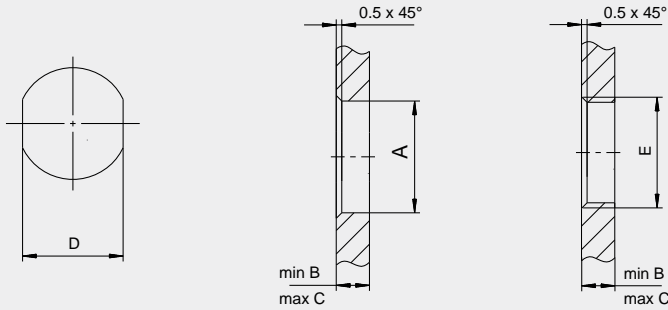
4contacts



M8 Circular Connector

• Panel cut out

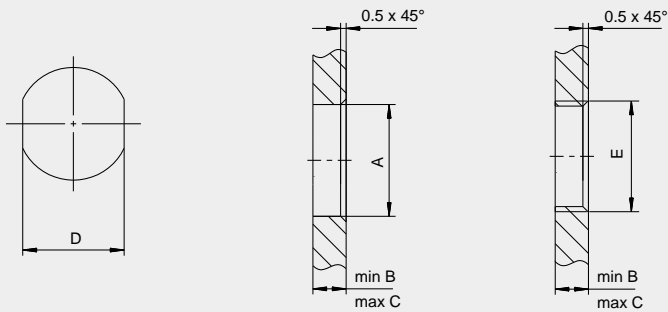
- With flats as anti-rotation device
- With bore hole
- With thread to screw in



Thread E	A	B	C	D
M8x0.5	8.1	2.5	4.5	7.1

Tightening moment 1Nm

- With flats as anti-rotation device
- With bore hole
- With thread to screw in



Thread E	A	B	C	D
M8x1	8.1	2.5	4.5	7.1

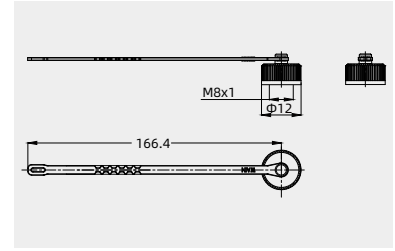
Tightening moment 1Nm

Accessories

Protection cover  
for male cable connector



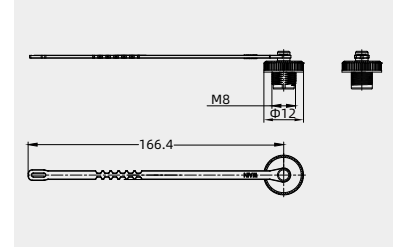
Description	Designation	Order No.
Without cord	M8-MCV	162 000 001 9003
With cord	M8-MCV/1	162 000 001 9001



Protection cover  
for female cable connector



Description	Designation	Order No.
Without cord	M8-FCV	162 000 002 9003
With cord	M8-FCV/1	162 000 002 9001



## M8-B Circular Connector

30V 4A

## Technical characteristics

	5-pole
Rated current(40°C )	4A
Rated voltage	30V
Rated impulse voltage	800V
Pollution degree	3
Overvoltage categorie	II
Contact resistance	≤ 10 mΩ
Connector locking system	screw
Termination	crimp, moulded
Wire gauge	0.25mm <sup>2</sup> (AWG24)
Cable outlet	-
Degree of protection	IP67
Mechanical operation	> 100
Limiting temperature	-25°C ...+85°C
Material group	II
Material of contact	copper alloy
Contact plating	Au
Insulating material	PA
Material of housing	TPU

## Straight cable connectors,cable

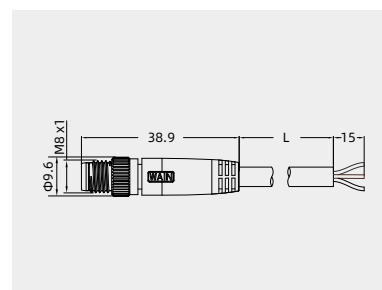
Male cable connector moulded,  
screw

## Contact arrangements



5pin

Contacts	Cable length	Cable	Designation	Order No.
5	1.5m	5x0.25PVC	M8-M05B-T-1.5-PVC	162 005 401 4001
		5x0.25PUR	M8-M05B-T-1.5-PUR	162 005 401 4002
	5.0m	5x0.25PVC	M8-M05B-T-5.0-PVC	162 005 401 4003
		5x0.25PUR	M8-M05B-T-5.0-PUR	162 005 401 4004

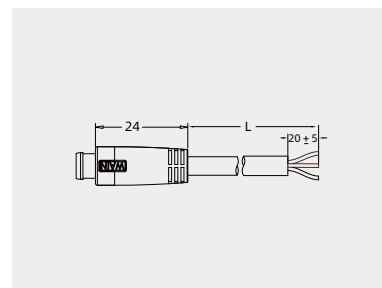
Male cable connector moulded  
connect straight

## Contact arrangements



5pin

Contacts	Cable length	Cable	Designation	Order No.
5	1.5m	5x0.25PVC	M8Q-M05B-T-1.5-PVC	162 005 401 4005
		5x0.25PUR	M8Q-M05B-T-1.5-PUR	162 005 401 4006
	5.0m	5x0.25PVC	M8Q-M05B-T-5.0-PVC	162 005 401 4007
		5x0.25PUR	M8Q-M05B-T-5.0-PUR	162 005 401 4008



•Further cable length upon request, minimum order quantity 200 pieces.

## M8-B Circular Connector

30V 4A

## Technical characteristics

	5-pole
Rated current(40°C )	4A
Rated voltage	30V
Rated impulse voltage	800V
Pollution degree	3
Overvoltage categorie	II
Contact resistance	≤ 10 mΩ
Connector locking system	screw
Termination	crimp, moulded
Wire gauge	0.25mm <sup>2</sup> (AWG24)
Cable outlet	-
Degree of protection	IP67
Mechanical operation	> 100
Limiting temperature	-25°C ...+85°C
Material group	II
Material of contact	copper alloy
Contact plating	Au
Insulating material	PA
Material of housing	TPU

## Straight cable connectors,cable

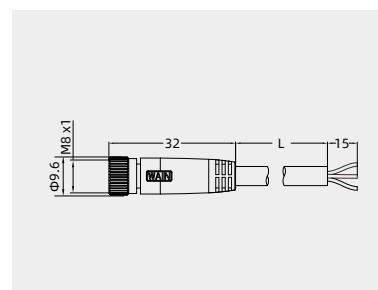
Female cable connector moulded,  
screw

## Contact arrangements



5pin

Contacts	Cable length	Cable	Designation	Order No.
5	1.5m	5x0.25PVC	M8-F05B-T-1.5-PVC	162 005 402 4001
		5x0.25PUR	M8-F05B-T-1.5-PUR	162 005 402 4002
	5.0m	5x0.25PVC	M8-F05B-T-5.0-PVC	162 005 402 4003
		5x0.25PUR	M8-F05B-T-5.0-PUR	162 005 402 4004

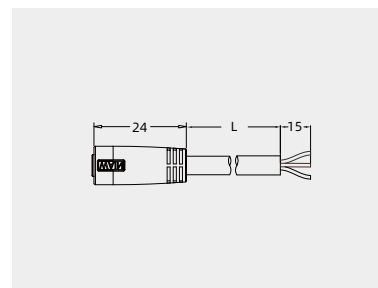
Female cable connector moulded  
connect straight

## Contact arrangements



5pin

Contacts	Cable length	Cable	Designation	Order No.
5	1.5m	5x0.25PVC	M8Q-F05B-T-1.5-PVC	162 005 402 4005
		5x0.25PUR	M8Q-F05B-T-1.5-PUR	162 005 402 4006
	5.0m	5x0.25PVC	M8Q-F05B-T-5.0-PVC	162 005 402 4007
		5x0.25PUR	M8Q-F05B-T-5.0-PUR	162 005 402 4008



•Further cable length upon request, minimum order quantity 200 pieces.

## M12 Circular Connector,A-coded

Standards: IEC-61076-2-101



- Cable Connector
- Shielded / unshielded series
- Installable series and moulded cable series
- Thread locking M12X1
- Screw terminal and welding terminal
- Shielding ring and ring spring shielding connection
- Cable length 1.5m and 5m
- Other cable length upon request, minimum order quantity 200 pieces
- Cable material can be customized according to requirements
- Degree of protection IP67/ IP68
- Transparent case for PCB with LED



## M12-A Circular Connector

30/60/125/250V 1.5/2/4A

## Technical characteristics

	3-pole	4-pole	5-pole	8-pole	12-pole
Rated current (40°C)	4A	4A	4A	2A	1.5A
Rated voltage	250V	250V	125V	60V	30V
Rated impulse voltage	2500V	2500V	1500V	800V	800V
Pollution degree	3	3	3	3	3
Overvoltage categorie	II	II	II	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw M12x1	screw M12x1	screw M12x1	screw M12x1	screw M12x1
Termination	screw	screw	screw	screw	solder
Wire gauge	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.5mm <sup>2</sup> max.AWG20)	max.0.25mm <sup>2</sup> max.AWG24)
Cable outlet	4-6,6-8 mm	4-6,6-8 mm	4-6,6-8 mm	6-8 mm	6-8 mm
Degree of protection	IP67	IP67	IP67	IP67	IP67
Mechanical operation	> 100	> 100	> 100	> 100	> 100
Limiting temperature	-40°C ...+85°C	-40°C ...+85°C	-40°C ...+85°C	-40°C ...+85°C	-40°C ...+85°C
Material group	III	III	III	III	III
Material of contact	copper alloy	copper alloy	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au	Au	Au
Insulating material	PA	PA	PA	PA	PA
Material of housing	PA/PBT	PA/PBT	PA/PBT	PA/PBT	PA/PBT

## Straight cable connectors

## Male cable connector, plastic

locking system, screw clamp connection



## A-Code



3pin

4pin

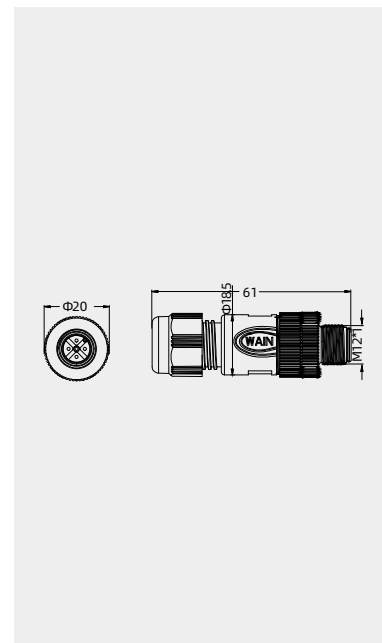
5pin

8pin



12pin

Contacts	Cable outlet	Designation	Order No.
3	4-6 mm	M12P-M03A-T-D6	163 003 411 3101
	6-8 mm	M12P-M03A-T-D8	163 003 411 3102
	4-6 mm	M12P-MST03A-T-D6	163 003 413 3500
	6-8 mm	M12P-MST03A-T-D8	163 003 413 3501
4	4-6 mm	M12P-M04A-T-D6	163 004 411 3101
	6-8 mm	M12P-M04A-T-D8	163 004 411 3102
	4-6 mm	M12P-MST04A-T-D6	163 004 413 3502
	6-8 mm	M12P-MST04A-T-D8	163 004 413 3503
5	4-6 mm	M12P-M05A-T-D6	163 005 411 3101
	6-8 mm	M12P-M05A-T-D8	163 005 411 3102
	4-6 mm	M12P-MST05A-T-D6	163 005 413 3500
	6-8 mm	M12P-MST05A-T-D8	163 005 413 3501
8	6-8 mm	M12P-M08A-T-D8	163 008 401 3003
	4-6 mm	M12P-MST08A-T-D6	163 008 413 3502
	6-8 mm	M12P-MST08A-T-D8	163 008 413 3503
12	6-8 mm	M12P-MST12A-T-D8	163 012 413 3003



M12-A

## Hexagonal driver



Description	Designation	Order No.
for 8 pin screw clamp connection	SW-1.27*47	198 001 003 0016

## M12-A Circular Connector

30/60/125/250V 1.5/2/4A

## Technical characteristics

	3-pole	4-pole	5-pole	8-pole	12-pole
Rated current (40°C)	4A	4A	4A	2A	1.5A
Rated voltage	250V	250V	125V	60V	30V
Rated impulse voltage	2500V	2500V	1500V	800V	800V
Pollution degree	3	3	3	3	3
Overvoltage categorie	II	II	II	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw M12x1	screw M12x1	screw M12x1	screw M12x1	screw M12x1
Termination	screw	screw	screw	screw	solder
Wire gauge	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.5mm <sup>2</sup> max.AWG20)	max.0.25mm <sup>2</sup> max.AWG24)
Cable outlet	4-6,6-8 mm	4-6,6-8 mm	4-6,6-8 mm	6-8 mm	6-8 mm
Degree of protection	IP67	IP67	IP67	IP67	IP67
Mechanical operation	> 100	> 100	> 100	> 100	> 100
Limiting temperature	-40°C ...+85°C	-40°C ...+85°C	-40°C ...+85°C	-40°C ...+85°C	-40°C ...+85°C
Material group	III	III	III	III	III
Material of contact	copper alloy	copper alloy	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au	Au	Au
Insulating material	PA	PA	PA	PA	PA
Material of housing	PA/PBT	PA/PBT	PA/PBT	PA/PBT	PA/PBT

## Straight cable connectors

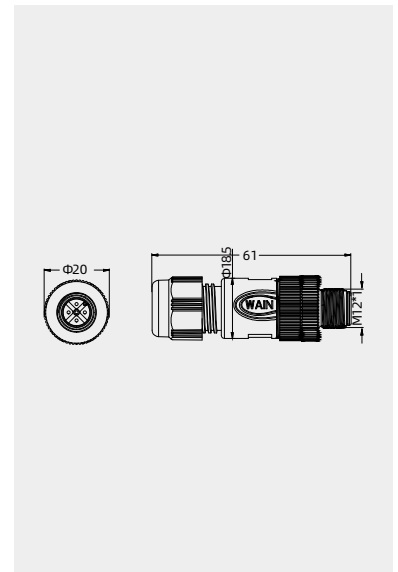
Male cable connector,  
metal locking system,  
screw clamp connection  
**Recommended use**



## A-Code



Contacts	Cable outlet	Designation	Order No.
3	4-6 mm	M12-M03A-T-D6	163 003 411 3001
	6-8 mm	M12-M03A-T-D8	163 003 411 3002
	4-6 mm	M12-MST03A-T-D6	163 003 413 3504
	6-8 mm	M12-MST03A-T-D8	163 003 413 3505
4	4-6 mm	M12-M04A-T-D6	163 004 411 3001
	6-8 mm	M12-M04A-T-D8	163 004 411 3002
	4-6 mm	M12-MST04A-T-D6	163 004 413 3501
	6-8 mm	M12-MST04A-T-D8	163 004 413 3510
5	4-6 mm	M12-M05A-T-D6	163 005 411 3001
	6-8 mm	M12-M05A-T-D8	163 005 411 3002
	4-6 mm	M12-MST05A-T-D6	163 005 413 3508
	6-8 mm	M12-MST05A-T-D8	163 005 413 3509
8	6-8 mm	M12-M08A-T-D8	163 008 411 3002
	4-6 mm	M12-MST08A-T-D6	163 008 413 3500
	6-8 mm	M12-MST08A-T-D8	163 008 413 3501
12	6-8 mm	M12-MST12A-T-D8	163 012 413 3002



## Hexagonal driver



Description	Designation	Order No.
for 8 pin screw clamp connection	SW-1.27*47	198 001 003 0016

## M12-A Circular Connector

30/60/125/250V 1.5/2/4A


## Technical characteristics

	3-pole	4-pole	5-pole	8-pole	12-pole
Rated current (40°C)	4A	4A	4A	2A	1.5A
Rated voltage	250V	250V	125V	60V	30V
Rated impulse voltage	2500V	2500V	1500V	800V	800V
Pollution degree	3	3	3	3	3
Overvoltage categorie	II	II	II	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw M12x1	screw M12x1	screw M12x1	screw M12x1	screw M12x1
Termination	screw	screw	screw	screw	solder
Wire gauge	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.5mm <sup>2</sup> max.AWG20)	max.0.25mm <sup>2</sup> max.AWG24)
Cable outlet	4-6,6-8 mm	4-6,6-8 mm	4-6,6-8 mm	6-8 mm	6-8 mm
Degree of protection	IP67	IP67	IP67	IP67	IP67
Mechanical operation	> 100	> 100	> 100	> 100	> 100
Limiting temperature	-40°C ...+85°C	-40°C ...+85°C	-40°C ...+85°C	-40°C ...+85°C	-40°C ...+85°C
Material group	III	III	III	III	III
Material of contact	copper alloy	copper alloy	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au	Au	Au
Insulating material	PA	PA	PA	PA	PA
Material of housing	PA/PBT	PA/PBT	PA/PBT	PA/PBT	PA/PBT

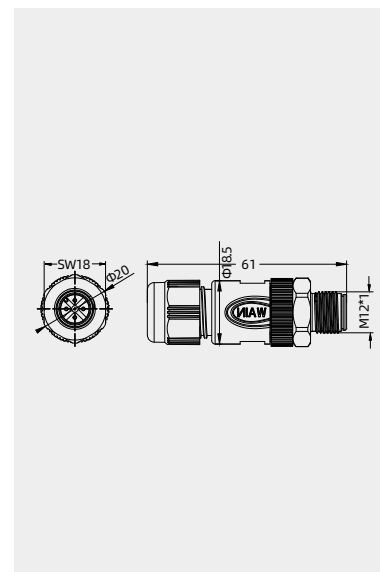
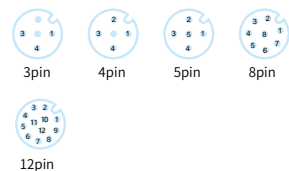
## Straight cable connectors

Male cable connector, stainless steel

locking system, screw clamp connection,

	Contacts	Cable outlet	Designation	Order No.
	3	4-6 mm	M12S-M03A-T-D6	163 003 401 3001
		6-8 mm	M12S-M03A-T-D8	163 003 401 3002
	4	4-6 mm	M12S-MST03A-T-D6	163 003 413 3502
		6-8 mm	M12S-MST03A-T-D8	163 003 413 3503
	4	4-6 mm	M12S-M04A-T-D6	163 004 411 3201
		6-8 mm	M12S-M04A-T-D8	163 004 411 3202
	5	4-6 mm	M12S-MST04A-T-D6	163 004 413 3504
		6-8 mm	M12S-MST04A-T-D8	163 004 413 3505
	5	4-6 mm	M12S-M05A-T-D6	163 005 411 3201
		6-8 mm	M12S-M05A-T-D8	163 005 411 3202
	8	4-6 mm	M12S-MST05A-T-D6	163 005 413 3502
		6-8 mm	M12S-MST05A-T-D8	163 005 413 3503
	8	6-8 mm	M12S-M08A-T-D8	163 008 411 3202
		4-6 mm	M12S-MST08A-T-D6	163 008 413 3504
	6-8 mm	M12S-MST08A-T-D8	163 008 413 3505	
12	6-8 mm	M12S-MST12A-T-D8	163 012 413 3004	

A-Code



M12-A

Hexagonal driver



Description	Designation	Order No.
for 8 pin screw clamp connection	SW-1.27*47	198 001 003 0016

## M12-A Circular Connector

30/125/250V 1.5/2/8A

## Technical characteristics

	4-pole	5-pole	8-pole	12-pole
Rated current (40°C)	8A	Contacts:1-4 8A; Contacts:5 2A	Contacts: 2A	1.5A
Rated voltage	250V	125V	125V	30V
Rated impulse voltage	2500V	1500V	1500V9	800V
Pollution degree	3	3	3	3
Overvoltage categorie	II	II	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw M12x1	screw M12x1	screw M12x1	screw M12x1
Termination	screw	screw	screw	solder
Wire gauge	max.1.5mm <sup>2</sup> (max.AWG16)	max.1.5mm <sup>2</sup> (max.AWG16)	max.1.5mm <sup>2</sup> (max.AWG16)	max.0.25mm <sup>2</sup> max.AWG24)
Cable outlet	8-10mm	8-10mm	8-10mm	6-8 mm
Degree of protection	IP67	IP67	IP67	IP67
Mechanical operation	> 100	> 100	> 100	> 100
Limiting temperature	-40°C ...+85°C	-40°C ...+85°C	-40°C ...+85°C	-40°C ...+85°C
Material group	II	II	II	III
Material of contact	copper alloy	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au	Au
Insulating material	PA	PA	PA	PA
Material of housing	PA/PBT	PA/PBT	PA/PBT	PA/PBT

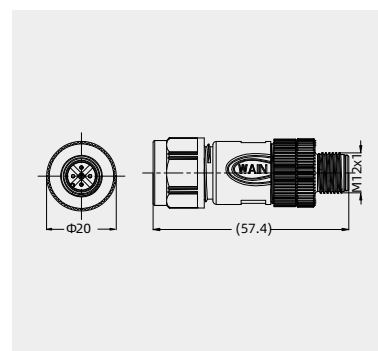
## Straight cable connectors

Male cable connector, Power  
screw clamp connection

A-Code



Contacts	Cable outlet	Designation	Order No.
4	8-10 mm	M12-M04A-T-D10	163 004 411 3003
		M12-MST04A-T-D10	163 004 413 3506
5	8-10 mm	M12-M05A-T-D10	163 005 411 3003
		M12-MST05A-T-D10	163 005 413 3504
8	8-10 mm	M12-M08A-T-D10	163 008 401 3001
		M12-MST08A-T-D10	163 008 413 3506
12	8-10 mm	M12-MST12A-T-D10	163 012 413 3001



## M12-A Circular Connector

60/125/250V 2/4A

## Technical characteristics

	4-pole	5-pole	8-pole
Rated current (40°C)	4A	4A	2A
Rated voltage	250(125)V	125V	60V
Rated impulse voltage	2500V	1500V	800V
Pollution degree	3	3	3
Overvoltage categorie	II	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw M12x1	screw M12x1	screw M12x1
Termination	screw	screw	screw
Wire gauge	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.5mm <sup>2</sup> (max.AWG20)
Cable outlet	-	-	-
Degree of protection	IP67	IP67	IP67
Mechanical operation	> 100	> 100	> 100
Limiting temperature	-40°C ...+85°C	-40°C ...+85°C	-40°C ...+85°C
Material group	III	III	III
Material of contact	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au
Insulating material	PA	PA	PA
Material of housing	PA/PBT	PA/PBT	PA/PBT

## Straight cable duo connectors

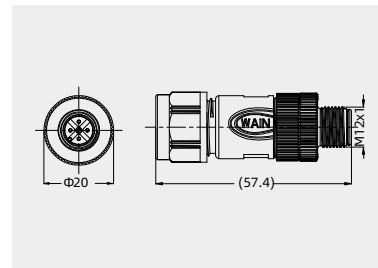
Male cable connector, plastic locking system, screw clamp connection



A-Code



Contacts	Cable outlet	Designation	Order No.
4	2(2.1-3 mm or4-5 mm)	M12P-M04A-T-2D5	163 004 411 3104
		M12P-MST04A-T-2D5	163 004 413 3507
5	2(2.1-3 mm or4-5 mm)	M12P-M05A-T-2D5	163 005 411 3104
		M12P-MST05A-T-2D5	163 005 413 3505
8	2(2.1-3 mm or4-5 mm)	M12P-M08A-T-2D5	163 008 401 3002
		M12P-MST08A-T-2D5	163 008 413 3507



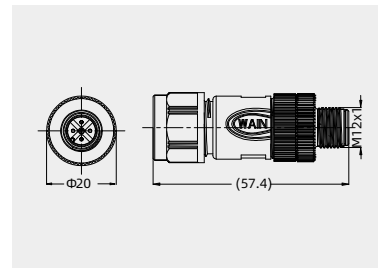
Male cable duo connector, metal locking system, screw clamp connection



A-Code



Contacts	Cable outlet	Designation	Order No.
4	2(2.1-3 mm or4-5 mm)	M12M-M04A-T-2D5	163 004 411 3004
		M12M-MST04A-T-2D5	163 004 413 3508
5	2(2.1-3 mm or4-5 mm)	M12M-M05A-T-2D5	163 005 411 3004
		M12M-MST05A-T-2D5	163 005 413 3506
8	2(2.1-3 mm or4-5 mm)	M12M-M08A-T-2D5	163 008 411 3004
		M12M-MST08A-T-2D5	163 008 413 3508



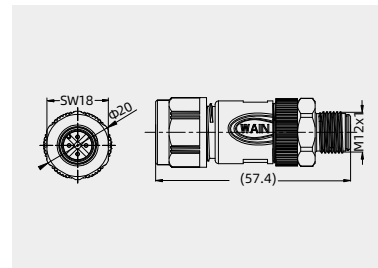
Male cable connector, stainless steel locking system, screw clamp connection,



A-Code



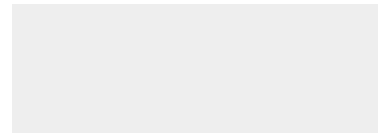
Contacts	Cable outlet	Designation	Order No.
4	2(2.1-3 mm or4-5 mm)	M12S-M04A-T-2D5	163 004 411 3204
		M12S-MST04A-T-2D5	163 004 413 3509
5	2(2.1-3 mm or4-5 mm)	M12S-M05A-T-2D5	163 005 411 3204
		M12S-MST05A-T-2D5	163 005 413 3507
8	2(2.1-3 mm or4-5 mm)	M12S-M08A-T-2D5	163 008 411 3204
		M12S-MST08A-T-2D5	163 008 413 3509



Hexagonal driver



Description	Designation	Order No.
for 8 pin screw clamp connection	SW-1.27*47	198 001 003 0016



M12-A

## M12-A Circular Connector

30/60/125/250V 1.5/2/4A

## Technical characteristics

	3-pole	4-pole	5-pole	8-pole	12-pole
Rated current (40°C)	4A	4A	4A	2A	1.5A
Rated voltage	250V	250V	125V	60V	30V
Rated impulse voltage	2500V	2500V	1500V	800V	800V
Pollution degree	3	3	3	3	3
Overvoltage categorie	II	II	II	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw M12x1	screw M12x1	screw M12x1	screw M12x1	screw M12x1
Termination	screw	screw	screw	screw	solder
Wire gauge	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.5mm <sup>2</sup> (max.AWG20)	max.0.25mm <sup>2</sup> (max.AWG24)
Cable outlet	4-6,6-8mm	4-6,6-8mm	4-6,6-8mm	6-8,8-10mm	6-8,8-10mm
Degree of protection	IP67	IP67	IP67	IP67	IP67
Mechanical operation	> 100	> 100	> 100	> 100	> 100
Limiting temperature	-40°C ...+85°C	-40°C ...+85°C	-40°C ...+85°C	-40°C ...+85°C	-40°C ...+85°C
Material group	II	II	II	II	II
Material of contact	copper alloy	copper alloy	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au	Au	Au
Insulating material	PA	PA	PA	PA	PA
Material of housing	zinc diecasting nickel plated, brass nickel plated	zinc diecasting nickel plated, brass nickel plated	zinc diecasting nickel plated, brass nickel plated	zinc diecasting nickel plated, brass nickel plated	zinc diecasting nickel plated, brass nickel plated

## Straight cable connectors, shielded

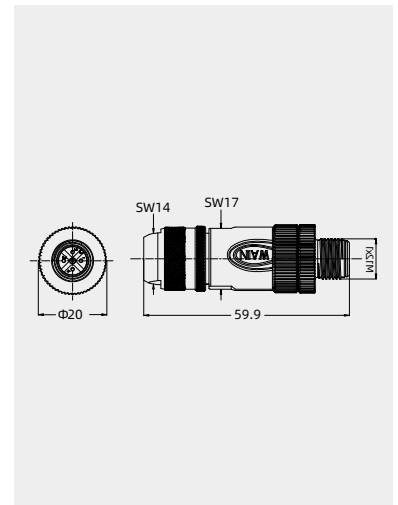
Male cable connector, shielded,  
screw clamp connection,  
version with shielding ring,  
**Recommended use**



## A-Code



Contacts	Cable outlet	Designation	Order No.
3	4-6 mm	M12-M03A-T-D6-SH	163 003 414 2002
	6-8 mm	M12-M03A-T-D8-SH	163 003 414 2003
	4-6 mm	M12-MST03A-T-D6-SH	163 003 413 2500
	6-8 mm	M12-MST03A-T-D8-SH	163 003 413 2501
4	4-6 mm	M12-M04A-T-D6-SH	163 004 411 2001
	6-8 mm	M12-M04A-T-D8-SH	163 004 411 2002
	4-6 mm	M12-MST04A-T-D6-SH	163 004 413 2001
	6-8 mm	M12-MST04A-T-D8-SH	163 004 413 2002
5	4-6 mm	M12-M05A-T-D6-SH	163 005 411 2001
	6-8 mm	M12-M05A-T-D8-SH	163 005 411 2002
	4-6 mm	M12-MST05A-T-D6-SH	163 005 413 2001
	6-8 mm	M12-MST05A-T-D8-SH	163 005 413 2002
8	6-8 mm	M12-M08A-T-D8-SH	163 008 411 2002
	4-6 mm	M12-MST08A-T-D6-SH	163 008 413 2500
	6-8 mm	M12-MST08A-T-D8-SH	163 008 413 2001
12	6-8 mm	M12-MST12A-T-D8-SH	163 012 413 2003



## Hexagonal driver



Description	Designation	Order No.
for 8 pin screw clamp connection	SW-1.27*47	198 001 003 0016

## M12-A Circular Connector

125V 4A

## Technical characteristics

	5-pole
Rated current (40°C)	4A
Rated voltage	125V
Rated impulse voltage	1500V
Pollution degree	3
Overvoltage categorie	II
Contact resistance	≤ 10 mΩ
Connector locking system	screw M12x1
Termination	screw
Wire gauge	max.0.75mm <sup>2</sup> (max.AWG18)
Cable outlet	4-6,6-8mm
Degree of protection	IP67
Mechanical operation	> 100
Limiting temperature	-40°C ...+85°C
Material group	II
Material of contact	copper alloy
Contact plating	Au
Insulating material	PA
Material of housing	zinc diecasting nickel plated, brass nickel plated

## Straight cable connectors, shielded

Male cable connector,

Crimp terminal ,with shielding ring

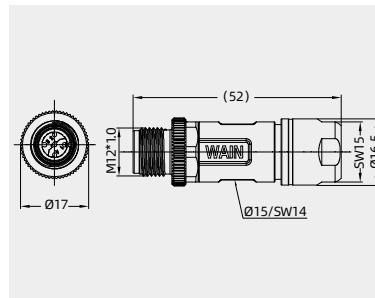
Order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
5	6-8 mm	M12-MC05A-T-D8-SH	163 005 410 2500

A-Code



5pin



Male cable connector,

Crimp terminal ,with shielding ring

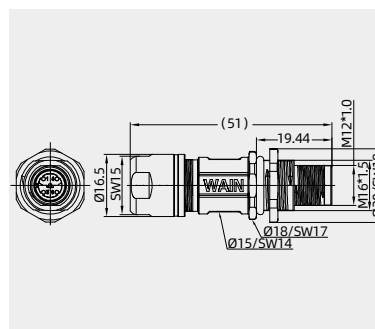
Order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
5	6-8 mm	M12-MC05A-CCT/R-M16-D8-SH	163 005 710 2001

A-Code



5pin

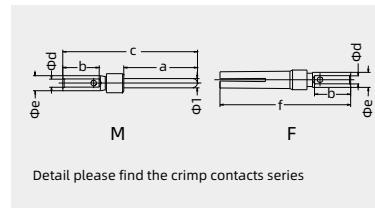


## Crimp contacts

Crimp contacts 5A

Contact resistance ≤ 3mΩ  
gold plated

Wire gauge(mm <sup>2</sup> )	Male	Order No.	Female	Order No.
0.09-0.25	CSGM-0.25	101 014 210 0101	CSGF-0.25	101 014 220 0101
0.13-0.33	CSGM-0.33	101 014 210 0201	CSGF-0.33	101 014 220 0201
0.33-0.52	CSGM-0.52	101 014 210 0501	CSGF-0.52	101 014 220 0501
0.52-0.82	CSGM-0.82	101 014 210 0701	CSGF-0.82	101 014 220 0701



Detail please find the crimp contacts series

Tools

Crimping tool



Wire gauge	Designation	Order No.
0.09-0.82mm <sup>2</sup>	TL03	198 001 001 0002

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## M12-A Circular Connector

125/250V 4A

## Technical characteristics

	3-pole	4-pole	5-pole
Rated current (40°C)	4A	4A	4A
Rated voltage	250V	250V	125V
Rated impulse voltage	2500V	2500V	1500V
Pollution degree	3	3	3
Overvoltage categorie	II	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw M12x1	screw M12x1	screw M12x1
Termination	screw	screw	screw
Wire gauge	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.75mm <sup>2</sup> (max.AWG18)
Cable outlet	4-6,6-8 mm	4-6,6-8 mm	4-6,6-8 mm
Degree of protection	IP67	IP67	IP67
Mechanical operation	> 100	> 100	> 100
Limiting temperature	-40°C ...+85°C	-40°C ...+85°C	-40°C ...+85°C
Material group	II	II	II
Material of contact	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au
Insulating material	PA	PA	PA
Material of housing	PA/PBT	PA/PBT	PA/PBT

## Angled cable connectors

Male cable connector, plastic locking system, screw clamp connection



A-Code



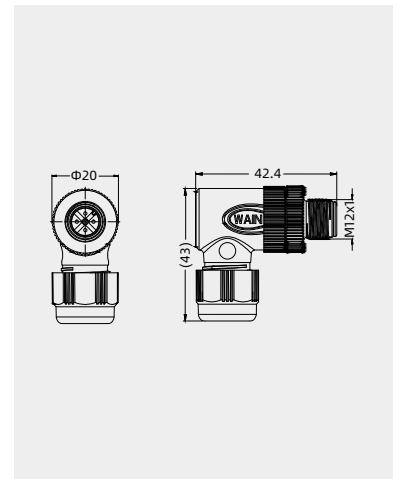
3pin

4pin

5pin

8pin

Contacts	Cable outlet	Designation	Order No.
3	4-6 mm	M12P-M03A-S-D6	163 003 511 3101
	6-8 mm	M12P-M03A-S-D8	163 003 511 3102
	4-6 mm	M12P-MST03A-S-D6	163 003 513 3500
	6-8 mm	M12P-MST03A-S-D8	163 003 513 3501
4	4-6 mm	M12P-M04A-S-D6	163 004 511 3101
	6-8 mm	M12P-M04A-S-D8	163 004 511 3102
	4-6 mm	M12P-MST04A-S-D6	163 004 513 3500
	6-8 mm	M12P-MST04A-S-D8	163 004 513 3501
5	4-6 mm	M12P-M05A-S-D6	163 005 511 3101
	6-8 mm	M12P-M05A-S-D8	163 005 511 3102
	4-6 mm	M12P-MST05A-S-D6	163 005 513 3500
	6-8 mm	M12P-MST05A-S-D8	163 005 513 3501
8	4-6 mm	M12P-MST08A-S-D6	163 008 513 3500
	6-8 mm	M12P-MST08A-S-D8	163 008 513 3501





## M12-A Circular Connector

125/250V 4A

## Technical characteristics

	3-pole	4-pole	5-pole
Rated current (40°C)	4A	4A	4A
Rated voltage	250V	250V	125V
Rated impulse voltage	2500V	2500V	1500V
Pollution degree	3	3	3
Overvoltage categorie	II	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw M12x1	screw M12x1	screw M12x1
Termination	screw	screw	screw
Wire gauge	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.75mm <sup>2</sup> (max.AWG18)
Cable outlet	4-6,6-8 mm	4-6,6-8 mm	4-6,6-8 mm
Degree of protection	IP67	IP67	IP67
Mechanical operation	> 100	> 100	> 100
Limiting temperature	-40°C ...+85°C	-40°C ...+85°C	-40°C ...+85°C
Material group	II	II	II
Material of contact	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au
Insulating material	PA	PA	PA
Material of housing	PA/PBT	PA/PBT	PA/PBT

## Angled cable connectors

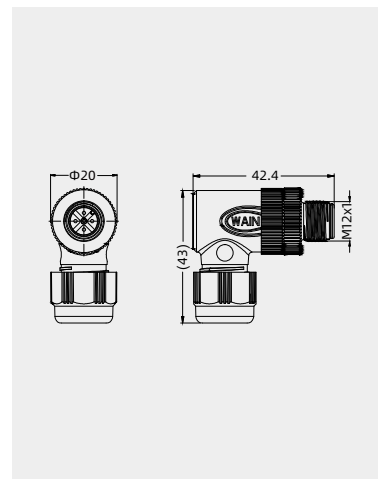
Male cable duo connector,  
metal locking system,  
screw clamp connection



A-Code



Contacts	Cable outlet	Designation	Order No.
3	4-6 mm	M12-M03A-S-D6	163 003 511 3001
	6-8 mm	M12-M03A-S-D8	163 003 511 3002
	4-6 mm	M12-MST03A-S-D6	163 003 513 3502
	6-8 mm	M12-MST03A-S-D8	163 003 513 3503
4	4-6 mm	M12-M04A-S-D6	163 004 511 3001
	6-8 mm	M12-M04A-S-D8	163 004 511 3002
	4-6 mm	M12-MST04A-S-D6	163 004 513 3502
	6-8 mm	M12-MST04A-S-D8	163 004 513 3503
5	4-6 mm	M12-M05A-S-D6	163 005 511 3001
	6-8 mm	M12-M05A-S-D8	163 005 511 3002
	4-6 mm	M12-MST05A-S-D6	163 005 513 3502
	6-8 mm	M12-MST05A-S-D8	163 005 513 3503
8	4-6 mm	M12-MST08A-S-D6	163 008 513 3502
	6-8 mm	M12-MST08A-S-D8	163 008 513 3503



M12-A

## M12-A Circular Connector

125/250V 4A

## Technical characteristics

	3-pole	4-pole	5-pole
Rated current (40°C)	4A	4A	4A
Rated voltage	250V	250V	125V
Rated impulse voltage	2500V	2500V	1500V
Pollution degree	3	3	3
Overvoltage categorie	II	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw M12x1	screw M12x1	screw M12x1
Termination	screw	screw	screw
Wire gauge	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.75mm <sup>2</sup> (max.AWG18)
Cable outlet	4-6,6-8 mm	4-6,6-8 mm	4-6,6-8 mm
Degree of protection	IP67	IP67	IP67
Mechanical operation	> 100	> 100	> 100
Limiting temperature	-40°C ...+85°C	-40°C ...+85°C	-40°C ...+85°C
Material group	II	II	II
Material of contact	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au
Insulating material	PA	PA	PA
Material of housing	PA/PBT	PA/PBT	PA/PBT

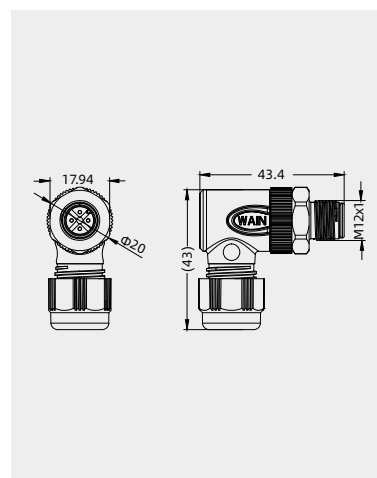
## Angled cable connectors

Male cable connector, stainless steel  
locking system, screw clamp connection,

A-Code



Contacts	Cable outlet	Designation	Order No.
3	4-6 mm	M12S-M03A-S-D6	163 003 414 1001
	6-8 mm	M12S-M03A-S-D8	163 003 514 1001
	4-6 mm	M12S-MST03A-S-D6	163 003 513 3504
	6-8 mm	M12S-MST03A-S-D8	163 003 513 3505
4	4-6 mm	M12S-M04A-S-D6	163 004 511 3201
	6-8 mm	M12S-M04A-S-D8	163 004 511 3202
	4-6 mm	M12S-MST04A-S-D6	163 004 513 3504
	6-8 mm	M12S-MST04A-S-D8	163 004 513 3505
5	4-6 mm	M12S-M05A-S-D6	163 005 511 3201
	6-8 mm	M12S-M05A-S-D8	163 005 511 3202
	4-6 mm	M12S-MST05A-S-D6	163 005 513 3504
	6-8 mm	M12S-MST05A-S-D8	163 005 513 3505
8	4-6 mm	M12S-MST08A-S-D6	163 008 513 3504
	6-8 mm	M12S-MST08A-S-D8	163 008 513 3505



## M12-A Circular Connector

125/250V 4A

## Technical characteristics

	4-pole	5-pole
Rated current (40°C)	4A	4A
Rated voltage	250V	125V
Rated impulse voltage	2500V	1500V
Pollution degree	3	3
Overvoltage categorie	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw M12x1	screw M12x1
Termination	screw	screw
Wire gauge	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.75mm <sup>2</sup> (max.AWG18)
Cable outlet	2.1-3,4-5 mm	2.1-3,4-5 mm
Degree of protection	IP67	IP67
Mechanical operation	> 100	> 100
Limiting temperature	-40°C ...+85°C	-40°C ...+85°C
Material group	II	II
Material of contact	copper alloy	copper alloy
Contact plating	Au	Au
Insulating material	PA	PA
Material of housing	PA/PBT	PA/PBT

## Angled cable duo connectors

Male angled duo connector,  
plastic locking system,  
screw clamp connection



A-Code

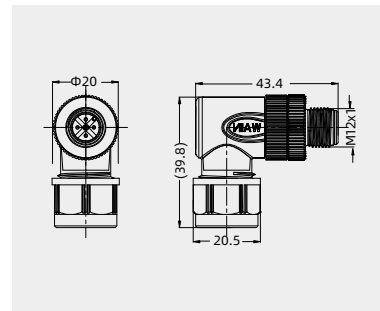


4pin



5pin

Contacts	Cable outlet	Designation	Order No.
4	2(2.1-3 mm or4-5 mm)	M12P-M04A-S-2D5	163 004 511 3104
		M12P-MST04A-S-2D5	163 004 513 3506
5	2(2.1-3 mm or4-5 mm)	M12P-M05A-S-2D5	163 005 511 3104
		M12P-MST05A-S-2D5	163 005 513 3506



Male angled duo connector,  
metal locking system, screw  
clamp connection



A-Code

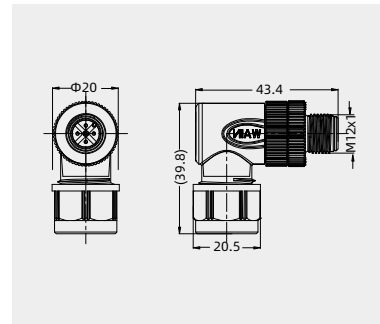


4pin



5pin

Contacts	Cable outlet	Designation	Order No.
4	2(2.1-3 mm or4-5 mm)	M12-M04A-S-2D5	163 004 511 3004
		M12-MST04A-S-2D5	1630045133507
5	2(2.1-3 mm or4-5 mm)	M12-M05A-S-2D5	163 005 511 3004
		M12-MST05A-S-2D5	1630055133507



M12-A

## M12-A Circular Connector

125/250V 4A

## Technical characteristics

	3-pole	4-pole	5-pole
Rated current (40°C)	4A	4A	4A
Rated voltage	250V	250V	125V
Rated impulse voltage	2500V	2500V	1500V
Pollution degree	3	3	3
Overvoltage categorie	II	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw M12x1	screw M12x1	screw M12x1
Termination	screw	screw	screw
Wire gauge	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.75mm <sup>2</sup> (max.AWG18)
Cable outlet	4-6,6-8 mm	4-6,6-8 mm	4-6,6-8 mm
Degree of protection	IP67	IP67	IP67
Mechanical operation	> 100	> 100	> 100
Limiting temperature	-40°C ...+85°C	-40°C ...+85°C	-40°C ...+85°C
Material group	III	III	III
Material of contact	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au
Insulating material	PA	PA	PA
Material of housing	zinc diecasting nickel plated	zinc diecasting nickel plated	zinc diecasting nickel plated

## Angled cable connectors, shielded

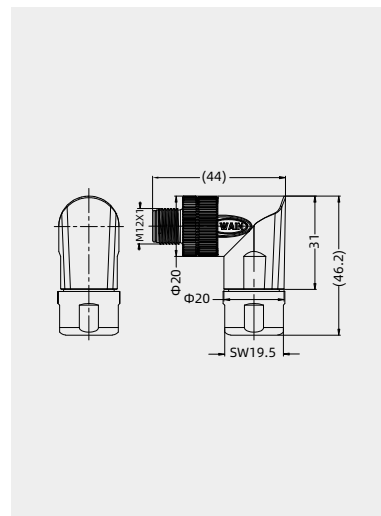
Male angled connector, shielded,  
screw clamp connection,  
version with shielding ring



A-Code



Contacts	Cable outlet	Designation	Order No.
3	4-6 mm	M12-M03A-S-D6-SH	163 003 414 2001
	6-8 mm	M12-M03A-S-D8-SH	163 003 514 2001
	4-6 mm	M12-MST03A-S-D6-SH	163 003 513 2500
	6-8 mm	M12-MST03A-S-D8-SH	163 003 513 2501
4	4-6 mm	M12-M04A-S-D6-SH	163 004 511 2001
	6-8 mm	M12-M04A-S-D8-SH	163 004 511 2002
	4-6 mm	M12-MST04A-S-D6-SH	163 004 513 2500
	6-8 mm	M12-MST04A-S-D8-SH	163 004 513 2501
5	4-6 mm	M12-M05A-S-D6-SH	163 005 511 2001
	6-8 mm	M12-M05A-S-D8-SH	163 005 511 2002
	4-6 mm	M12-MST05A-S-D6-SH	163 005 513 2500
	6-8 mm	M12-MST05A-S-D8-SH	163 005 513 2501
8	4-6 mm	M12-MST08A-S-D6-SH	163 008 513 2500
	6-8 mm	M12-MST08A-S-D8-SH	163 008 513 2501



## M12-A Circular Connector

30/60/125/250V 1.5/2/4A

## Technical characteristics

	3-pole	4-pole	5-pole	8-pole	12-pole
Rated current (40°C)	4A	4A	4A	2A	1.5A
Rated voltage	250V	250V	125V	60V	30V
Rated impulse voltage	2500V	2500V	1500V	800V	800V
Pollution degree	3	3	3	3	3
Overvoltage categorie	II	II	II	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw M12x1	screw M12x1	screw M12x1	screw M12x1	screw M12x1
Termination	screw	screw	screw	screw	solder
Wire gauge	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.5mm <sup>2</sup> max.AWG20)	max.0.25mm <sup>2</sup> max.AWG24)
Cable outlet	4-6,6-8 mm	4-6,6-8 mm	4-6,6-8 mm	6-8 mm	6-8 mm
Degree of protection	IP67	IP67	IP67	IP67	IP67
Mechanical operation	> 100	> 100	> 100	> 100	> 100
Limiting temperature	-40°C ...+85°C	-40°C ...+85°C	-40°C ...+85°C	-40°C ...+85°C	-40°C ...+85°C
Material group	III	III	III	III	III
Material of contact	copper alloy	copper alloy	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au	Au	Au
Insulating material	PA	PA	PA	PA	PA
Material of housing	PA/PBT	PA/PBT	PA/PBT	PA/PBT	PA/PBT

## Straight cable connectors

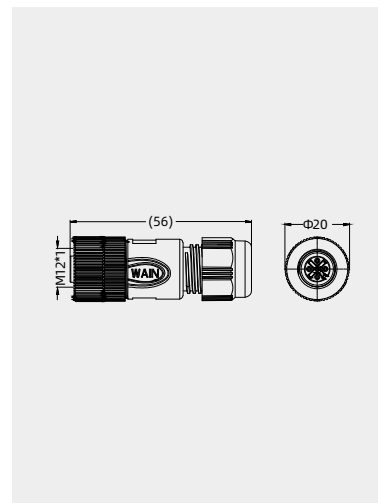
Female cable connector,  
plastic locking system,  
screw clamp connection



## A-Code



Contacts	Cable outlet	Designation	Order No.
3	4-6 mm	M12P-F03A-T-D6	163 003 421 3101
	6-8 mm	M12P-F03A-T-D8	163 003 421 3102
	4-6 mm	M12P-FST03A-T-D6	163 003 423 3500
	6-8 mm	M12P-FST03A-T-D8	163 003 423 3501
4	4-6 mm	M12P-F04A-T-D6	163 004 421 3101
	6-8 mm	M12P-F04A-T-D8	163 004 421 3102
	4-6 mm	M12P-FST04A-T-D6	163 004 423 3500
	6-8 mm	M12P-FST04A-T-D8	163 004 423 3501
5	4-6 mm	M12P-F05A-T-D6	163 005 421 3101
	6-8 mm	M12P-F05A-T-D8	163 005 421 3102
	4-6 mm	M12P-FST05A-T-D6	163 005 423 3500
	6-8 mm	M12P-FST05A-T-D8	163 005 423 3501
8	6-8 mm	M12P-F08A-T-D8	163 008 424 3002
	4-6 mm	M12P-FST08A-T-D6	163 008 423 3502
	6-8 mm	M12P-FST08A-T-D8	163 008 423 3503
12	6-8 mm	M12P-FST12A-T-D8	163 012 423 3003



M12-A

## Hexagonal driver



Description	Designation	Order No.
for 8 pin screw clamp connection	SW-1.27*47	198 001 003 0016

## M12-A Circular Connector

30/60/125/250V 1.5/2/4A

## Technical characteristics

	3-pole	4-pole	5-pole	8-pole	12-pole
Rated current (40°C)	4A	4A	4A	2A	1.5A
Rated voltage	250V	250V	125V	60V	30V
Rated impulse voltage	2500V	2500V	1500V	800V	800V
Pollution degree	3	3	3	3	3
Overvoltage categorie	II	II	II	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw M12x1	screw M12x1	screw M12x1	screw M12x1	screw M12x1
Termination	screw	screw	screw	screw	solder
Wire gauge	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.5mm <sup>2</sup> max.AWG20)	max.0.25mm <sup>2</sup> max.AWG24)
Cable outlet	4-6,6-8 mm	4-6,6-8 mm	4-6,6-8 mm	6-8 mm	6-8 mm
Degree of protection	IP67	IP67	IP67	IP67	IP67
Mechanical operation	> 100	> 100	> 100	> 100	> 100
Limiting temperature	-40°C ...+85°C	-40°C ...+85°C	-40°C ...+85°C	-40°C ...+85°C	-40°C ...+85°C
Material group	III	III	III	III	III
Material of contact	copper alloy	copper alloy	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au	Au	Au
Insulating material	PA	PA	PA	PA	PA
Material of housing	PA/PBT	PA/PBT	PA/PBT	PA/PBT	PA/PBT

## Straight cable connectors

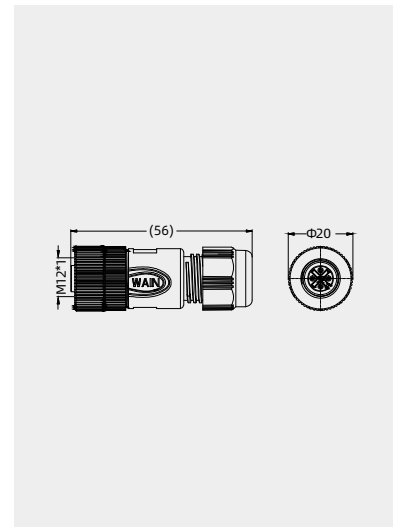
Female cable connector,  
metal locking system,  
screw clamp connection  
**Recommended use**



## A-Code



Contacts	Cable outlet	Designation	Order No.
3	4-6 mm	M12-F03A-T-D6	163 003 421 3001
	6-8 mm	M12-F03A-T-D8	163 003 421 3002
	4-6 mm	M12-FST03A-T-D6	163 003 423 3504
	6-8 mm	M12-FST03A-T-D8	163 003 423 3505
4	4-6 mm	M12-F04A-T-D6	163 004 421 3001
	6-8 mm	M12-F04A-T-D8	163 004 421 3002
	4-6 mm	M12-FST04A-T-D6	163 004 423 3508
	6-8 mm	M12-FST04A-T-D8	163 004 423 3509
5	4-6 mm	M12-F05A-T-D6	163 005 421 3001
	6-8 mm	M12-F05A-T-D8	163 005 421 3002
	4-6 mm	M12-FST05A-T-D6	163 005 423 3508
	6-8 mm	M12-FST05A-T-D8	163 005 423 3509
8	6-8 mm	M12-F08A-T-D8	163 008 421 3002
	4-6 mm	M12-FST08A-T-D6	163 008 423 3510
	6-8 mm	M12-FST08A-T-D8	163 008 423 3501
12	6-8 mm	M12-FST12A-T-D8	163 012 423 3002



## Hexagonal driver



Description	Designation	Order No.
for 8 pin screw clamp connection	SW-1.27*47	198 001 003 0016

## M12-A Circular Connector

30/60/125/250V 1.5/2/4A

## Technical characteristics

	3-pole	4-pole	5-pole	8-pole	12-pole
Rated current (40°C)	4A	4A	4A	2A	1.5A
Rated voltage	250V	250V	125V	60V	30V
Rated impulse voltage	2500V	2500V	1500V	800V	800V
Pollution degree	3	3	3	3	3
Overvoltage categorie	II	II	II	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw M12x1	screw M12x1	screw M12x1	screw M12x1	screw M12x1
Termination	screw	screw	screw	screw	solder
Wire gauge	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.5mm <sup>2</sup> max.AWG20)	max.0.25mm <sup>2</sup> max.AWG24)
Cable outlet	4-6,6-8 mm	4-6,6-8 mm	4-6,6-8 mm	6-8 mm	6-8 mm
Degree of protection	IP67	IP67	IP67	IP67	IP67
Mechanical operation	> 100	> 100	> 100	> 100	> 100
Limiting temperature	-40°C ...+85°C	-40°C ...+85°C	-40°C ...+85°C	-40°C ...+85°C	-40°C ...+85°C
Material group	III	III	III	III	III
Material of contact	copper alloy	copper alloy	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au	Au	Au
Insulating material	PA	PA	PA	PA	PA
Material of housing	PA/PBT	PA/PBT	PA/PBT	PA/PBT	PA/PBT

## Straight cable connectors

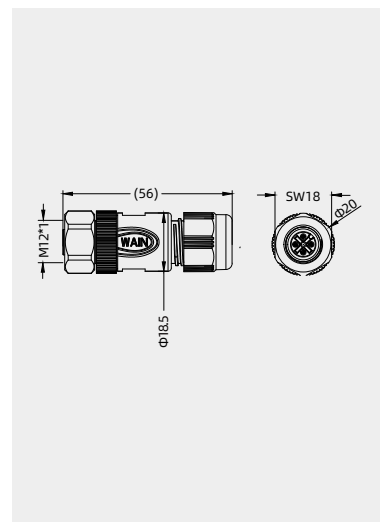
Female cable connector,  
stainless steel locking system,  
screw clamp connection,



## A-Code



Contacts	Cable outlet	Designation	Order No.
3	4-6 mm	M12S-F03A-T-D6	163 003 424 1001
	6-8 mm	M12S-F03A-T-D8	163 003 424 1002
	4-6 mm	M12S-FST03A-T-D6	163 003 423 3502
	6-8 mm	M12S-FST03A-T-D8	163 003 4233503
4	4-6 mm	M12S-F04A-T-D6	163 004 421 3201
	6-8 mm	M12S-F04A-T-D8	163 004 421 3202
	4-6 mm	M12S-FST04A-T-D6	163 004 423 3502
	6-8 mm	M12S-FST04A-T-D8	163 004 423 3503
5	4-6 mm	M12S-F05A-T-D6	163 005 421 3201
	6-8 mm	M12S-F05A-T-D8	163 005 421 3202
	4-6 mm	M12S-FST05A-T-D6	163 005 423 3502
	6-8 mm	M12S-FST05A-T-D8	163 005 423 3503
8	6-8 mm	M12S-F08A-T-D8	163 008 421 3202
	4-6 mm	M12S-FST08A-T-D6	163 008 423 3509
	6-8 mm	M12S-FST08A-T-D8	163 008 423 3504
12	6-8 mm	M12S-FST12A-T-D8	163 012 423 3004



M12-A

## Hexagonal driver



Description	Designation	Order No.
for 8 pin screw clamp connection	SW-1.27*47	198 001 003 0016

## M12-A Circular Connector

30/125/250V 1.5/2/8A

## Technical characteristics

	4-pole	5-pole	8-pole	12-pole
Rated current (40°C)	8A	Contacts:1-4 8A; Contacts:5 2A	Contacts: 2A	1.5A
Rated voltage	250V	125V	125V	30V
Rated impulse voltage	2500V	1500V	1500V9	800V
Pollution degree	3	3	3	3
Overvoltage categorie	II	II	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw M12x1	screw M12x1	screw M12x1	screw M12x1
Termination	screw	screw	screw	solder
Wire gauge	max.1.5mm <sup>2</sup> (max.AWG16)	max.1.5mm <sup>2</sup> (max.AWG16)	max.1.5mm <sup>2</sup> (max.AWG16)	max.0.25mm <sup>2</sup> max.AWG24)
Cable outlet	8-10mm	8-10mm	8-10mm	6-8 mm
Degree of protection	IP67	IP67	IP67	IP67
Mechanical operation	> 100	> 100	> 100	> 100
Limiting temperature	-40°C ...+85°C	-40°C ...+85°C	-40°C ...+85°C	-40°C ...+85°C
Material group	II	II	II	III
Material of contact	copper alloy	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au	Au
Insulating material	PA	PA	PA	PA
Material of housing	PA/PBT	PA/PBT	PA/PBT	PA/PBT

## Straight cable connectors

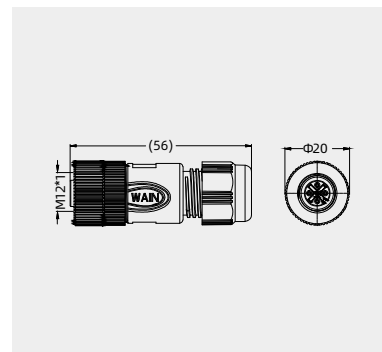
Female cable connector, Power screw clamp with ferules



A-Code



Contacts	Cable outlet	Designation	Order No.
4	8-10 mm	M12-F04A-T-D10	163 004 421 3003
		M12-FST04A-T-D10	163 004 423 3504
5	8-10 mm	M12-F05A-T-D10	163 005 421 3003
		M12-FST05A-T-D10	163 005 423 3504
8	8-10 mm	M12-F08A-T-D10	163 008 424 1002
		M12-FST08A-T-D10	163 008 423 3505
12	8-10 mm	M12-FST12A-T-D10	163 012 423 3001





## M12-A Circular Connector

60/125/250V 2/4A

## Technical characteristics

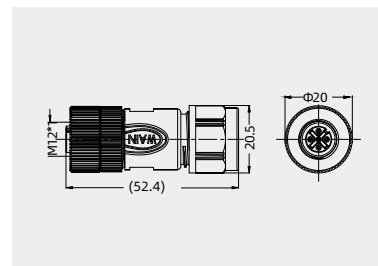
	4-pole	5-pole	8-pole
Rated current (40°C)	4A	4A	2A
Rated voltage	250(125)V	125V	60V
Rated impulse voltage	2500V	1500V	800V
Pollution degree	3	3	3
Overvoltage categorie	II	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw M12x1	screw M12x1	screw M12x1
Termination	screw	screw	screw
Wire gauge	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.5mm <sup>2</sup> (max.AWG20)
Cable outlet	-	-	-
Degree of protection	IP67	IP67	IP67
Mechanical operation	> 100	> 100	> 100
Limiting temperature	-40°C ...+85°C	-40°C ...+85°C	-40°C ...+85°C
Material group	III	III	III
Material of contact	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au
Insulating material	PA	PA	PA
Material of housing	PA/PBT	PA/PBT	PA/PBT

## Straight cable duo connectors

Female cable connector,  
plastic locking system,  
screw clamp connection



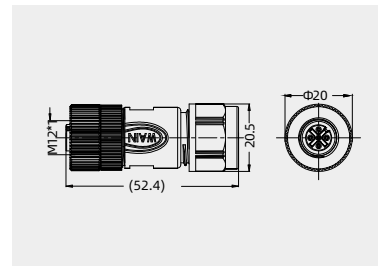
Contacts	Cable outlet	Designation	Order No.
4	2(2.1-3 mm or4-5 mm)	M12P-F04A-T-2D5	163 004 421 3104
		M12P-FST04A-T-2D5	163 004 423 3505
5	2(2.1-3 mm or4-5 mm)	M12P-F05A-T-2D5	163 005 421 3104
		M12P-FST05A-T-2D5	163 005 423 3505
8	2(2.1-3 mm or4-5 mm)	M12P-F08A-T-2D5	163 008 424 3001
		M12P-FST08A-T-2D5	163 008 423 3506



Female cable duo connector,  
metal locking system,  
screw clamp connection



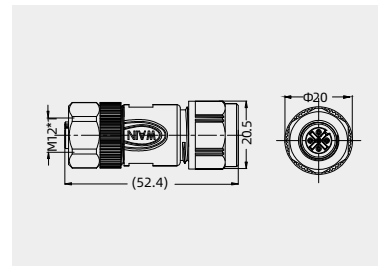
Contacts	Cable outlet	Designation	Order No.
4	2(2.1-3 mm or4-5 mm)	M12-F04A-T-2D5	163 004 421 3105
		M12-FST04A-T-2D5	163 004 423 3506
5	2(2.1-3 mm or4-5 mm)	M12-F05A-T-2D5	163 005 421 3105
		M12-FST05A-T-2D5	163 005 423 3506
8	2(2.1-3 mm or4-5 mm)	M12-F08A-T-2D5	163 008 424 1001
		M12-FST08A-T-2D5	163 008 423 3507



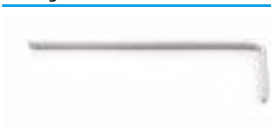
Female cable connector,  
stainless steel locking system,  
screw clamp connection,



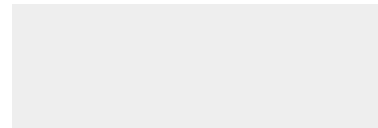
Contacts	Cable outlet	Designation	Order No.
4	2(2.1-3 mm or4-5 mm)	M12S-F04A-T-2D5	163 004 421 3204
		M12S-FST04A-T-2D5	163 004 423 3507
5	2(2.1-3 mm or4-5 mm)	M12S-F05A-T-2D5	163 005 421 3204
		M12S-FST05A-T-2D5	163 005 423 3507
8	2(2.1-3 mm or4-5 mm)	M12S-F08A-T-2D5	163 008 421 3204
		M12S-FST08A-T-2D5	163 008 423 3508



Hexagonal driver



Description	Designation	Order No.
for 8 pin screw clamp connection	SW-1.27*47	198 001 003 0016



M12-A

## M12-A Circular Connector

125/250V 4A

## Technical characteristics

	4-pole	5-pole
Rated current (40°C)	4A	4A
Rated voltage	250V	125V
Rated impulse voltage	2500V	1500V
Pollution degree	3	3
Overvoltage categorie	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw M12x1	screw M12x1
Termination	screw	screw
Wire gauge	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.75mm <sup>2</sup> (max.AWG18)
Cable outlet	2.1-3,4-5 mm	2.1-3,4-5 mm
Degree of protection	IP67	IP67
Mechanical operation	> 100	> 100
Limiting temperature	-40°C ...+85°C	-40°C ...+85°C
Material group	II	II
Material of contact	copper alloy	copper alloy
Contact plating	Au	Au
Insulating material	PA	PA
Material of housing	PA/PBT	PA/PBT

## Angled cable duo connectors

Female angled duo connector,  
plastic locking system,  
screw clamp connection



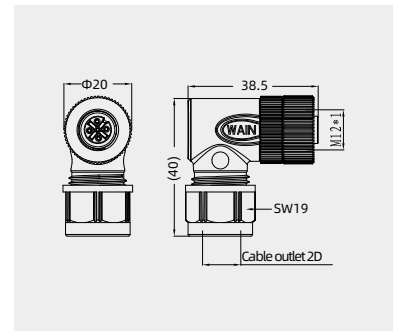
A-Code



4pin

5pin

Contacts	Cable outlet	Designation	Order No.
4	2(2.1-3 mm or 4-5 mm)	M12P-F04A-S-2D5	163 004 502 3001
		M12P-FST04A-S-2D5	163 004 523 3506
5	2(2.1-3 mm or 4-5 mm)	M12P-F05A-S-2D5	163 005 502 3001
		M12P-FST05A-S-2D5	163 005 523 3506



Female angled duo connector,  
metal locking system, s  
crew clamp connection



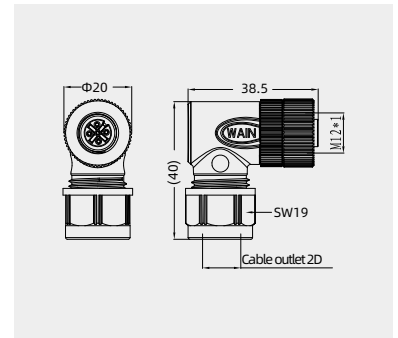
A-Code



4pin

5pin

Contacts	Cable outlet	Designation	Order No.
4	2(2.1-3 mm or 4-5 mm)	M12-F04A-S-2D5	163 004 502 1001
		M12-FST04A-S-2D5	163 004 523 3507
5	2(2.1-3 mm or 4-5 mm)	M12-F05A-S-2D5	163 005 502 1001
		M12-FST05A-S-2D5	163 005 523 3507



## M12-A Circular Connector

30/60/125/250V 1.5/2/4A

## Technical characteristics

	3-pole	4-pole	5-pole	8-pole	12-pole
Rated current (40°C)	4A	4A	4A	2A	1.5A
Rated voltage	250V	250V	125V	60V	30V
Rated impulse voltage	2500V	2500V	1500V	800V	800V
Pollution degree	3	3	3	3	3
Overvoltage categorie	II	II	II	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw M12x1	screw M12x1	screw M12x1	screw M12x1	screw M12x1
Termination	screw	screw	screw	screw	solder
Wire gauge	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.5mm <sup>2</sup> (max.AWG20)	max.0.25mm <sup>2</sup> (max.AWG24)
Cable outlet	4-6,6-8mm	4-6,6-8mm	4-6,6-8mm	6-8,8-10mm	6-8,8-10mm
Degree of protection	IP67	IP67	IP67	IP67	IP67
Mechanical operation	> 100	> 100	> 100	> 100	> 100
Limiting temperature	-40°C ...+85°C	-40°C ...+85°C	-40°C ...+85°C	-40°C ...+85°C	-40°C ...+85°C
Material group	II	II	II	II	II
Material of contact	copper alloy	copper alloy	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au	Au	Au
Insulating material	PA	PA	PA	PA	PA
Material of housing	zinc diecasting nickel plated, brass nickel plated	zinc diecasting nickel plated, brass nickel plated	zinc diecasting nickel plated, brass nickel plated	zinc diecasting nickel plated, brass nickel plated	zinc diecasting nickel plated, brass nickel plated

## Straight cable connectors, shielded

Female cable connector, shielded,

screw clamp connection,  
version with shielding ring

Recommended use



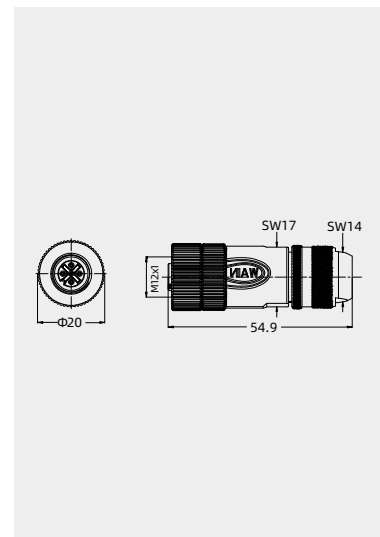
## A-Code



## Hexagonal driver



Contacts	Cable outlet	Designation	Order No.
3	4-6 mm	M12-F03A-T-D6-SH	163 003 421 2001
	6-8 mm	M12-F03A-T-D8-SH	163 003 421 2002
	4-6 mm	M12-FST03A-T-D6-SH	163 003 423 2500
	6-8 mm	M12-FST03A-T-D8-SH	163 003 423 2501
4	4-6 mm	M12-F04A-T-D6-SH	163 004 421 2001
	6-8 mm	M12-F04A-T-D8-SH	163 004 421 2002
	4-6 mm	M12-FST04A-T-D6-SH	163 004 423 2500
	6-8 mm	M12-FST04A-T-D8-SH	163 004 423 2002
5	4-6 mm	M12-F05A-T-D6-SH	163 005 421 2001
	6-8 mm	M12-F05A-T-D8-SH	163 005 421 2002
	4-6 mm	M12-FST05A-T-D6-SH	163 005 423 2001
	6-8 mm	M12-FST05A-T-D8-SH	163 005 423 2002
8	6-8 mm	M12-F08A-T-D8-SH	163 008 421 2002
	4-6 mm	M12-FST08A-T-D6-SH	163 008 423 2501
	6-8 mm	M12-FST08A-T-D8-SH	163 008 423 2500
12	6-8 mm	M12-FST12A-T-D8-SH	163 012 423 2003



M12-A

Description	Designation	Order No.
for 8 pin screw clamp connection	SW-1.27*47	198 001 003 0016

## M12-A Circular Connector

125V 4A

## Technical characteristics

	5-pole
Rated current (40°C)	4A
Rated voltage	125V
Rated impulse voltage	1500V
Pollution degree	3
Overvoltage categorie	II
Contact resistance	≤ 10 mΩ
Connector locking system	screw M12x1
Termination	screw
Wire gauge	max.0.75mm <sup>2</sup> (max.AWG18)
Cable outlet	4-6,6-8mm
Degree of protection	IP67
Mechanical operation	> 100
Limiting temperature	-40°C ...+85°C
Material group	II
Material of contact	copper alloy
Contact plating	Au
Insulating material	PA
Material of housing	zinc diecasting nickel plated, brass nickel plated

## Straight cable connectors, shielded

Female cable connector,

Crimp terminal ,with shielding ring

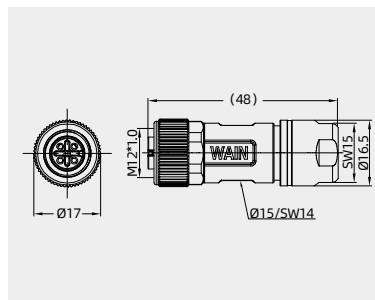
Order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
5	6-8 mm	M12-FC05A-T-D8-SH	163 005 420 2501

A-Code



5pin



Female cable connector,

Crimp terminal ,with shielding ring

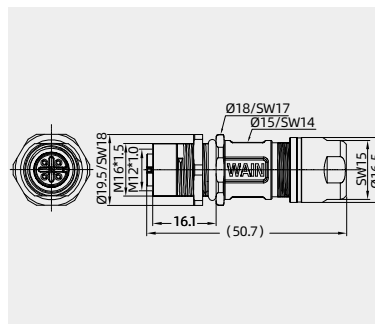
Order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
5	6-8 mm	M12-FC05A-CCT/R-M16-D8-SH	163 005 720 2001

A-Code



5pin

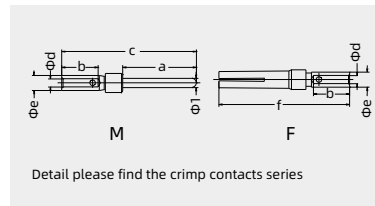


## Crimp contacts

Crimp contacts 5A

Contact resistance ≤ 3mΩ  
gold plated

Wiregauge(mm <sup>2</sup> )	Male	Order No.	Female	Order No.
0.09-0.25	CSGM-0.25	101 014 210 0101	CSGF-0.25	101 014 220 0101
0.13-0.33	CSGM-0.33	101 014 210 0201	CSGF-0.33	101 014 220 0201
0.33-0.52	CSGM-0.52	101 014 210 0501	CSGF-0.52	101 014 220 0501
0.52-0.82	CSGM-0.82	101 014 210 0701	CSGF-0.82	101 014 220 0701



Detail please find the crimp contacts series

Tools

Crimping tool



Wire gauge	Designation	Order No.
0.09-0.82mm <sup>2</sup>	TL03	198 001 001 0002

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## M12-A Circular Connector

125/250V 4A

## Technical characteristics

	3-pole	4-pole	5-pole
Rated current (40°C)	4A	4A	4A
Rated voltage	250V	250V	125V
Rated impulse voltage	2500V	2500V	1500V
Pollution degree	3	3	3
Overvoltage categorie	II	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw M12x1	screw M12x1	screw M12x1
Termination	screw	screw	screw
Wire gauge	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.75mm <sup>2</sup> (max.AWG18)
Cable outlet	4-6,6-8 mm	4-6,6-8 mm	4-6,6-8 mm
Degree of protection	IP67	IP67	IP67
Mechanical operation	> 100	> 100	> 100
Limiting temperature	-40°C ...+85°C	-40°C ...+85°C	-40°C ...+85°C
Material group	II	II	II
Material of contact	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au
Insulating material	PA	PA	PA
Material of housing	PA/PBT	PA/PBT	PA/PBT

## Angled cable connectors

Female cable connector,  
plastic locking system,  
screw clamp connection



A-Code



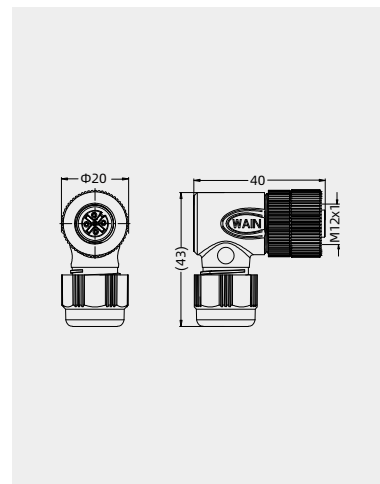
3pin

4pin

5pin

8pin

Contacts	Cable outlet	Designation	Order No.
3	4-6 mm	M12P-F03A-S-D6	163 003 521 3101
	6-8 mm	M12P-F03A-S-D8	163 003 521 3102
	4-6 mm	M12P-FST03A-S-D6	163 003 523 3501
	6-8 mm	M12P-FST03A-S-D8	163 003 523 3502
4	4-6 mm	M12P-F04A-S-D6	163 004 521 3101
	6-8 mm	M12P-F04A-S-D8	163 004 521 3102
	4-6 mm	M12P-FST04A-S-D6	163 004 523 3500
	6-8 mm	M12P-FST04A-S-D8	163004 523 3501
5	4-6 mm	M12P-F05A-S-D6	163 005 521 3101
	6-8 mm	M12P-F05A-S-D8	163 005 521 3102
	4-6 mm	M12P-FST05A-S-D6	163 005 523 3500
	6-8 mm	M12P-FST05A-S-D8	163 005 523 3501
8	4-6 mm	M12P-FST08A-S-D6	163 008 523 3500
	6-8 mm	M12P-FST08A-S-D8	163 008 523 3501



M12-A

## M12-A Circular Connector

125/250V 4A

## Technical characteristics

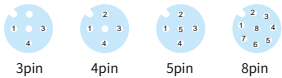
	3-pole	4-pole	5-pole
Rated current (40°C)	4A	4A	4A
Rated voltage	250V	250V	125V
Rated impulse voltage	2500V	2500V	1500V
Pollution degree	3	3	3
Overvoltage categorie	II	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw M12x1	screw M12x1	screw M12x1
Termination	screw	screw	screw
Wire gauge	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.75mm <sup>2</sup> (max.AWG18)
Cable outlet	4-6,6-8 mm	4-6,6-8 mm	4-6,6-8 mm
Degree of protection	IP67	IP67	IP67
Mechanical operation	> 100	> 100	> 100
Limiting temperature	-40°C ...+85°C	-40°C ...+85°C	-40°C ...+85°C
Material group	II	II	II
Material of contact	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au
Insulating material	PA	PA	PA
Material of housing	PA/PBT	PA/PBT	PA/PBT

## Angled cable connectors

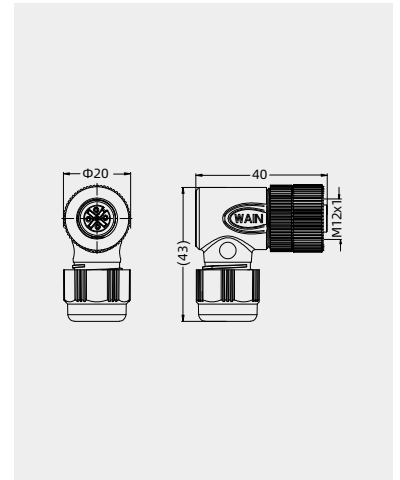
Female angled connector,  
metal locking system,  
screw clamp connection  
**Recommended use**



A-Code



Contacts	Cable outlet	Designation	Order No.
3	4-6 mm	M12-F03A-S-D6	163 003 521 3001
	6-8 mm	M12-F03A-S-D8	163 003 521 3002
	4-6 mm	M12-FST03A-S-D6	163 003 523 3500
	6-8 mm	M12-FST03A-S-D8	163 003 523 3503
4	4-6 mm	M12-F04A-S-D6	163 004 521 3001
	6-8 mm	M12-F04A-S-D8	163 004 521 3002
	4-6 mm	M12-FST04A-S-D6	163 004 523 3502
	6-8 mm	M12-FST04A-S-D8	163 004 523 3503
5	4-6 mm	M12-F05A-S-D6	163 005 521 3001
	6-8 mm	M12-F05A-S-D8	163 005 521 3002
	4-6 mm	M12-FST05A-S-D6	163 005 523 3502
	6-8 mm	M12-FST05A-S-D8	163 005 523 3503
8	4-6 mm	M12-FST08A-S-D6	163 008 523 3502
	6-8 mm	M12-FST08A-S-D8	163 008 523 3503



## M12-A Circular Connector

125/250V 4A

## Technical characteristics

	3-pole	4-pole	5-pole
Rated current (40°C)	4A	4A	4A
Rated voltage	250V	250V	125V
Rated impulse voltage	2500V	2500V	1500V
Pollution degree	3	3	3
Overvoltage categorie	II	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw M12x1	screw M12x1	screw M12x1
Termination	screw	screw	screw
Wire gauge	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.75mm <sup>2</sup> (max.AWG18)
Cable outlet	4-6,6-8 mm	4-6,6-8 mm	4-6,6-8 mm
Degree of protection	IP67	IP67	IP67
Mechanical operation	> 100	> 100	> 100
Limiting temperature	-40°C ...+85°C	-40°C ...+85°C	-40°C ...+85°C
Material group	II	II	II
Material of contact	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au
Insulating material	PA	PA	PA
Material of housing	PA/PBT	PA/PBT	PA/PBT

## Angled cable connectors

Female cable connector,  
stainless steel locking system,  
screw clamp connection,



A-Code



3pin



4pin

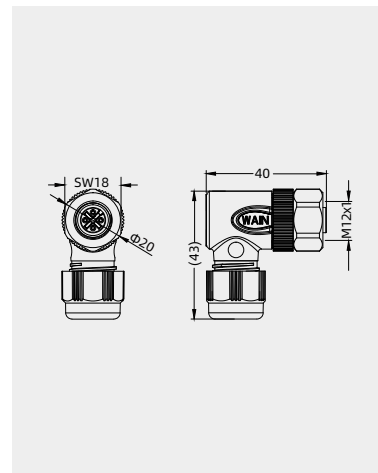


5pin



8pin

Contacts	Cable outlet	Designation	Order No.
3	4-6 mm	M12S-F03A-S-D6	163 003 524 1001
	6-8 mm	M12S-F03A-S-D8	163 003 524 1002
	4-6 mm	M12S-FST03A-S-D6	163 003 523 3504
	6-8 mm	M12S-FST03A-S-D8	163 003 523 3505
4	4-6 mm	M12S-F04A-S-D6	163 004 521 3201
	6-8 mm	M12S-F04A-S-D8	163 004 521 3202
	4-6 mm	M12S-FST04A-S-D6	163 004 523 3504
	6-8 mm	M12S-FST04A-S-D8	163 004 523 3505
5	4-6 mm	M12S-F05A-S-D6	163 005 521 3201
	6-8 mm	M12S-F05A-S-D8	163 005 521 3202
	4-6 mm	M12S-FST05A-S-D6	163 005 523 3504
	6-8 mm	M12S-FST05A-S-D8	163 005 523 3505
8	4-6 mm	M12S-FST08A-S-D6	163 008 523 3504
	6-8 mm	M12S-FST08A-S-D8	163 008 523 3505



M12-A

## M12-A Circular Connector

125/250V 4A

## Technical characteristics

	3-pole	4-pole	5-pole
Rated current (40°C)	4A	4A	4A
Rated voltage	250V	250V	125V
Rated impulse voltage	2500V	2500V	1500V
Pollution degree	3	3	3
Overvoltage categorie	II	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw M12x1	screw M12x1	screw M12x1
Termination	screw	screw	screw
Wire gauge	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.75mm <sup>2</sup> (max.AWG18)
Cable outlet	4-6,6-8 mm	4-6,6-8 mm	4-6,6-8 mm
Degree of protection	IP67	IP67	IP67
Mechanical operation	> 100	> 100	> 100
Limiting temperature	-40°C ...+85°C	-40°C ...+85°C	-40°C ...+85°C
Material group	III	III	III
Material of contact	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au
Insulating material	PA	PA	PA
Material of housing	zinc diecasting nickel plated	zinc diecasting nickel plated	zinc diecasting nickel plated

## Angled cable connectors, shielded

Female angled connector, shielded,  
screw clamp connection,  
version with shielding ring



A-Code



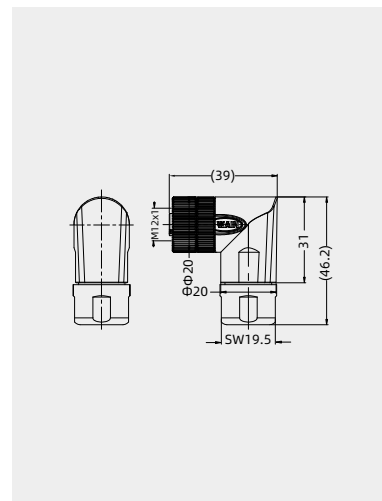
3pin

4pin

5pin

8pin

Contacts	Cable outlet	Designation	Order No.
3	4-6 mm	M12-F03A-S-D6-SH	163 003 521 2001
	6-8 mm	M12-F03A-S-D8-SH	163 003 521 2002
	4-6 mm	M12-FST03A-S-D6-SH	1630035230500
	6-8 mm	M12-FST03A-S-D8-SH	1630035230501
4	4-6 mm	M12-F04A-S-D6-SH	163 004 521 2001
	6-8 mm	M12-F04A-S-D8-SH	163 004 521 2002
	4-6 mm	M12-FST04A-S-D6-SH	1630045232500
	6-8 mm	M12-FST04A-S-D8-SH	1630045232501
5	4-6 mm	M12-F05A-S-D6-SH	163 005 521 2001
	6-8 mm	M12-F05A-S-D8-SH	163 005 521 2002
	4-6 mm	M12-FST05A-S-D6-SH	1630055232500
	6-8 mm	M12-FST05A-S-D8-SH	1630055232501
8	4-6 mm	M12-FST08A-S-D6-SH	1630085232500
	6-8 mm	M12-FST08A-S-D8-SH	1630085232501

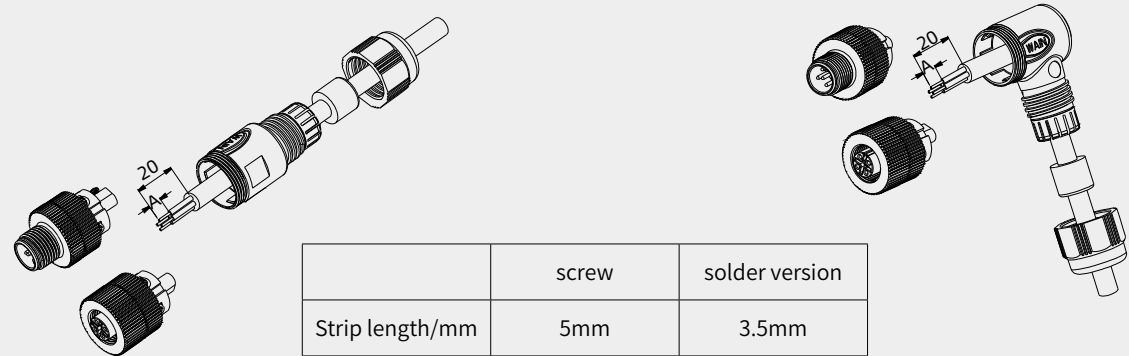




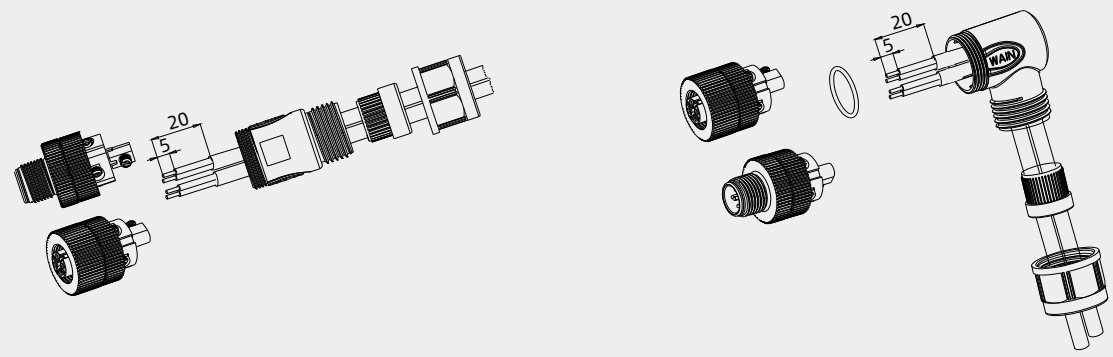
## Assembly instruction

### • Assembly instruction

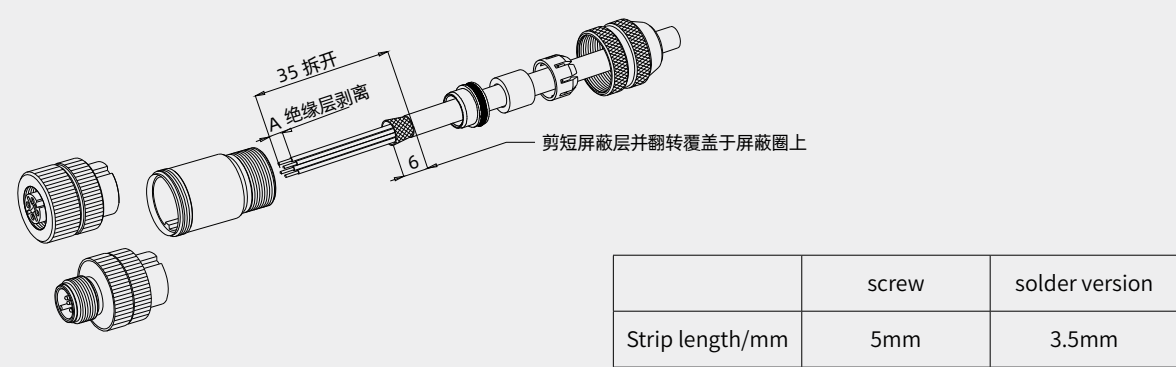
- Strip length male/female cable connector, male/female angled connector, **not shielded**



- Strip length male/female cable duo connector, male/female angled duo connector, **not shieldable**



- Strip length male/female cable connector, **with shielding ring**

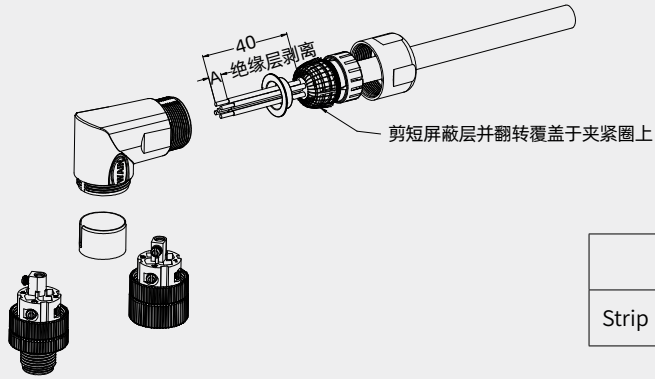


M12-A

Assembly instruction

• Assembly instruction

- Stripping length of male/female angled cable connector, with shielding ring

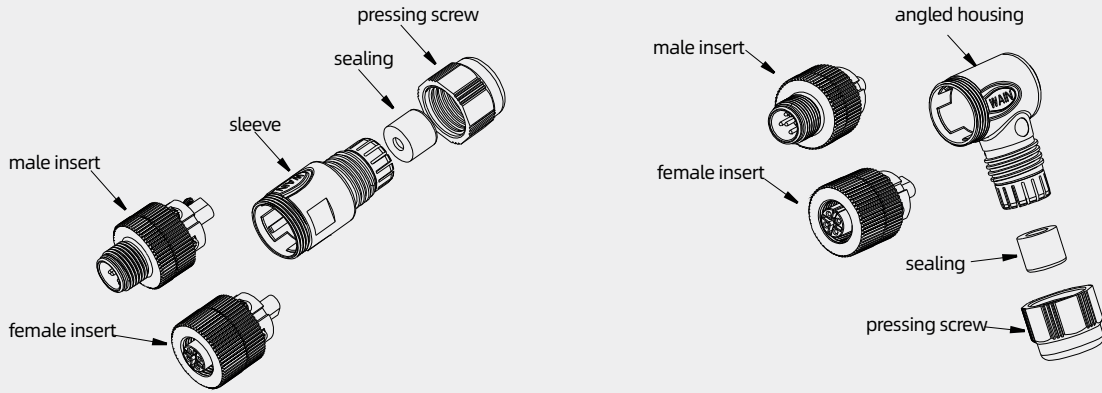


	screw	solder version
Strip length/mm	5mm	3.5mm

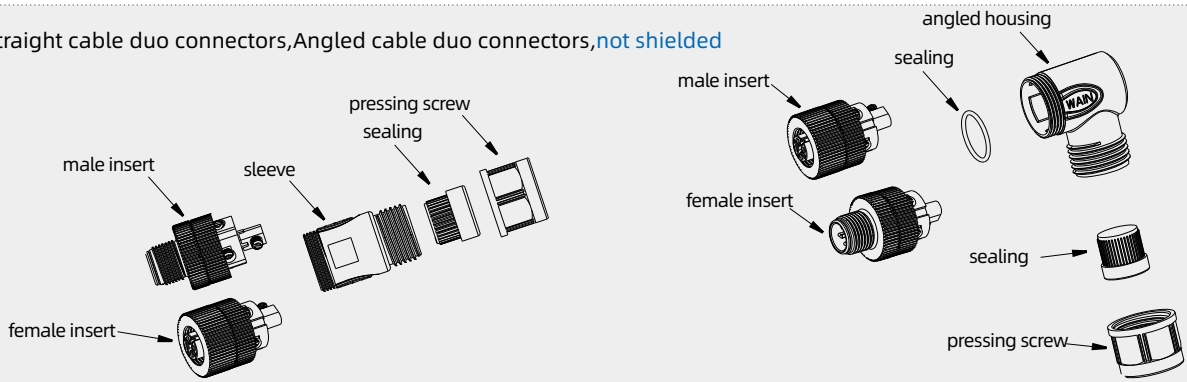
Assembly instruction

• Component part drawing

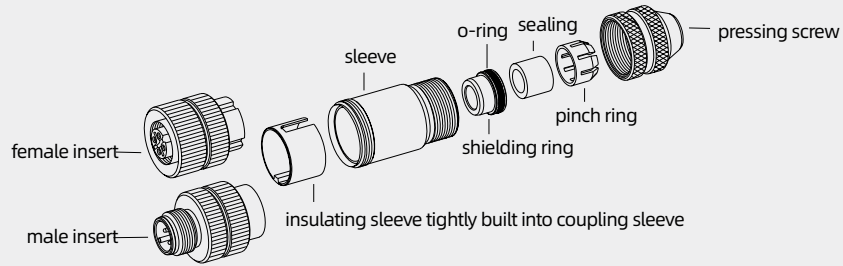
- Straight cable connectors, Angled cable connectors, **not shielded**



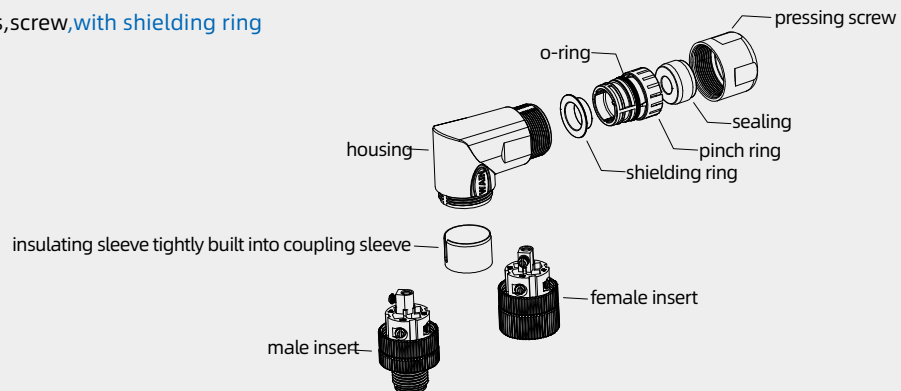
- Straight cable duo connectors, Angled cable duo connectors, **not shielded**



- Straight cable connectors, **with shielding ring**



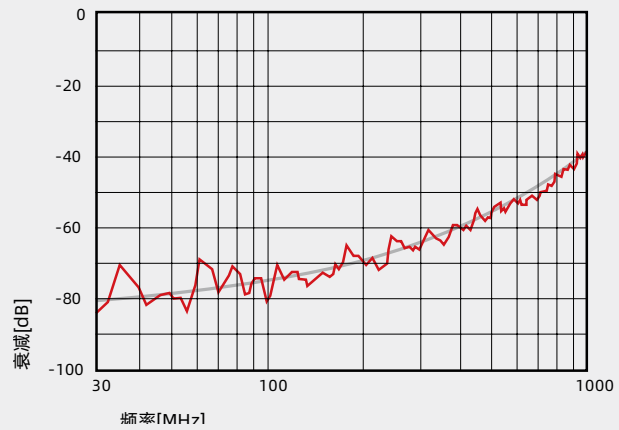
- Angled cable connectors, screw, **with shielding ring**



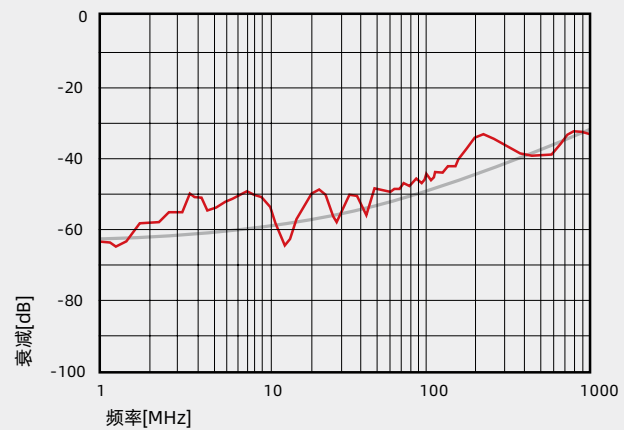
## Rating

- Rating

Attenuation curve according to DIN 47250-6 for straight cable connectors, with shielding ring

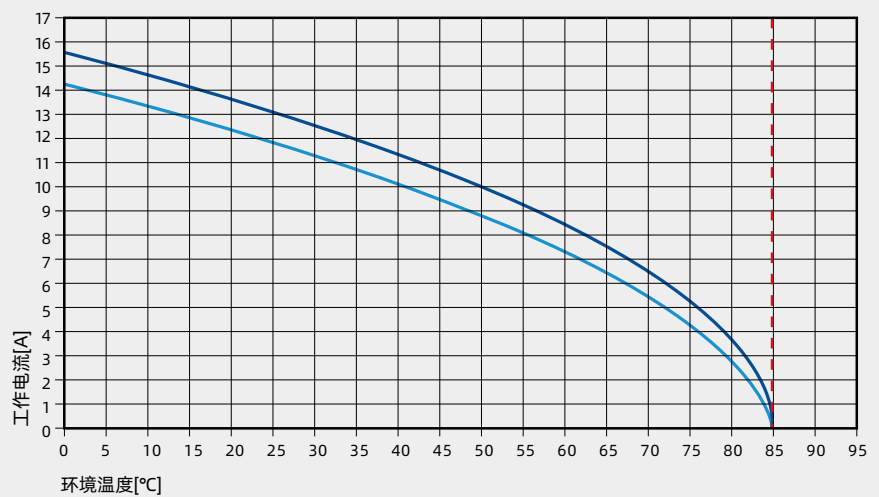


Attenuation curve according to DIN 47250-6 for straight cable connectors, with iris type spring



Derating curve according to DIN EN 60512 for POWER cable connectors

- A-coding 4 pole version
- A-coding 5 pole version



## M12-A Circular Connector

60/125/250V 2/4A

## Technical characteristics

	3-pole	4-pole	5-pole	8-pole	12-pole
Rated current (40°C)	4A	4A	4A	2A	1.5A
Rated voltage	250V	250V	125V	60V	60V
Rated impulse voltage	2500V	2500V	1500V	800V	800V
Pollution degree	3	3	3	3	3
Overvoltage categorie	II	II	II	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw M12x1	screw M12x1	screw M12x1	screw M12x1	screw M12x1
Termination	crimp, moulded	crimp, moulded	crimp, moulded	crimp, moulded	crimp, moulded
Wire gauge	0.34mm <sup>2</sup> (AWG22)	0.34mm <sup>2</sup> (AWG22)	0.25mm <sup>2</sup> (AWG24)	0.25mm <sup>2</sup> (AWG24)	0.14mm <sup>2</sup> (AWG26)
Cable outlet	-	-	-	-	-
Degree of protection	IP67 shielded	IP67 shielded	IP67 shielded	IP67 shielded	IP67
Mechanical operation	> 100	> 100	> 100	> 100	> 100
Limiting temperature	-25°C ...+85°C	-25°C ...+85°C	-25°C ...+85°C	-25°C ...+85°C	-25°C ...+85°C
Material group	II	II	II	II	II
Material of contact	copper alloy	copper alloy	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au	Au	Au
Insulating material	PA	PA	PA	PA	PA
Material of housing	TPU	TPU	TPU	TPU	TPU

## Straight cable connectors, cable

## Male cable connector moulded, screw

## Recommended use



## A-Code



## Male cable connector moulded, screw, shielded

## Recommended use

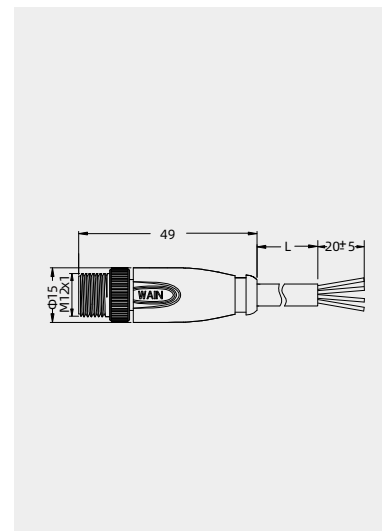


## A-Code

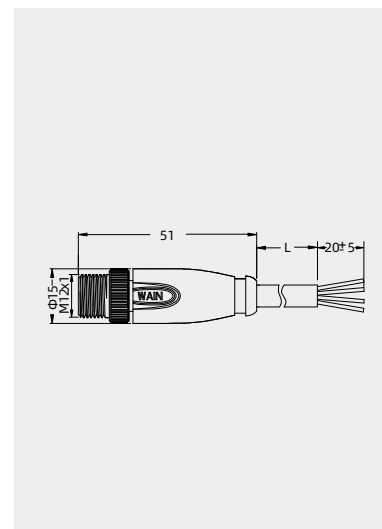


•Further cable length upon request.

Contacts	Cable	Cable length	Designation	Order No.
3	3x0.34PVC	1.5 m	M12-M03A-T-1.5-PVC	163 003 401 4001
		5.0 m	M12-M03A-T-5.0-PVC	163 003 401 4002
	3x0.34PUR	1.5 m	M12-M03A-T-1.5-PUR	163 003 401 4041
		5.0 m	M12-M03A-T-5.0-PUR	163 003 401 4042
4	4x0.34PVC	1.5 m	M12-M04A-T-1.5-PVC	163 004 401 4001
		5.0 m	M12-M04A-T-5.0-PVC	163 004 401 4002
	4x0.34PUR	1.5 m	M12-M04A-T-1.5-PUR	163 004 401 4041
		5.0 m	M12-M04A-T-5.0-PUR	163 004 401 4042
5	5x0.25PVC	1.5 m	M12-M05A-T-1.5-PVC	163 005 401 4001
		5.0 m	M12-M05A-T-5.0-PVC	163 005 401 4002
	5x0.25PUR	1.5 m	M12-M05A-T-1.5-PUR	163 005 401 4041
		5.0 m	M12-M05A-T-5.0-PUR	163 005 401 4042
8	8x0.25PUR	1.5 m	M12-M08A-T-1.5-PUR	163 008 401 4041
		5.0 m	M12-M08A-T-5.0-PUR	163 008 401 4042
12	12x0.25PVC	1.5 m	M12-M12A-T-1.5-PVC	163 012 401 4001
		5.0 m	M12-M12A-T-5.0-PVC	163 012 401 4003
	12x0.25PUR	1.5 m	M12-M12A-T-1.5-PUR	163 012 401 4004
		5.0 m	M12-M12A-T-5.0-PUR	163 012 401 4005



Contacts	Cable	Cable length	Designation	Order No.
3	3x0.34PVC	1.5 m	M12-M03A-T-1.5-PVC-SH	163 003 401 4021
		5.0 m	M12-M03A-T-5.0-PVC-SH	163 003 401 4022
	3x0.34PUR	1.5 m	M12-M03A-T-1.5-PUR-SH	163 003 401 4061
		5.0 m	M12-M03A-T-5.0-PUR-SH	163 003 401 4062
4	4x0.34PVC	1.5 m	M12-M04A-T-1.5-PVC-SH	163 004 401 4021
		5.0 m	M12-M04A-T-5.0-PVC-SH	163 004 401 4022
	4x0.34PUR	1.5 m	M12-M04A-T-1.5-PUR-SH	163 004 401 4061
		5.0 m	M12-M04A-T-5.0-PUR-SH	163 004 401 4062
5	5x0.25PVC	1.5 m	M12-M05A-T-1.5-PVC-SH	163 005 401 4021
		5.0 m	M12-M05A-T-5.0-PVC-SH	163 005 401 4022
	5x0.25PUR	1.5 m	M12-M05A-T-1.5-PUR-SH	163 005 401 4061
		5.0 m	M12-M05A-T-5.0-PUR-SH	163 005 401 4062
8	8x0.25PUR	1.5 m	M12-M08A-T-1.5-PUR-SH	163 008 401 4061
		5.0 m	M12-M08A-T-5.0-PUR-SH	163 008 401 4062
12	12x0.25PVC	1.5 m	M12-M12A-T-1.5-PVC-SH	163 012 401 2001
		5.0 m	M12-M12A-T-5.0-PVC-SH	163 012 401 2002
	12x0.25PUR	1.5 m	M12-M12A-T-1.5-PUR-SH	163 012 401 2003
		5.0 m	M12-M12A-T-5.0-PUR-SH	163 012 401 2004



M12-A

## M12-A Circular Connector

125/250V 4A

## Technical characteristics

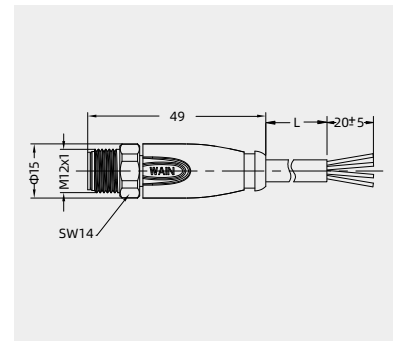
	3-pole	4-pole	5-pole
Rated current (40°C)	4A	4A	4A
Rated voltage	250V	250V	125V
Rated impulse voltage	2500V	2500V	1500V
Pollution degree	3	3	3
Overvoltage categorie	II	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw M12x1	screw M12x1	screw M12x1
Termination	crimp, moulded	crimp, moulded	crimp, moulded
Wire gauge	0.34mm <sup>2</sup> (AWG22)	0.34mm <sup>2</sup> (AWG22)	0.25mm <sup>2</sup> (AWG24)
Cable outlet	-	-	-
Degree of protection	IP67	IP67	IP67
Mechanical operation	> 100	> 100	> 100
Limiting temperature	-25°C ...+85°C	-25°C ...+85°C	-25°C ...+85°C
Material group	II	II	II
Material of contact	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au
Insulating material	PA	PA	PA
Material of housing	TPU	TPU	TPU

## Straight cable connectors, cable

Male cable connector moulded,  
Stainless steel ring nut, screw



Contacts	Cable	Cable length	Designation	Order No.
3	3x0.34PUR	1.5 m	M12S-M03A-T-1.5-PUR	163 003 401 4241
		5.0 m	M12S-M03A-T-5.0-PUR	163 003 401 4242
4	4x0.34PUR	1.5 m	M12S-M04A-T-1.5-PUR	163 004 401 4241
		5.0 m	M12S-M04A-T-5.0-PUR	163 004 401 4242
5	5x0.25PUR	1.5 m	M12S-M05A-T-1.5-PUR	163 005 401 4241
		5.0 m	M12S-M05A-T-5.0-PUR	163 005 401 4242



A-Code



3pin

4pin

5pin

•Further cable length upon request.

# M12-A Circular Connector

60/125/250V 2/4A

## Technical characteristics

	3-pole	4-pole	5-pole	8-pole	12-pole
Rated current (40°C)	4A	4A	4A	2A	1.5A
Rated voltage	250V	250V	125V	60V	60V
Rated impulse voltage	2500V	2500V	1500V	800V	800V
Pollution degree	3	3	3	3	3
Overvoltage categorie	II	II	II	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw M12x1	screw M12x1	screw M12x1	screw M12x1	screw M12x1
Termination	crimp, moulded	crimp, moulded	crimp, moulded	crimp, moulded	crimp, moulded
Wire gauge	0.34mm <sup>2</sup> (AWG22)	0.34mm <sup>2</sup> (AWG22)	0.25mm <sup>2</sup> (AWG24)	0.25mm <sup>2</sup> (AWG24)	0.14mm <sup>2</sup> (AWG26)
Cable outlet	-	-	-	-	-
Degree of protection	IP67 shielded	IP67 shielded	IP67 shielded	IP67 shielded	IP67
Mechanical operation	> 100	> 100	> 100	> 100	> 100
Limiting temperature	-25°C ...+85°C	-25°C ...+85°C	-25°C ...+85°C	-25°C ...+85°C	-25°C ...+85°C
Material group	II	II	II	II	II
Material of contact	copper alloy	copper alloy	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au	Au	Au
Insulating material	PA	PA	PA	PA	PA
Material of housing	TPU	TPU	TPU	TPU	TPU

## Angled cable connectors,cable

### Male cable connector moulded, screw

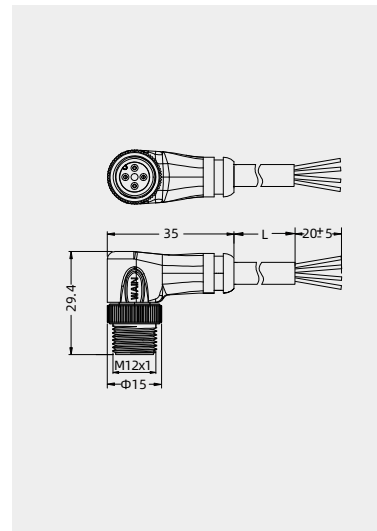
#### Recommended use



#### A-Code



Contacts	Cable	Cable length	Designation	Order No.	
3	3x0.34PVC	1.5 m	M12-M03A-S-1.5-PVC	163 003 501 4001	
		5.0 m	M12-M03A-S-5.0-PVC	163 003 501 4002	
	3x0.34PUR	1.5 m	M12-M03A-S-1.5-PUR	163 003 501 4041	
		5.0 m	M12-M03A-S-5.0-PUR	163 003 501 4042	
4	4x0.34PVC	1.5 m	M12-M04A-S-1.5-PVC	163 004 501 4001	
		5.0 m	M12-M04A-S-5.0-PVC	163 004 501 4015	
	4x0.34PUR	1.5 m	M12-M04A-S-1.5-PUR	163 004 501 4041	
		5.0 m	M12-M04A-S-5.0-PUR	163 004 501 4042	
	5	5x0.25PVC	1.5 m	M12-M05A-S-1.5-PVC	163 005 501 4001
			5.0 m	M12-M05A-S-5.0-PVC	163 005 501 4002
5x0.25PUR		1.5 m	M12-M05A-S-1.5-PUR	163 005 501 4041	
		5.0 m	M12-M05A-S-5.0-PUR	163 005 501 4042	
8	8x0.25PVC	1.5 m	M12-M08A-S-1.5-PVC	163 008 501 4041	
		5.0 m	M12-M08A-S-5.0-PVC	163 008 501 4042	
	12	12x0.25PVC	1.5 m	M12-M12A-S-1.5-PVC	163 012 501 4001
			5.0 m	M12-M12A-S-5.0-PVC	163 012 501 4002
12	12x0.25PUR	1.5 m	M12-M12A-S-1.5-PUR	163 012 501 4003	
		5.0 m	M12-M12A-S-5.0-PUR	163 012 501 4004	



M12-A

### Male cable connector moulded, screw, shielded

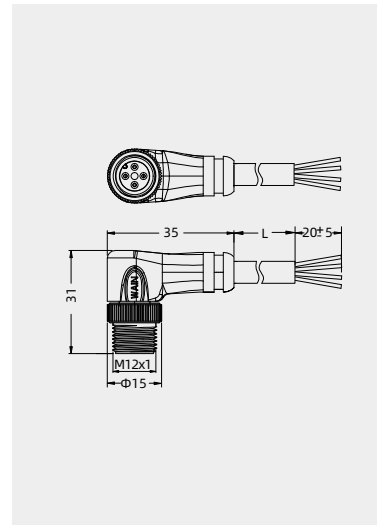
#### Recommended use



#### A-Code



Contacts	Cable	Cable length	Designation	Order No.	
3	3x0.34PVC	1.5 m	M12-M03A-S-1.5-PVC-SH	163 003 501 4021	
		5.0 m	M12-M03A-S-5.0-PVC-SH	163 003 501 4022	
	3x0.34PUR	1.5 m	M12-M03A-S-1.5-PUR-SH	163 003 501 4061	
		5.0 m	M12-M03A-S-5.0-PUR-SH	163 003 501 4062	
4	4x0.34PVC	1.5 m	M12-M04A-S-1.5-PVC-SH	163 004 501 4021	
		5.0 m	M12-M04A-S-5.0-PVC-SH	163 004 501 4022	
	4x0.34PUR	1.5 m	M12-M04A-S-1.5-PUR-SH	163 004 501 4061	
		5.0 m	M12-M04A-S-5.0-PUR-SH	163 004 501 4062	
	5	5x0.25PVC	1.5 m	M12-M05A-S-1.5-PVC-SH	163 005 501 4021
			5.0 m	M12-M05A-S-5.0-PVC-SH	163 005 501 4022
5x0.25PUR		1.5 m	M12-M05A-S-1.5-PUR-SH	163 005 501 4061	
		5.0 m	M12-M05A-S-5.0-PUR-SH	163 005 501 4062	
8	8x0.25PVC	1.5 m	M12-M08A-S-1.5-PUR-SH	163 008 514 2001	
		5.0 m	M12-M08A-S-5.0-PUR-SH	163 008 514 2002	
	12	12x0.25PVC	1.5 m	M12-M12A-S-1.5-PVC-SH	163 012 501 2001
			5.0 m	M12-M12A-S-5.0-PVC-SH	163 012 501 2002
12	12x0.25PUR	1.5 m	M12-M12A-S-1.5-PUR-SH	163 012 501 2003	
		5.0 m	M12-M12A-S-5.0-PUR-SH	163 012 501 2004	



•Further cable length upon request.

## M12-A Circular Connector

125/250V 4A

## Technical characteristics

	3-pole	4-pole	5-pole
Rated current (40°C)	4A	4A	4A
Rated voltage	250V	250V	125V
Rated impulse voltage	2500V	2500V	1500V
Pollution degree	3	3	3
Overvoltage categorie	II	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw M12x1	screw M12x1	screw M12x1
Termination	crimp, moulded	crimp, moulded	crimp, moulded
Wire gauge	0.34mm <sup>2</sup> (AWG22)	0.34mm <sup>2</sup> (AWG22)	0.25mm <sup>2</sup> (AWG24)
Cable outlet	-	-	-
Degree of protection	IP67	IP67	IP67
Mechanical operation	> 100	> 100	> 100
Limiting temperature	-25°C ...+85°C	-25°C ...+85°C	-25°C ...+85°C
Material group	II	II	II
Material of contact	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au
Insulating material	PA	PA	PA
Material of housing	TPU	TPU	TPU

## Angled cable connectors, cable

Male angled connector moulded,  
Stainless steel ring nut,screw



A-Code

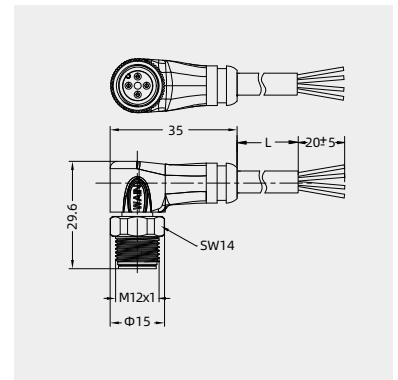


3pin

4pin

5pin

Contacts	Cable	Cable length	Designation	Order No.
3	3x0.34PUR	1.5 m	M12S-M03A-S-1.5-PUR	163 003 501 4241
		5.0 m	M12S-M03A-S-5.0-PUR	163 003 501 4242
4	4x0.34PUR	1.5 m	M12S-M04A-S-1.5-PUR	163 004 501 4241
		5.0 m	M12S-M04A-S-5.0-PUR	163 004 501 4242
5	5x0.25PUR	1.5 m	M12S-M05A-S-1.5-PUR	163 005 501 4241
		5.0 m	M12S-M05A-S-5.0-PUR	163 005 501 4242



•Further cable length upon request.



## M12-A Circular Connector

60/125/250V 2/4A

## Technical characteristics

	3-pole	4-pole	5-pole	8-pole	12-pole
Rated current (40°C)	4A	4A	4A	2A	1.5A
Rated voltage	250V	250V	125V	60V	60V
Rated impulse voltage	2500V	2500V	1500V	800V	800V
Pollution degree	3	3	3	3	3
Overvoltage categorie	II	II	II	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw M12x1	screw M12x1	screw M12x1	screw M12x1	screw M12x1
Termination	crimp, moulded	crimp, moulded	crimp, moulded	crimp, moulded	crimp, moulded
Wire gauge	0.34mm <sup>2</sup> (AWG22)	0.34mm <sup>2</sup> (AWG22)	0.25mm <sup>2</sup> AWG24)	0.25mm <sup>2</sup> (AWG24)	0.14mm <sup>2</sup> (AWG26)
Cable outlet	-	-	-	-	-
Degree of protection	IP67 shielded	IP67 shielded	IP67 shielded	IP67 shielded	IP67
Mechanical operation	> 100	> 100	> 100	> 100	> 100
Limiting temperature	-25°C ...+85°C	-25°C ...+85°C	-25°C ...+85°C	-25°C ...+85°C	-25°C ...+85°C
Material group	II	II	II	II	II
Material of contact	copper alloy	copper alloy	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au	Au	Au
Insulating material	PA	PA	PA	PA	PA
Material of housing	TPU	TPU	TPU	TPU	TPU

## Straight cable connectors, cable

## Femalae connector moulded,screw

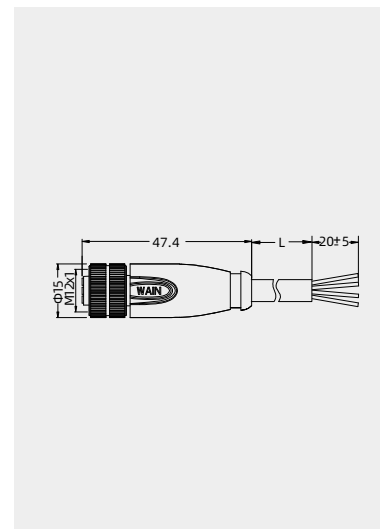
## Recommended use



## A-Code



Contacts	Cable	Cable length	Designation	Order No.	
3	3x0.34PVC	1.5 m	M12-F03A-T-1.5-PVC	163 003 402 4001	
		5.0 m	M12-F03A-T-5.0-PVC	163 003 402 4002	
	3x0.34PUR	1.5 m	M12-F03A-T-1.5-PUR	163 003 402 4041	
		5.0 m	M12-F03A-T-5.0-PUR	163 003 402 4042	
4	4x0.34PVC	1.5 m	M12-F04A-T-1.5-PVC	163 004 402 4001	
		5.0 m	M12-F04A-T-5.0-PVC	163 004 402 4002	
	4x0.34PUR	1.5 m	M12-F04A-T-1.5-PUR	163 004 402 4041	
		5.0 m	M12-F04A-T-5.0-PUR	163 004 402 4042	
	5	5x0.25PVC	1.5 m	M12-F05A-T-1.5-PVC	163 005 402 4001
			5.0 m	M12-F05A-T-5.0-PVC	163 005 402 4002
5x0.25PUR		1.5 m	M12-F05A-T-1.5-PUR	163 005 402 4041	
		5.0 m	M12-F05A-T-5.0-PUR	163 005 402 4042	
8	8x0.25PUR	1.5 m	M12-F08A-T-1.5-PUR	163 008 402 4041	
		5.0 m	M12-F08A-T-5.0-PUR	163 008 402 4042	
	12	12x0.25PVC	1.5 m	M12-F12A-T-1.5-PVC	163 012 402 4001
			5.0 m	M12-F12A-T-5.0-PVC	163 012 402 4003
12x0.25PUR		1.5 m	M12-F12A-T-1.5-PUR	163 012 402 4004	
		5.0 m	M12-F12A-T-5.0-PUR	163 012 402 4005	



M12-A

## Female connector moulded,screw shielded

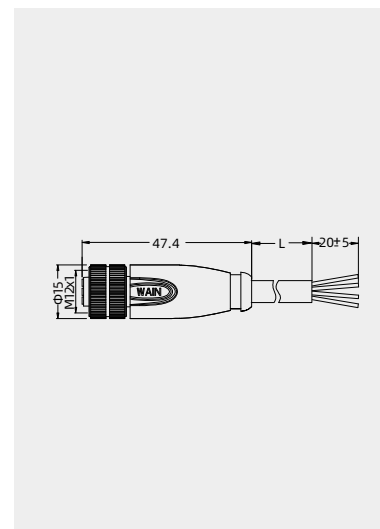
## Recommended use



## A-Code



Contacts	Cable	Cable length	Designation	Order No.	
3	3x0.34PVC	1.5 m	M12-F03A-T-1.5-PVC-SH	163 003 402 4021	
		5.0 m	M12-F03A-T-5.0-PVC-SH	163 003 402 4022	
	3x0.34PUR	1.5 m	M12-F03A-T-1.5-PUR-SH	163 003 402 4061	
		5.0 m	M12-F03A-T-5.0-PUR-SH	163 003 402 4062	
4	4x0.34PVC	1.5 m	M12-F04A-T-1.5-PVC-SH	163 004 402 4021	
		5.0 m	M12-F04A-T-5.0-PVC-SH	163 004 402 4022	
	4x0.34PUR	1.5 m	M12-F04A-T-1.5-PUR-SH	163 004 402 4061	
		5.0 m	M12-F04A-T-5.0-PUR-SH	163 004 402 4062	
	5	5x0.25PVC	1.5 m	M12-F05A-T-1.5-PVC-SH	163 005 402 4021
			5.0 m	M12-F05A-T-5.0-PVC-SH	163 005 402 4022
5x0.25PUR		1.5 m	M12-F05A-T-1.5-PUR-SH	163 005 402 4061	
		5.0 m	M12-F05A-T-5.0-PUR-SH	163 005 402 4062	
8	8x0.25PUR	1.5 m	M12-F08A-T-1.5-PUR-SH	163 008 402 4061	
		5.0 m	M12-F08A-T-5.0-PUR-SH	163 008 402 4062	
	12	12x0.25PVC	1.5 m	M12-F12A-T-1.5-PVC-SH	163 012 402 2001
			5.0 m	M12-F12A-T-5.0-PVC-SH	163 012 402 2002
12x0.25PUR		1.5 m	M12-F12A-T-1.5-PUR-SH	163 012 402 2003	
		5.0 m	M12-F12A-T-5.0-PUR-SH	163 012 402 2004	



•Further cable length upon request.

## M12-A Circular Connector

125/250V 4A

## Technical characteristics

	3-pole	4-pole	5-pole
Rated current (40°C)	4A	4A	4A
Rated voltage	250V	250V	125V
Rated impulse voltage	2500V	2500V	1500V
Pollution degree	3	3	3
Overvoltage categorie	II	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw M12x1	screw M12x1	screw M12x1
Termination	crimp, moulded	crimp, moulded	crimp, moulded
Wire gauge	0.34mm <sup>2</sup> (AWG22)	0.34mm <sup>2</sup> (AWG22)	0.25mm <sup>2</sup> (AWG24)
Cable outlet	-	-	-
Degree of protection	IP67	IP67	IP67
Mechanical operation	> 100	> 100	> 100
Limiting temperature	-25°C ...+85°C	-25°C ...+85°C	-25°C ...+85°C
Material group	II	II	II
Material of contact	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au
Insulating material	PA	PA	PA
Material of housing	TPU	TPU	TPU

## Straight cable connectors, cable

Female cable connector moulded,

Stainless steel ring nut,screw



A-Code

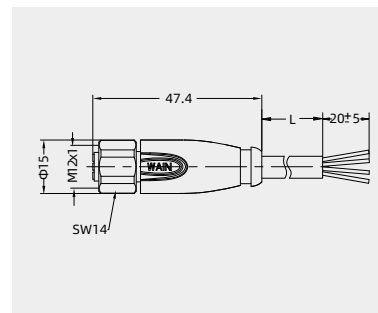


3pin

4pin

5pin

Contacts	Cable	Cable length	Designation	Order No.
3	3x0.34PUR	1.5 m	M12S-F03A-T-1.5-PUR	163 003 402 4241
		5.0 m	M12S-F03A-T-5.0-PUR	163 003 402 4242
4	4x0.34PUR	1.5 m	M12S-F04A-T-1.5-PUR	163 004 402 4241
		5.0 m	M12S-F04A-T-5.0-PUR	163 004 402 4242
5	5x0.25PUR	1.5 m	M12S-F05A-T-1.5-PUR	163 005 402 4241
		5.0 m	M12S-F05A-T-5.0-PUR	163 005 402 4242



•Further cable length upon request.

# M12-A Circular Connector

60/125/250V 2/4A

## Technical characteristics

	3-pole	4-pole	5-pole	8-pole	12-pole
Rated current (40°C)	4A	4A	4A	2A	1.5A
Rated voltage	250V	250V	125V	60V	60V
Rated impulse voltage	2500V	2500V	1500V	800V	800V
Pollution degree	3	3	3	3	3
Overvoltage categorie	II	II	II	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw M12x1	screw M12x1	screw M12x1	screw M12x1	screw M12x1
Termination	crimp, moulded	crimp, moulded	crimp, moulded	crimp, moulded	crimp, moulded
Wire gauge	0.34mm <sup>2</sup> (AWG22)	0.34mm <sup>2</sup> (AWG22)	0.25mm <sup>2</sup> (AWG24)	0.25mm <sup>2</sup> (AWG24)	0.14mm <sup>2</sup> (AWG26)
Cable outlet	-	-	-	-	-
Degree of protection	IP67 shielded	IP67 shielded	IP67 shielded	IP67 shielded	IP67
Mechanical operation	> 100	> 100	> 100	> 100	> 100
Limiting temperature	-25°C ...+85°C	-25°C ...+85°C	-25°C ...+85°C	-25°C ...+85°C	-25°C ...+85°C
Material group	II	II	II	II	II
Material of contact	copper alloy	copper alloy	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au	Au	Au
Insulating material	PA	PA	PA	PA	PA
Material of housing	TPU	TPU	TPU	TPU	TPU

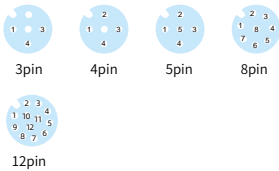
## Angled cable connectors, cable

Female angled connector moulded, screw

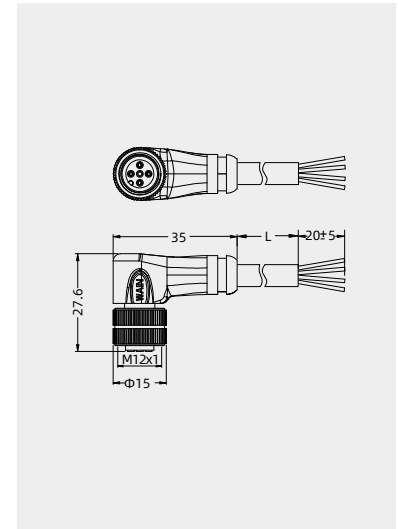
Recommended use



A-Code



Contacts	Cable	Cable length	Designation	Order No.
3	3x0.34PVC	1.5 m	M12-F03A-S-1.5-PVC	163 003 502 4001
		5.0 m	M12-F03A-S-5.0-PVC	163 003 502 4002
	3x0.34PUR	1.5 m	M12-F03A-S-1.5-PUR	163 003 502 4041
		5.0 m	M12-F03A-S-5.0-PUR	163 003 502 4042
4	4x0.34PVC	1.5 m	M12-F04A-S-1.5-PVC	163 004 502 4001
		5.0 m	M12-F04A-S-5.0-PVC	163 004 502 4002
	4x0.34PUR	1.5 m	M12-F04A-S-1.5-PUR	163 004 502 4041
		5.0 m	M12-F04A-S-5.0-PUR	163 004 502 4042
	5x0.25PVC	1.5 m	M12-F05A-S-1.5-PVC	163 005 502 4001
		5.0 m	M12-F05A-S-5.0-PVC	163 005 502 4002
5x0.25PUR	1.5 m	M12-F05A-S-1.5-PUR	163 005 502 4041	
	5.0 m	M12-F05A-S-5.0-PUR	163 005 502 4042	
8	8x0.25PUR	1.5 m	M12-F08A-S-1.5-PUR	163 008 502 4041
		5.0 m	M12-F08A-S-5.0-PUR	163 008 502 4042
12	12x0.25PVC	1.5 m	M12-F12A-S-1.5-PVC	163 012 502 4001
		5.0 m	M12-F12A-S-5.0-PVC	163 012 502 4002
	12x0.25PUR	1.5 m	M12-F12A-S-1.5-PUR	163 012 502 4003
		5.0 m	M12-F12A-S-5.0-PUR	163 012 502 4004



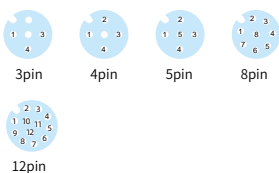
M12-A

Female angled connector moulded screw, shielded

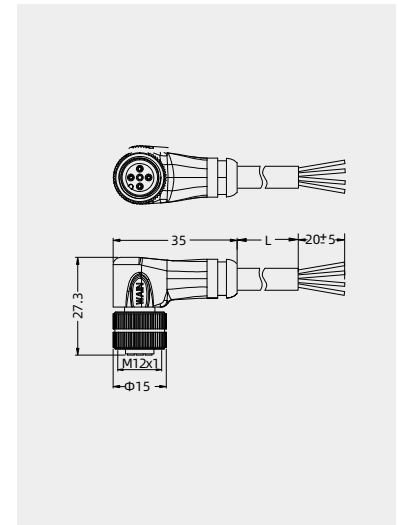
Recommended use



A-Code



Contacts	Cable	Cable length	Designation	Order No.
3	3x0.34PVC	1.5 m	M12-F03A-S-1.5-PVC-SH	163 003 502 4021
		5.0 m	M12-F03A-S-5.0-PVC-SH	163 003 502 4022
	3x0.34PUR	1.5 m	M12-F03A-S-1.5-PUR-SH	163 003 502 4061
		5.0 m	M12-F03A-S-5.0-PUR-SH	163 003 502 4062
4	4x0.34PVC	1.5 m	M12-F04A-S-1.5-PVC-SH	163 004 502 4021
		5.0 m	M12-F04A-S-5.0-PVC-SH	163 004 502 4022
	4x0.34PUR	1.5 m	M12-F04A-S-1.5-PUR-SH	163 004 502 4061
		5.0 m	M12-F04A-S-5.0-PUR-SH	163 004 502 4062
	5x0.25PVC	1.5 m	M12-F05A-S-1.5-PVC-SH	163 005 502 4021
		5.0 m	M12-F05A-S-5.0-PVC-SH	163 005 502 4022
5x0.25PUR	1.5 m	M12-F05A-S-1.5-PUR-SH	163 005 502 4061	
	5.0 m	M12-F05A-S-5.0-PUR-SH	163 005 502 4062	
8	8x0.25PUR	1.5 m	M12-F08A-S-1.5-PUR-SH	163 008 524 2001
		5.0 m	M12-F08A-S-5.0-PUR-SH	163 008 524 2002
12	12x0.25PVC	1.5 m	M12-F12A-S-1.5-PVC-SH	163 012 502 2001
		5.0 m	M12-F12A-S-5.0-PVC-SH	163 012 502 2002
	12x0.25PUR	1.5 m	M12-F12A-S-1.5-PUR-SH	163 012 502 2003
		5.0 m	M12-F12A-S-5.0-PUR-SH	163 012 502 2004



•Further cable length upon request.

## M12-A Circular Connector

125/250V 4A

## Technical characteristics

	3-pole	4-pole	5-pole
Rated current (40°C)	4A	4A	4A
Rated voltage	250V	250V	125V
Rated impulse voltage	2500V	2500V	1500V
Pollution degree	3	3	3
Overvoltage categorie	II	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw M12x1	screw M12x1	screw M12x1
Termination	crimp, moulded	crimp, moulded	crimp, moulded
Wire gauge	0.34mm <sup>2</sup> (AWG22)	0.34mm <sup>2</sup> (AWG22)	0.25mm <sup>2</sup> (AWG24)
Cable outlet	-	-	-
Degree of protection	IP67	IP67	IP67
Mechanical operation	> 100	> 100	> 100
Limiting temperature	-25°C ...+85°C	-25°C ...+85°C	-25°C ...+85°C
Material group	II	II	II
Material of contact	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au
Insulating material	PA	PA	PA
Material of housing	TPU	TPU	TPU

## Angled cable connectors, cable

Female angled connector moulded,  
Stainless steel ring nut, screw



A-Code

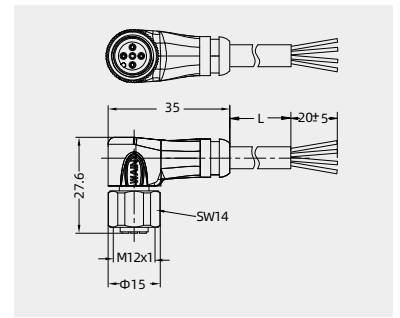


3pin

4pin

5pin

Contacts	Cable	Cable length	Designation	Order No.
3	3x0.34PUR	1.5 m	M12S-F03A-S-1.5-PUR	163 003 502 4241
		5.0 m	M12S-F03A-S-5.0-PUR	163 003 502 4242
4	4x0.34PUR	1.5 m	M12S-F04A-S-1.5-PUR	163 004 502 4241
		5.0 m	M12S-F04A-S-5.0-PUR	163 004 502 4242
5	5x0.25PUR	1.5 m	M12S-F05A-S-1.5-PUR	163 005 502 4241
		5.0 m	M12S-F05A-S-5.0-PUR	163 005 502 4242



•Further cable length upon request.

# M12-A Circular Connector

36V 4A

## Technical characteristics

	3-pole	4-pole
Rated current (40°C)	4A	4A
Rated voltage	36V	36V
Rated impulse voltage	500V	500V
Pollution degree	3	3
Overvoltage categorie	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw M12x1	screw M12x1
Termination	crimp, moulded	crimp, moulded
Wire gauge	0.34mm <sup>2</sup> (AWG22)	0.34mm <sup>2</sup> (AWG22)
Cable outlet	-	-
Degree of protection	IP67	IP67
Mechanical operation	> 100	> 100
Limiting temperature	-25°C ...+85°C	-25°C ...+85°C
Material group	II	II
Material of contact	copper alloy	copper alloy
Contact plating	Au	Au
Insulating material	PA	PA
Material of housing	TPU	TPU

## Angled cable connectors ,cable

Female angled connector moulded, with LED PNP normally open

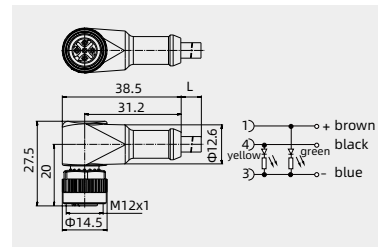


A-Code



3pin

Contacts	Cable	Cable length	Designation	Order No.
3	3x0.34PVC	1.5 m	M12-F03A-S-1.5-PVC-LED	163 003 502 4003
		5.0 m	M12-F03A-S-5.0-PVC-LED	163 003 502 4004
3	3x0.34PUR	1.5 m	M12-F03A-S-1.5-PUR-LED	163 003 502 4043
		5.0 m	M12-F03A-S-5.0-PUR-LED	163 003 502 4044



Female angled connector moulded, with LED PNP normally closed/open, antivalent

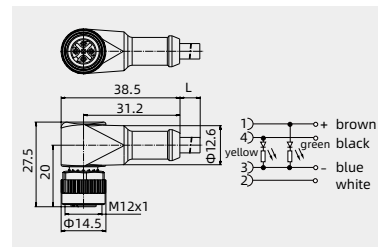


A-Code



3pin

Contacts	Cable	Cable length	Designation	Order No.
4	4x0.34PVC	1.5 m	M12-F04A-S-1.5-PVC-LED1	163 004 502 4005
		5.0 m	M12-F04A-S-5.0-PVC-LED1	163 004 502 4006
4	4x0.34PUR	1.5 m	M12-F04A-S-1.5-PUR-LED1	163 004 502 4045
		5.0 m	M12-F04A-S-5.0-PUR-LED1	163 004 502 4046



Female angled connector moulded, with LED PNP normally closed/open

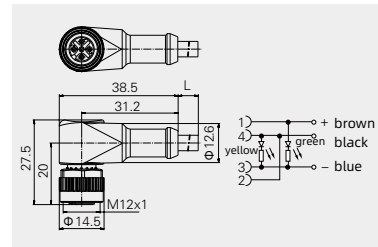


A-Code



4pin

Contacts	Cable	Cable length	Designation	Order No.
3	3x0.34PUR	1.5 m	M12-F03A-S-1.5-PUR-LED2	163 003 502 4047
		5.0 m	M12-F03A-S-5.0-PUR-LED2	163 003 502 4048



Female angled connector moulded, with LED PNP normally open, stainless steel ring nut

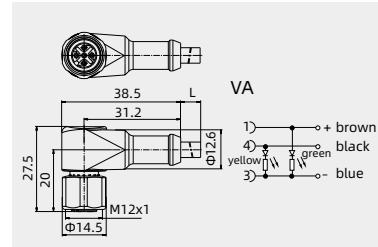


A-Code



3pin

Contacts	Cable	Cable length	Designation	Order No.
3	3x0.34PUR	1.5 m	M12S-F03A-S-1.5-PUR-LED	163 003 502 4243
		5.0 m	M12S-F03A-S-5.0-PUR-LED	163 003 502 4244



•Further cable length upon request.

## M12-A Circular Connector

60/125/250V 4A

## Technical characteristics

	3-pole	4-pole	5-pole	8-pole	12-pole
Rated current (40°C)	4A	4A	4A	2A	1.5A
Rated voltage	250V	250V	125V	60V	60V
Rated impulse voltage	2500V	2500V	1500V	800V	800V
Pollution degree	3	3	3	3	3
Overvoltage categorie	II	II	II	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw M12x1	screw M12x1	screw M12x1	screw M12x1	screw M12x1
Termination	crimp, moulded	crimp, moulded	crimp, moulded	crimp, moulded	crimp, moulded
Wire gauge	0.34mm <sup>2</sup> (AWG22)	0.34mm <sup>2</sup> (AWG22)	0.25mm <sup>2</sup> (AWG24)	0.25mm <sup>2</sup> (AWG24)	0.25mm <sup>2</sup> (AWG24)
Cable outlet	-	-	-	-	-
Degree of protection	IP67	IP67	IP67	IP67	IP67
Mechanical operation	> 100	> 100	> 100	> 100	> 100
Limiting temperature	-25°C ...+85°C	-25°C ...+85°C	-25°C ...+85°C	-25°C ...+85°C	-25°C ...+85°C
Material group	II	II	II	II	II
Material of contact	copper alloy	copper alloy	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au	Au	Au
Insulating material	PA	PA	PA	PA	PA
Material of housing	TPU	TPU	TPU	TPU	TPU

## Cable connectors-wire jumper

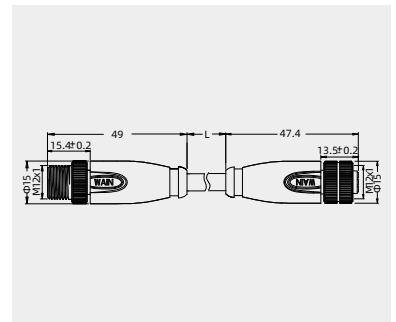
## Male cable connector

## -female cable connector

Recommended use



Contacts	Cable	Cable length	Designation	Order No.
3	3x0.34PUR	1.5 m	M12-M03A-T/F03A-T-1.5-PUR	163 003 400 4041
		5.0 m	M12-M03A-T/F03A-T-5.0-PUR	163 003 400 4042
4	4x0.34PUR	1.5 m	M12-M04A-T/F04A-T-1.5-PUR	163 004 400 4041
		5.0 m	M12-M04A-T/F04A-T-5.0-PUR	163 004 400 4042
5	5x0.25PUR	1.5 m	M12-M05A-T/F05A-T-1.5-PUR	163 005 400 4041
		5.0 m	M12-M05A-T/F05A-T-5.0-PUR	163 005 400 4042
8	8x0.25PUR	1.5 m	M12-M08A-T/F08A-T-1.5-PUR	163 008 400 4007
		5.0 m	M12-M08A-T/F08A-T-5.0-PUR	163 008 400 4011
12	12x0.25PUR	1.5 m	M12-M12A-T/F12A-T-1.5-PUR	163 012 400 4001
		5.0 m	M12-M12A-T/F12A-T-5.0-PUR	163 012 400 4002



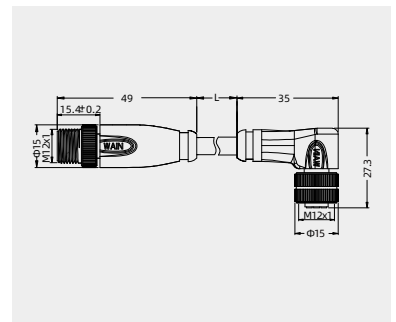
## Male cable connector

## -female angled cable connector

Recommended use



Contacts	Cable	Cable length	Designation	Order No.
3	3x0.34PUR	1.5 m	M12-M03A-T/F03A-S-1.5-PUR	163 003 500 4041
		5.0 m	M12-M03A-T/F03A-S-5.0-PUR	163 003 500 4042
4	4x0.34PUR	1.5 m	M12-M04A-T/F04A-S-1.5-PUR	163 004 500 4041
		5.0 m	M12-M04A-T/F04A-S-5.0-PUR	163 004 500 4042
5	5x0.25PUR	1.5 m	M12-M05A-T/F05A-S-1.5-PUR	163 005 500 4041
		5.0 m	M12-M05A-T/F05A-S-5.0-PUR	163 005 500 4042
8	8x0.25PUR	1.5 m	M12-M08A-T/F08A-S-1.5-PUR	163 008 500 4041
		5.0 m	M12-M08A-T/F08A-S-5.0-PUR	163 008 400 4008
12	12x0.25PUR	1.5 m	M12-M12A-T/F12A-S-1.5-PUR	163 012 400 4003
		5.0 m	M12-M12A-T/F12A-S-5.0-PUR	163 012 500 4001



•Other cable lengths can be customized, double-ended connectors, male/female, straight/angled, shielded/unshielded, freely combinable.

## M12-A Circular Connector

60/125/250V 4A

### Technical characteristics

	3-pole	4-pole	5-pole
Rated current (40°C)	4A	4A	4A
Rated voltage	250V	250V	125V
Rated impulse voltage	2500V	2500V	1500V
Pollution degree	3	3	3
Overvoltage categorie	II	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw M12x1	screw M12x1	screw M12x1
Termination	crimp, moulded	crimp, moulded	crimp, moulded
Wire gauge	0.34mm <sup>2</sup> (AWG22)	0.34mm <sup>2</sup> (AWG22)	0.25mm <sup>2</sup> (AWG24)
Cable outlet	-	-	-
Degree of protection	IP67	IP67	IP67
Mechanical operation	> 100	> 100	> 100
Limiting temperature	-25°C ...+85°C	-25°C ...+85°C	-25°C ...+85°C
Material group	II	II	II
Material of contact	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au
Insulating material	PA	PA	PA
Material of housing	TPU	TPU	TPU

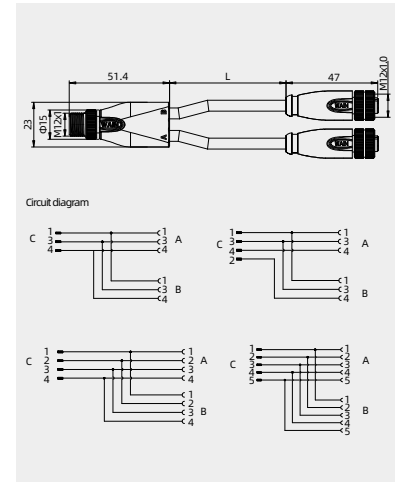
### Cable connectors-Y straight head brancher

#### Male cable connector

#### -female cable connector



Contacts	Cable	Cable length	Designation	Order No.
3	3x0.34PVC	1.5 m	M12Y-M03A/2M12-F03A-T-1.5-PVC	171 302 003 0308
		5.0 m	M12Y-M03A/2M12-F03A-T-5.0-PVC	171 302 003 0309
	3x0.34PUR	1.5 m	M12Y-M03A/2M12-F03A-T-1.5-PUR	171 302 003 0306
		5.0 m	M12Y-M03A/2M12-F03A-T-5.0-PUR	171 302 003 0307
	3x0.34PVC	1.5 m	M12Y-M04A/2M12-F03A-T-1.5-PVC	171 302 003 0302
		5.0 m	M12Y-M04A/2M12-F03A-T-5.0-PVC	171 302 003 0303
3x0.34PUR	1.5 m	M12Y-M04A/2M12-F03A-T-1.5-PUR	171 302 003 0304	
	5.0 m	M12Y-M04A/2M12-F03A-T-5.0-PUR	171 302 003 0305	
4	4x0.34PVC	1.5 m	M12Y-M04A/2M12-F04A-T-1.5-PVC	171 302 004 0307
		5.0 m	M12Y-M04A/2M12-F04A-T-5.0-PVC	171 302 004 0308
	4x0.34PUR	1.5 m	M12Y-M04A/2M12-F04A-T-1.5-PUR	171 302 004 0305
		5.0 m	M12Y-M04A/2M12-F04A-T-5.0-PUR	171 302 004 0306
	5x0.25PVC	1.5 m	M12Y-M05A/2M12-F05A-T-1.5-PVC	171 302 005 0302
		5.0 m	M12Y-M05A/2M12-F05A-T-5.0-PVC	171 302 005 0303
5x0.25PUR	1.5 m	M12Y-M05A/2M12-F05A-T-1.5-PUR	171 302 005 0304	
	5.0 m	M12Y-M05A/2M12-F05A-T-5.0-PUR	171 302 005 0305	

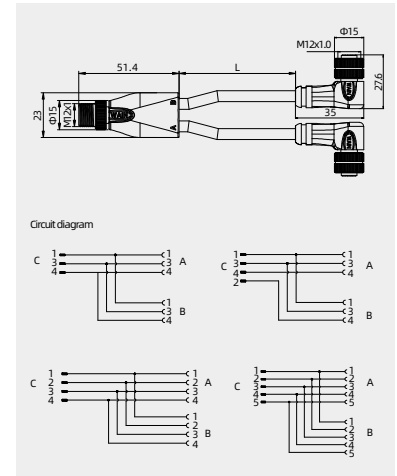


#### Male cable connector

#### -female angled cable connector



Contacts	Cable	Cable length	Designation	Order No.
3	3x0.34PVC	1.5 m	M12Y-M03A/2M12-F03A-S-1.5-PVC	171 302 003 0318
		5.0 m	M12Y-M03A/2M12-F03A-S-5.0-PVC	171 302 003 0319
	3x0.34PUR	1.5 m	M12Y-M03A/2M12-F03A-S-1.5-PUR	171 302 003 0321
		5.0 m	M12Y-M03A/2M12-F03A-S-5.0-PUR	171 302 003 0322
	3x0.34PVC	1.5 m	M12Y-M04A/2M12-F03A-S-1.5-PVC	171 302 003 0323
		5.0 m	M12Y-M04A/2M12-F03A-S-5.0-PVC	171 302 003 0320
3x0.34PUR	1.5 m	M12Y-M04A/2M12-F03A-S-1.5-PUR	171 302 003 0324	
	5.0 m	M12Y-M04A/2M12-F03A-S-5.0-PUR	171 302 003 0325	
4	4x0.34PVC	1.5 m	M12Y-M04A/2M12-F04A-S-1.5-PVC	171 302 004 0327
		5.0 m	M12Y-M04A/2M12-F04A-S-5.0-PVC	171 302 004 0326
	4x0.34PUR	1.5 m	M12Y-M04A/2M12-F04A-S-1.5-PUR	171 302 004 0328
		5.0 m	M12Y-M04A/2M12-F04A-S-5.0-PUR	171 302 004 0329
	5x0.25PVC	1.5 m	M12Y-M05A/2M12-F05A-S-1.5-PVC	171 302 005 0315
		5.0 m	M12Y-M05A/2M12-F05A-S-5.0-PVC	171 302 005 0314
5x0.25PUR	1.5 m	M12Y-M05A/2M12-F05A-S-1.5-PUR	171 302 005 0316	
	5.0 m	M12Y-M05A/2M12-F05A-S-5.0-PUR	171 302 005 0317	



•Other cable lengths can be customized, double-ended connectors, male/female, straight/angled, shielded/unshielded, freely combinable.

## M12-A Circular Connector

60/125/250V 4A

### Technical characteristics

	3-pole	4-pole	5-pole
Rated current (40°C)	4A	4A	4A
Rated voltage	250V	250V	125V
Rated impulse voltage	2500V	2500V	1500V
Pollution degree	3	3	3
Overvoltage categorie	II	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw M12x1	screw M12x1	screw M12x1
Termination	crimp, moulded	crimp, moulded	crimp, moulded
Wire gauge	0.34mm <sup>2</sup> (AWG22)	0.34mm <sup>2</sup> (AWG22)	0.25mm <sup>2</sup> (AWG24)
Cable outlet	-	-	-
Degree of protection	IP67	IP67	IP67
Mechanical operation	> 100	> 100	> 100
Limiting temperature	-25°C ...+85°C	-25°C ...+85°C	-25°C ...+85°C
Material group	II	II	II
Material of contact	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au
Insulating material	PA	PA	PA
Material of housing	TPU	TPU	TPU

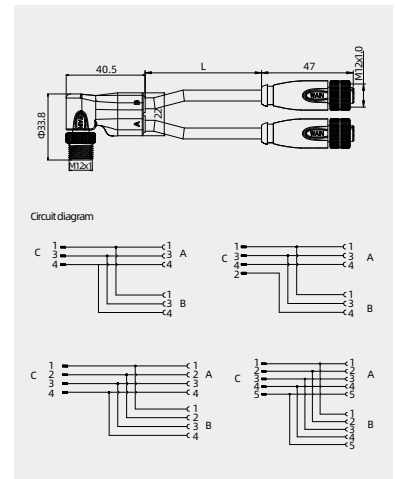
## Cable connectors-Y straight head brancher

### Male angled cable connector

#### -female cable connector



Contacts	Cable	Cable length	Designation	Order No.
3	3x0.34PVC	1.5 m	M12Y-M03A-S/2M12-F03A-T-1.5-PVC	171 302 003 0310
		5.0 m	M12Y-M03A-S/2M12-F03A-T-5.0-PVC	171 302 003 0312
	3x0.34PUR	1.5 m	M12Y-M03A-S/2M12-F03A-T-1.5-PUR	171 302 003 0311
		5.0 m	M12Y-M03A-S/2M12-F03A-T-5.0-PUR	171 302 003 0313
	3x0.34PVC	1.5 m	M12Y-M04A-S/2M12-F03A-T-1.5-PVC	171 302 004 0309
		5.0 m	M12Y-M04A-S/2M12-F03A-T-5.0-PVC	171 302 004 0311
4	3x0.34PUR	1.5 m	M12Y-M04A-S/2M12-F03A-T-1.5-PUR	171 302 004 0310
		5.0 m	M12Y-M04A-S/2M12-F03A-T-5.0-PUR	171 302 004 0312
	4x0.34PVC	1.5 m	M12Y-M04A-S/2M12-F04A-T-1.5-PVC	171 302 004 0313
		5.0 m	M12Y-M04A-S/2M12-F04A-T-5.0-PVC	171 302 004 0315
	4x0.34PUR	1.5 m	M12Y-M04A-S/2M12-F04A-T-1.5-PUR	171 302 004 0314
		5.0 m	M12Y-M04A-S/2M12-F04A-T-5.0-PUR	171 302 004 0316
5	5x0.25PVC	1.5 m	M12Y-M05A-S/2M12-F05A-T-1.5-PVC	171 302 005 0306
		5.0 m	M12Y-M05A-S/2M12-F05A-T-5.0-PVC	171 302 005 0308
	5x0.25PUR	1.5 m	M12Y-M05A-S/2M12-F05A-T-1.5-PUR	171 302 005 0307
		5.0 m	M12Y-M05A-S/2M12-F05A-T-5.0-PUR	171 302 005 0309

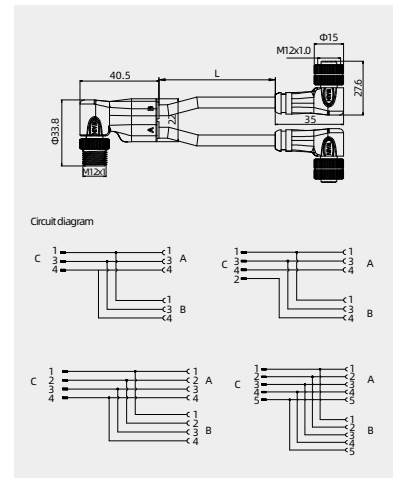


### Male angled cable connector

#### -female angled cable connector



Contacts	Cable	Cable length	Designation	Order No.
3	3x0.34PVC	1.5 m	M12Y-M03A-S/2M12-F03A-S-1.5-PVC	171 302 003 0314
		5.0 m	M12Y-M03A-S/2M12-F03A-S-5.0-PVC	171 302 003 0316
	3x0.34PUR	1.5 m	M12Y-M03A-S/2M12-F03A-S-1.5-PUR	171 302 003 0315
		5.0 m	M12Y-M03A-S/2M12-F03A-S-5.0-PUR	171 302 003 0317
	3x0.34PVC	1.5 m	M12Y-M04A-S/2M12-F03A-S-1.5-PVC	171 302 004 0318
		5.0 m	M12Y-M04A-S/2M12-F03A-S-5.0-PVC	171 302 004 0320
4	3x0.34PUR	1.5 m	M12Y-M04A-S/2M12-F03A-S-1.5-PUR	171 302 004 0319
		5.0 m	M12Y-M04A-S/2M12-F03A-S-5.0-PUR	171 302 004 0321
	4x0.34PVC	1.5 m	M12Y-M04A-S/2M12-F04A-S-1.5-PVC	171 302 004 0322
		5.0 m	M12Y-M04A-S/2M12-F04A-S-5.0-PVC	171 302 004 0324
	4x0.34PUR	1.5 m	M12Y-M04A-S/2M12-F04A-S-1.5-PUR	171 302 004 0323
		5.0 m	M12Y-M04A-S/2M12-F04A-S-5.0-PUR	171 302 004 0325
5	5x0.25PVC	1.5 m	M12Y-M05A-S/2M12-F05A-S-1.5-PVC	171 302 005 0310
		5.0 m	M12Y-M05A-S/2M12-F05A-S-5.0-PVC	171 302 005 0312
	5x0.25PUR	1.5 m	M12Y-M05A-S/2M12-F05A-S-1.5-PUR	171 302 005 0311
		5.0 m	M12Y-M05A-S/2M12-F05A-S-5.0-PUR	171 302 005 0313



•Other cable lengths can be customized, double-ended connectors, male/female, straight/angled, shielded/unshielded, freely combinable.



## CableTechnical characteristics

## Standard cable

	3-pole	4-pole	5-pole	12-pole
Wire gauge mm <sup>2 1)</sup>	3x0.34mm <sup>2</sup>	4x0.34mm <sup>2</sup>	5x0.25mm <sup>2</sup>	12x0.25mm <sup>2</sup>
Material jacket	PVC / TPU	PVC / TPU	PVC / TPU	TPU
Insulation wire	PVC	PVC	PVC	PVC
Design of wire (mm)	42x0.1	7x0.25 / 42x0.1	14x0.16 / 32x0.1	14x0.25
Cable jacket (mm)	5.2	5.6	5.6	7
Resistance of wire	58Ω/Km / 55Ω/Km	79.9Ω/Km / 55Ω/Km	79.9Ω/Km / 55Ω/Km	73Ω/Km
Temperature range (cable in move)	-5°C ...+70°C	-5°C ...+70°C	-5°C ...+70°C	-5°C ...+70°C
Temperature range (cable not in move)	-25°C ...+70°C	-25°C ...+70°C	-25°C ...+70°C	-25°C ...+70°C
Bending radius (cable in move)	- / 10xD	- / 10xD	- / 10xD	15xD
Bending radius (cable not in move)	- / 5xD	- / 5xD	- / 5xD	8xD
Approval	-	-	-	-

## Shielded cable

	3-pole	4-pole	5-pole	8-pole
Wire gauge mm <sup>2 1)</sup>	3x0.34mm <sup>2</sup>	4x0.34mm <sup>2</sup>	5x0.25mm <sup>2</sup>	8x0.25mm <sup>2</sup>
Material jacket	PVC / TPU	PVC / TPU	PVC	TPU
Insulation wire	PVC	PVC	PVC	PVC
Design of wire (mm)	7x0.25	7x0.25	14x0.16	19x0.127
Cable jacket (mm)	5	5	5.3	6
Resistance of wire	53Ω/Km	53Ω/Km	75.5Ω/Km	73Ω/Km
Temperature range (cable in move)	-5°C ...+70°C	-5°C ...+70°C	-5°C ...+70°C	-5°C ...+70°C
Temperature range (cable not in move)	-25°C ...+70°C	-25°C ...+70°C	-25°C ...+70°C	-25°C ...+70°C
Bending radius (cable in move)	10xD	10xD	20xD	20xD
Bending radius (cable not in move)	5xD	5xD	10xD	10xD
Approval	-	-	-	-
Cover screen grid	80% / 90%	80% / 90%	90%	85%

## M12-A Circular Connector

60/125/250V 2/4A

## Technical characteristics

	4-pole	5-pole	8-pole	12-pole
Rated current (40°C)	4A	4A	2A	1.5A
Rated voltage	250V	125V	60V	60V
Rated impulse voltage	2500V	1500V	800V	800V
Pollution degree	3	3	3	3
Overvoltage categorie	II	II	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw M12x1	screw M12x1	screw M12x1	screw M12x1
Termination	single-strand wires	single-strand wires	single-strand wires	single-strand wires
Wire gauge	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.34mm <sup>2</sup> (max.AWG22)	max.0.14mm <sup>2</sup> (max.AWG26)
Cable outlet	-	-	-	-
Degree of protection	IP67	IP67	IP67	IP67
Mechanical operation	> 100	> 100	> 100	> 100
Limiting temperature	-40°C ...+85°C	-40°C ...+85°C	-40°C ...+85°C	-40°C ...+85°C
Material group	II	II	II	II
Material of contact	copper alloy	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au	Au
Insulating material	PA	PA	PA	PA
Material of housing	zinc diecasting nickel plated	zinc diecasting nickel plated	zinc diecasting nickel plated	zinc diecasting nickel plated

## Socket

Male panel mount connector  
with single wires, 0.25mm<sup>2</sup>  
length 0.2m

Recommended use

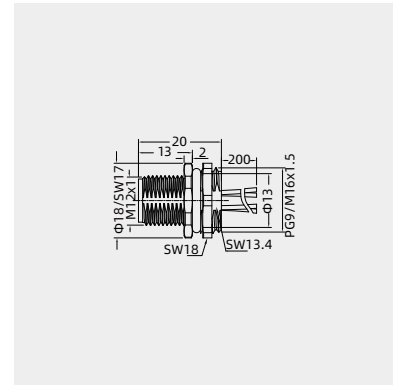


A-Code



Contacts	screw	Designation	Order No.
4	PG9	M12-M04A-BK-PG9-W0.25	163 004 301 4001
	M16x1.5	M12-M04A-BK-M16-W0.25	163 004 301 4021
5	PG9	M12-M05A-BK-PG9-W0.25	163 005 301 4001
	M16x1.5	M12-M05A-BK-M16-W0.25	163 005 301 4021
8	PG9	M12-M08A-BK-PG9-W0.25	163 008 301 4001
	M16x1.5	M12-M08A-BK-M16-W0.25	163 008 301 4021
12	PG9	M12-M12A-BK-PG9-W0.14	163 012 301 4001
	M16x1.5	M12-M12A-BK-M16-W0.14	163 012 301 4002

Customized cable length upon request



Male panel mount connector  
with single wires, 0.25mm<sup>2</sup>  
length 0.2m

Recommended use

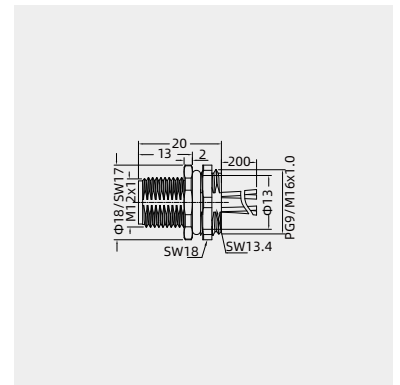


A-Code



Contacts	screw	Designation	Order No.
4	M16x1.0	M12-M04A-BK-M16*1.0-W0.25	163 004 301 4505
5	M16x1.0	M12-M05A-BK-M16*1.0-W0.25	163 005 301 4506
8	M16x1.0	M12-M08A-BK-M16*1.0-W0.25	163 008 301 4507

Customized cable length upon request



## M12-A Circular Connector

60/125/250V 2/4A

## Technical characteristics

	4-pole	5-pole	8-pole
Rated current (40°C)	4A	4A	2A
Rated voltage	250V	125V	60V
Rated impulse voltage	2500V	1500V	800V
Pollution degree	3	3	3
Overvoltage categorie	II	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw M12x1	screw M12x1	screw M12x1
Termination	single-strand wires	single-strand wires	single-strand wires
Wire gauge	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.34mm <sup>2</sup> (max.AWG22)
Cable outlet	-	-	-
Degree of protection	IP67	IP67	IP67
Mechanical operation	> 100	> 100	> 100
Limiting temperature	-40°C ...+85°C	-40°C ...+85°C	-40°C ...+85°C
Material group	II	II	II
Material of contact	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au
Insulating material	PA	PA	PA
Material of housing	zinc diecasting nickel plated	zinc diecasting nickel plated	zinc diecasting nickel plated

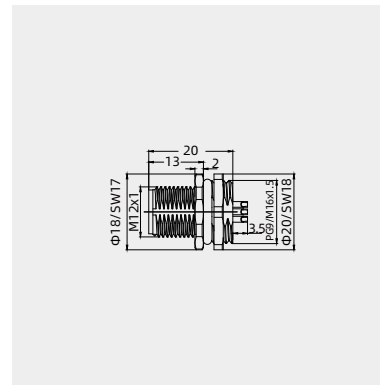
## Socket

Male panel mount connector,  
solder

Recommended use



Contacts	screw	Designation	Order No.
4	PG9	M12-M04A-BK-PG9-C	163 004 313 1001
	M16x1.5	M12-M04A-BK-M16-C	163 004 313 1021
5	PG9	M12-M05A-BK-PG9-C	163 005 313 1001
	M16x1.5	M12-M05A-BK-M16-C	163 005 313 1021
8	PG9	M12-M08A-BK-PG9-C	163 008 313 1001
	M16x1.5	M12-M08A-BK-M16-C	163 008 313 1021



A-Code



4pin



5pin



8pin

Customized cable length upon request

M12-A

## M12-A Circular Connector

60/125/250V 2/4A

## Technical characteristics

	4-pole	5-pole	8-pole	12-pole
Rated current (40°C)	4A	4A	2A	1.5A
Rated voltage	250V	125V	60V	60V
Rated impulse voltage	2500V	1500V	800V	800V
Pollution degree	3	3	3	3
Overvoltage categorie	II	II	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw M12x1	screw M12x1	screw M12x1	screw M12x1
Termination	single-strand wires	single-strand wires	single-strand wires	single-strand wires
Wire gauge	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.34mm <sup>2</sup> (max.AWG22)	max.0.14mm <sup>2</sup> (max.AWG26)
Cable outlet	-	-	-	-
Degree of protection	IP67	IP67	IP67	IP67
Mechanical operation	> 100	> 100	> 100	> 100
Limiting temperature	-40°C ...+85°C	-40°C ...+85°C	-40°C ...+85°C	-40°C ...+85°C
Material group	II	II	II	II
Material of contact	copper alloy	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au	Au
Insulating material	PA	PA	PA	PA
Material of housing	zinc diecasting nickel plated	zinc diecasting nickel plated	zinc diecasting nickel plated	zinc diecasting nickel plated

## Socket

## Male panel mount connector

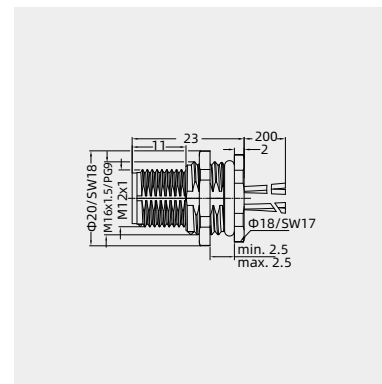
with single wires, 0,25mm2

length 0.2m

front fastened,



Contacts	screw	Designation	Order No.
4	PG9	M12-M04A-BKR-PG9-W0.25	163 004 301 4011
	M16x1.5	M12-M04A-BKR-M16-W0.25	163 004 301 4031
5	PG9	M12-M05A-BKR-PG9-W0.25	163 005 301 4011
	M16x1.5	M12-M05A-BKR-M16-W0.25	163 005 301 4031
8	PG9	M12-M08A-BKR-PG9-W0.25	163 008 301 4011
	M16x1.5	M12-M08A-BKR-M16-W0.25	163 008 301 4031
12	PG9	M12-M12A-BKR-PG9-W0.14	163 012 301 4011
	M16x1.5	M12-M12A-BKR-M16-W0.14	163 012 301 4012



## A-Code



Customized cable length upon request

## M12-A Circular Connector

60/125/250V 2/4A

### Technical characteristics

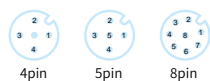
	4-pole	5-pole	8-pole
Rated current (40°C)	4A	4A	2A
Rated voltage	250V	125V	60V
Rated impulse voltage	2500V	1500V	800V
Pollution degree	3	3	3
Overvoltage categorie	II	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw M12x1	screw M12x1	screw M12x1
Termination	dip solder	dip solder	dip solder
Wire gauge	-	-	-
Cable outlet	-	-	-
Degree of protection	IP67	IP67	IP67
Mechanical operation	> 100	> 100	> 100
Limiting temperature	-40°C ...+85°C	-40°C ...+85°C	-40°C ...+85°C
Material group	II	II	II
Material of contact	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au
Insulating material	PA	PA	PA
Material of housing	zinc diecasting nickel plated	zinc diecasting nickel plated	zinc diecasting nickel plated

### Socket

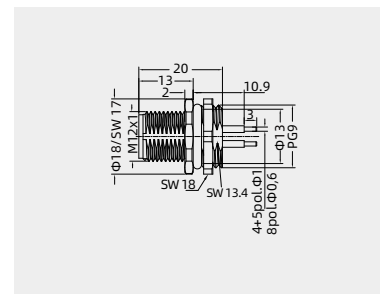
Male panel mount connector, dip solder



A-Code



Contacts	screw	Designation	Order No.
4	PG9	M12-M04A-BK-PG9-D	163 004 314 1001
	M16x1.5	M12-M04A-BK-M16-D	163 004 314 1002
5	PG9	M12-M05A-BK-PG9-D	163 005 314 1001
	M16x1.5	M12-M05A-BK-M16-D	163 005 314 1002
8	PG9	M12-M08A-BK-PG9-D	163 008 314 1001
	M16x1.5	M12-M08A-BK-M16-D	163 008 314 1002



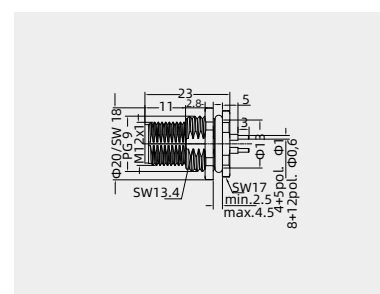
Male panel mount connector, front fastened, dip solder



A-Code



Contacts	screw	Designation	Order No.
4	PG9	M12-M04A-BKR-PG9-D	163 004 314 1011
	M16x1.5	M12-M04A-BKR-M16-D	163 004 614 1001
5	PG9	M12-M05A-BKR-PG9-D	163 005 314 1011
	M16x1.5	M12-M05A-BKR-M16-D	163 005 614 1001
8	PG9	M12-M08A-BKR-PG9-D	163 008 314 1011
	M16x1.5	M12-M08A-BKR-M16-D	163 008 614 1001



## M12-A Circular Connector

60/125/250V 2/4A

### Technical characteristics

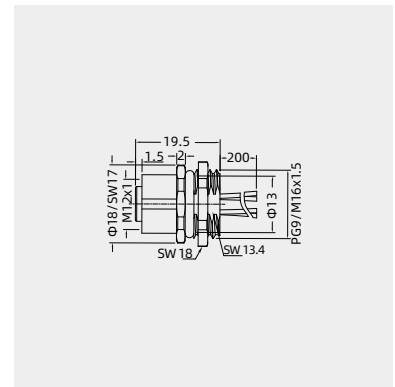
	4-pole	5-pole	8-pole	12-pole
Rated current (40°C)	4A	4A	2A	1.5A
Rated voltage	250V	125V	60V	60V
Rated impulse voltage	2500V	1500V	800V	800V
Pollution degree	3	3	3	3
Overvoltage categorie	II	II	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw	screw	screw	screw
Termination	solder,single-strand wires	solder,single-strand wires	solder,single-strand wires	solder,single-strand wires
Wire gauge	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.34mm <sup>2</sup> (max.AWG22)	max.0.14mm <sup>2</sup> (max.AWG26)
Cable outlet	-	-	-	-
Degree of protection	IP67	IP67	IP67	IP67
Mechanical operation	> 100	> 100	> 100	> 100
Limiting temperature	-40°C ...+85°C	-40°C ...+85°C	-40°C ...+85°C	-40°C ...+85°C
Material group	II	II	II	II
Material of contact	copper alloy	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au	Au
Insulating material	PA	PA	PA	PA
Material of housing	zinc diecasting nickel plated	zinc diecasting nickel plated	zinc diecasting nickel plated	zinc diecasting nickel plated

### Socket

Female panel mount connector  
with single wires, /0.25mm<sup>2</sup>/length  
0.2m



Contacts	screw	Designation	Order No.
4	PG9	M12-F04A-BK-PG9-W0.25	163 004 302 4001
	M16x1.5	M12-F04A-BK-M16-W0.25	163 004 302 4021
5	PG9	M12-F05A-BK-PG9-W0.25	163 005 302 4001
	M16x1.5	M12-F05A-BK-M16-W0.25	163 005 302 4021
8	PG9	M12-F08A-BK-PG9-W0.25	163 008 302 4001
	M16x1.5	M12-F08A-BK-M16-W0.25	163 008 302 4021
12	PG9	M12-F12A-BK-PG9-W0.14	163 012 302 4001
	M16x1.5	M12-F12A-BK-M16-W0.14	163 012 302 4002



A-Code

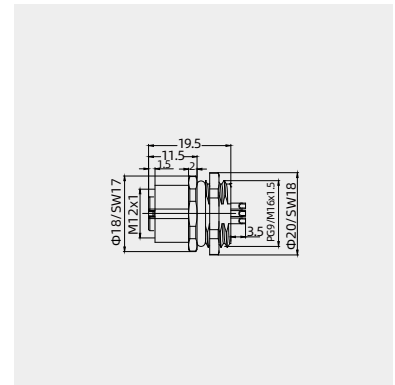


Customized cable length upon request

Female panel mount connector, solder  
PG9/M16x1.5



Contacts	screw	Designation	Order No.
4	PG9	M12-F04A-BK-PG9-C	163 004 323 1001
	M16x1.5	M12-F04A-BK-M16-C	163 004 323 1021
5	PG9	M12-F05A-BK-PG9-C	163 005 323 1001
	M16x1.5	M12-F05A-BK-M16-C	163 005 323 1021
8	PG9	M12-F08A-BK-PG9-C	163 008 324 1002
	M16x1.5	M12-F08A-BK-M16-C	163 008 302 1011



A-Code



## M12-A Circular Connector

60/125/250V 2/4A

## Technical characteristics

	4-pole	5-pole	8-pole	12-pole
Rated current (40°C)	4A	4A	2A	1.5A
Rated voltage	250V	125V	60V	60V
Rated impulse voltage	2500V	1500V	800V	800V
Pollution degree	3	3	3	3
Overvoltage categorie	II	II	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw	screw	screw	screw
Termination	single-strand wires	single-strand wires	single-strand wires	single-strand wires
Wire gauge	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.34mm <sup>2</sup> (max.AWG22)	max.0.14mm <sup>2</sup> (max.AWG26)
Cable outlet	-	-	-	-
Degree of protection	IP67	IP67	IP67	IP67
Mechanical operation	> 100	> 100	> 100	> 100
Limiting temperature	-40°C ...+85°C	-40°C ...+85°C	-40°C ...+85°C	-40°C ...+85°C
Material group	II	II	II	II
Material of contact	copper alloy	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au	Au
Insulating material	PA	PA	PA	PA
Material of housing	zinc diecasting nickel plated	zinc diecasting nickel plated	zinc diecasting nickel plated	zinc diecasting nickel plated

## Socket

Female panel mount connector,  
front fastened, with single wires,  
0.25mm<sup>2</sup>/length 0.2m



## A-Code



4pin

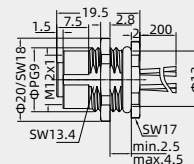
5pin

8pin

12pin

Contacts	screw	Designation	Order No.
4	PG9	M12-F04A-BKR-PG9-W0.25	163 004 302 4011
	M16x1.5	M12-F04A-BKR-M16-W0.25	163 004 302 4031
5	PG9	M12-F05A-BKR-PG9-W0.25	163 005 302 4011
	M16x1.5	M12-F05A-BKR-M16-W0.25	163 005 302 4031
8	PG9	M12-F08A-BKR-PG9-W0.25	163 008 302 4011
	M16x1.5	M12-F08A-BKR-M16-W0.25	163 008 624 1002
12	PG9	M12-F12A-BKR-PG9-W0.14	163 012 302 4003
	M16x1.5	M12-F12A-BKR-M16-W0.14	163 012 302 4004

Customized cable length upon request



M12-A

# M12-A Circular Connector

125/250V 4A

## Technical characteristics

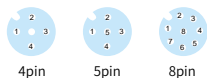
	4-pole	5-pole	8-pole
Rated current (40°C)	4A	4A	2A
Rated voltage	250V	125V	60V
Rated impulse voltage	2500V	1500V	800V
Pollution degree	3	3	3
Overvoltage categorie	II	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw	screw	screw
Termination	solder,dip solder	solder,dip solder	solder,dip solder
Wire gauge	max. 0.75mm <sup>2</sup> (max. AWG18)	max. 0.75mm <sup>2</sup> (max. AWG18)	max.0.34mm <sup>2</sup> (max.AWG22)
Cable outlet	-	-	-
Degree of protection	IP67	IP67	IP67
Mechanical operation	> 100	> 100	> 100
Limiting temperature	-40°C ...+85°C	-40°C ...+85°C	-40°C ...+85°C
Material group	II	II	II
Material of contact	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au
Insulating material	PA	PA	PA
Material of housing	zinc diecasting nickel plated	zinc diecasting nickel plated	zinc diecasting nickel plated

## Socket

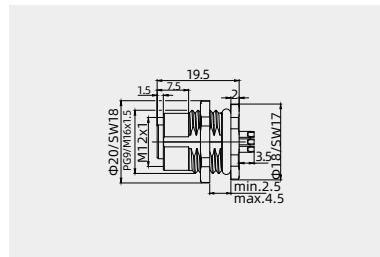
Female panel mount connector, solder, front fastened



A-Code



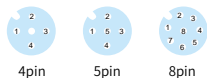
Contacts	screw	Designation	Order No.
4	PG9	M12-F04A-BKR-PG9-C	163 004 323 1011
	M16x1.5	M12-F04A-BKR-M16-C	163 004 624 1003
5	PG9	M12-F05A-BKR-PG9-C	163 005 323 1011
	M16x1.5	M12-F05A-BKR-M16-C	163 005 624 1001
8	PG9	M12-F08A-BKR-PG9-C	163 008 323 1011
	M16x1.5	M12-F08A-BKR-M16-C	163 008 323 1012



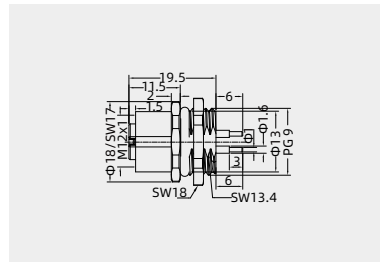
Female panel mount connector, dip solder



A-Code



Contacts	screw	Designation	Order No.
4	PG9	M12-F04A-BK-PG9-D	163 004 324 1001
	M16x1.5	M12-F04A-BK-M16-D	163 004 324 1002
5	PG9	M12-F05A-BK-PG9-D	163 005 324 1001
	M16x1.5	M12-F05A-BK-M16-D	163 005 324 1002
8	PG9	M12-F08A-BK-PG9-D	163 008 324 1003
	M16x1.5	M12-F08A-BK-M16-D	163 008 324 1001



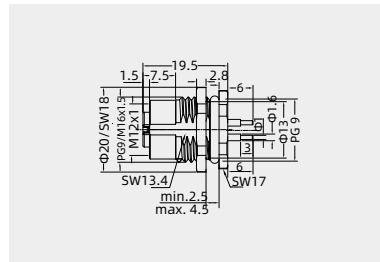
Female panel mount connector, dip solder, front fastened



A-Code



Contacts	screw	Designation	Order No.
4	PG9	M12-F04A-BKR-PG9-D	163 004 324 1011
	M16x1.5	M12-F04A-BKR-M16-D	163 004 624 1004
5	PG9	M12-F05A-BKR-PG9-D	163 005 324 1011
	M16x1.5	M12-F05A-BKR-M16-D	163 005 624 1002
8	PG9	M12-F08A-BKR-PG9-D	163 008 324 1011
	M16x1.5	M12-F08A-BKR-M16-D	163 008 624 1001





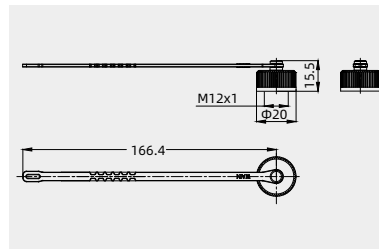
Accessories

Protection covers IP67

Protection cover  
for male cable connector



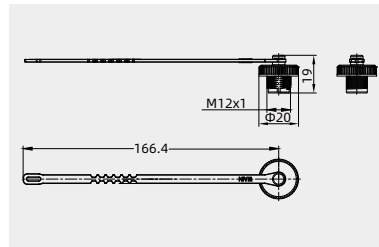
Description	Designation	Order No.
Without cord	M12-MCV	163 000 001 9003
With cord	M12-MCV/1	163 000 001 9001



Protection cover  
for female cable connector



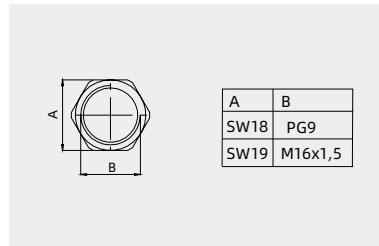
Description	Designation	Order No.
Without cord	M12-FCV	163 000 002 9003
With cord	M12-FCV/1	163 000 002 9001



Hexagonal nut for fixing thread



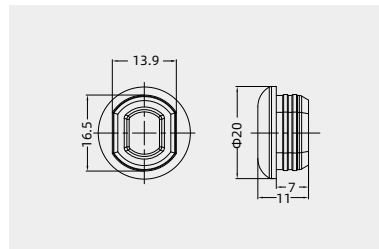
screw	Designation	Order No.
PG9	WNA-PG9/S	102 105 002 1101
M16x1.5	WNA-M16/S	102 105 013 1101



Protection covers, for flange  
mount panel



Description	Designation	Order No.
Dust-proof	M12-WNPP-M16/BK	163 000 000 9001

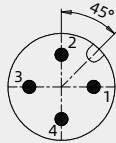


M12-A

• Contact arrangements

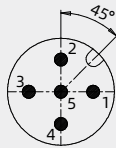
• Male insert (mating side)

4contacts



	X	Y	
1	2.50	0.00	1. brown
2	0.00	2.50	2. white
3	-2.50	0.00	3. blue
4	0.00	-2.50	4. black

5contacts



	X	Y	
1	2.50	0.00	1. brown
2	0.00	2.50	2. white
3	-2.50	0.00	3. blue
4	0.00	-2.50	4. black
5	0.00	0.00	5. grey

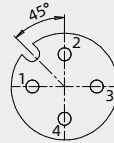
8contacts



	X	Y	
1	2.69	0.57	1. white
2	0.57	2.69	2. brown
3	-1.66	2.20	3. green
4	-2.75	0.19	4. yellow
5	-1.94	-1.94	5. grey
6	0.19	-2.74	6. pink
7	2.20	-1.65	7. blue
8	0.00	0.00	8. red

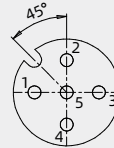
• Female insert (mating side)

4contacts



	X	Y	
1	-2.50	0.00	1. brown
2	0.00	2.50	2. white
3	2.50	0.00	3. blue
4	0.00	-2.50	4. black

5contacts



	X	Y	
1	-2.50	0.00	1. brown
2	0.00	2.50	2. white
3	2.50	0.00	3. blue
4	0.00	-2.50	4. black
5	0.00	0.00	5. grey

8contacts



	X	Y	
1	-2.69	0.57	1. white
2	0.57	2.69	2. brown
3	1.66	2.20	3. green
4	2.75	0.19	4. yellow
5	1.94	-1.94	5. grey
6	-0.19	-2.75	6. pink
7	-2.20	-1.66	7. blue
8	0.00	0.00	8. red

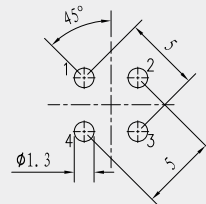
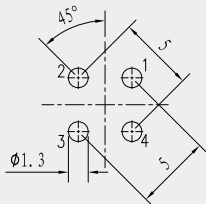
• Panel cut out

- Opening hole drawing male insert(PCB), Panel mount connectors

- Opening hole drawing female insert(PCB), Panel mount connectors

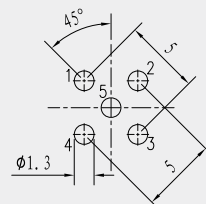
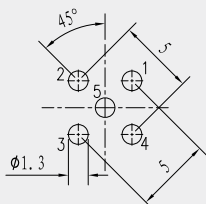
4contacts

4contacts



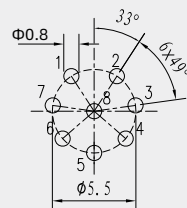
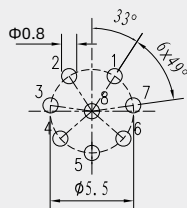
5contacts

5contacts



8contacts

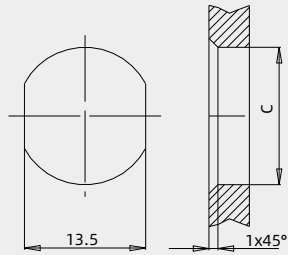
8contacts



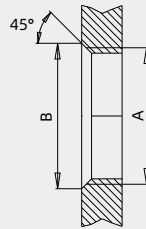
• Panel cut out

• Panel mount connectors

• Through-hole mounting



• Screw mounting



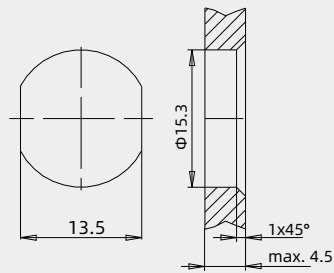
	A	B	C
PG9	PG9	16.2	15.3
PG13.5	PG13.5	21.5	20.5
M16x1.5	M16x1.5	17.0	16.1
M20x1.5	M20x1.5	21.0	20.1

Tightening torque according to DIN VDE 0619  
 Metal housing 6,25 Nm  
 Plastic housing 3,75 Nm

• Panel mount connectors

Rear panel mounting,  
 front tighten

• Through-hole mounting

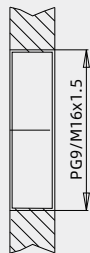


M12-A

• Panel mount connectors

front tighten

• 通孔安装



Tightening torque 6,25 Nm



M12-A

## M12 Circular Connector,B-coded



- Cable Connector

- Shielded / unshielded series
- Installable series and moulded cable series
- Thread locking M12X1
- Screw terminal
- Shielding ring and ring spring shielding connection
- Cable length 1.5m and 5m
- Other cable length upon request, minimum order quantity 200 pieces
- Cable material can be customized according to requirements
- Degree of protection IP67
- Anti-loose spring with nut

## M12-B Circular Connector

125/250V 4A

## Technical characteristics

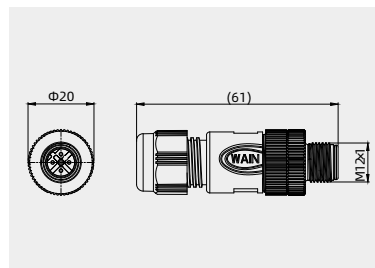
	4-pole	5-pole
Rated current(40°C )	4A	4A
Rated voltage	250V	125V
Rated impulse voltage	2500V	1500V
Pollution degree	3	3
Overvoltage categorie	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw M12x1	screw M12x1
Termination	screw	screw
Wire gauge	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.75mm <sup>2</sup> (max.AWG18)
Cable outlet	4-6,6-8 mm	4-6,6-8 mm
Degree of protection	IP67	IP67
Mechanical operation	> 100	> 100
Limiting temperature	-40°C ...+85°C	-40°C ...+85°C
Material group	III	III
Material of contact	copper alloy	copper alloy
Contact plating	Au	Au
Insulating material	PA	PA
Material of housing	PA/PBT	PA/PBT

## Straight cable connectors

Male cable connector, plastic locking system, screw clamp connection

Contacts	Cable outlet	Designation	Order No.
4	4-6 mm	M12P-M04B-T-D6	163 004 411 3105
	6-8 mm	M12P-M04B-T-D8	163 004 411 3106
5	4-6 mm	M12P-M05B-T-D6	163 005 411 3105
	6-8 mm	M12P-M05B-T-D8	163 005 411 3106

B-Code

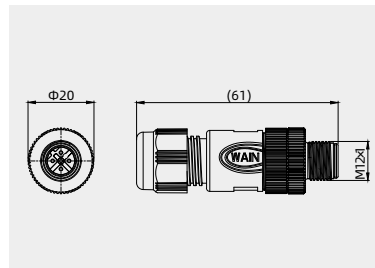


Male cable connector, metal locking system, screw clamp connection

Recommended use

Contacts	Cable outlet	Designation	Order No.
4	4-6 mm	M12-M04B-T-D6	163 004 411 1001
	6-8 mm	M12-M04B-T-D8	163 004 411 1002
5	4-6 mm	M12-M05B-T-D6	163 005 411 1001
	6-8 mm	M12-M05B-T-D8	163 105 411 3002

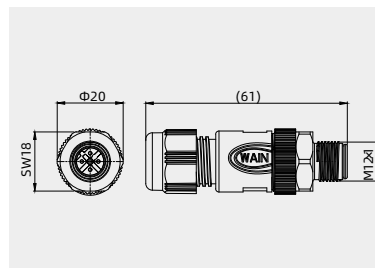
B-Code



Male cable connector, stainless steel locking system, screw clamp connection

Contacts	Cable outlet	Designation	Order No.
4	4-6 mm	M12S-M04B-T-D6	163 004 411 1003
	6-8 mm	M12S-M04B-T-D8	163 004 411 1004
5	4-6 mm	M12S-M05B-T-D6	163 005 411 1003
	6-8 mm	M12S-M05B-T-D8	163 005 411 1004

B-Code



## M12-B Circular Connector

125/250V 2/8A

## Technical characteristics

	5-pole
Rated current(40°C )	Contacts:1-4 8A; Contacts:5 2A
Rated voltage	125V
Rated impulse voltage	1500V
Pollution degree	3
Overvoltage categorie	II
Contact resistance	≤ 10 mΩ
Connector locking system	screw M12x1
Termination	screw
Wire gauge	max.1.5mm <sup>2</sup> (max.AWG16)
Cable outlet	8-10mm
Degree of protection	IP67
Mechanical operation	> 100
Limiting temperature	-40°C ...+85°C
Material group	II
Material of contact	copper alloy
Contact plating	Au
Insulating material	PA
Material of housing	PA/PBT

## Straight cable connectors

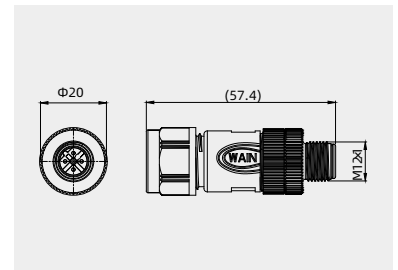
Male cable connector, plastic locking system, screw clamp connection

Contacts	Cable outlet	Designation	Order No.
5	8-10 mm	M12P-M05B-T-D10	163 005 411 3107

B-Code



5pin



Male cable connector, metal locking system, screw clamp connection

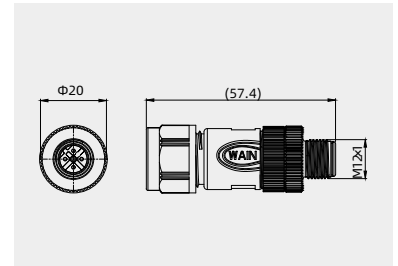
Contacts	Cable outlet	Designation	Order No.
5	8-10 mm	M12-M05B-T-D10	163 005 411 1002

Recommended use

B-Code



5pin



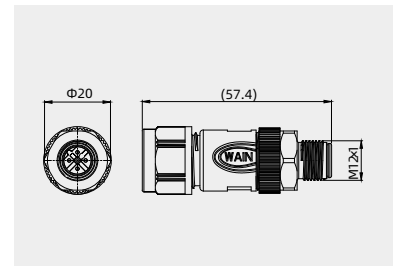
Male cable connector, stainless steel locking system, screw clamp connection

Contacts	Cable outlet	Designation	Order No.
5	8-10 mm	M12S-M05B-T-D10	163 005 411 1005

B-Code



5pin





## M12-B Circular Connector

125/250V 4A

## Technical characteristics

	4-pole	5-pole
Rated current(40°C )	4A	4A
Rated voltage	250V	125V
Rated impulse voltage	2500V	1500V
Pollution degree	3	3
Overvoltage categorie	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw M12x1	screw M12x1
Termination	screw	screw
Wire gauge	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.75mm <sup>2</sup> (max.AWG18)
Cable outlet	4-6,6-8mm	4-6,6-8mm
Degree of protection	IP67	IP67
Mechanical operation	> 100	> 100
Limiting temperature	-40°C ...+85°C	-40°C ...+85°C
Material group	II	II
Material of contact	copper alloy	copper alloy
Contact plating	Au	Au
Insulating material	PA	PA
Material of housing	zinc diecasting nickel plated, brass nickel plated	zinc diecasting nickel plated, brass nickel plated

## Straight cable connectors, shielded

Male cable connector, shielded,

screw clamp connection,

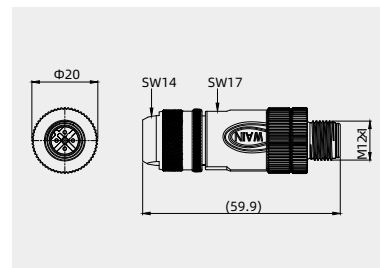
with shielding ring

Recommended use

B-Code



Contacts	Cable outlet	Designation	Order No.
4	4-6 mm	M12-M04B-T-D6-SH	163 004 411 2006
	6-8 mm	M12-M04B-T-D8-SH	163 004 411 2007
5	4-6 mm	M12-M05B-T-D6-SH	163 005 411 2007
	6-8 mm	M12-M05B-T-D8-SH	163 005 411 2008



## M12-B Circular Connector

125/250V 4A

## Technical characteristics

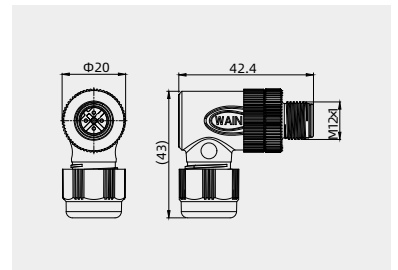
	4-pole	5-pole
Rated current(40°C )	4A	4A
Rated voltage	250V	125V
Rated impulse voltage	2500V	1500V
Pollution degree	3	3
Overvoltage categorie	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw M12x1	screw M12x1
Termination	screw	screw
Wire gauge	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.75mm <sup>2</sup> (max.AWG18)
Cable outlet	4-6,6-8 mm	4-6,6-8 mm
Degree of protection	IP67	IP67
Mechanical operation	> 100	> 100
Limiting temperature	-40°C ...+85°C	-40°C ...+85°C
Material group	II	II
Material of contact	copper alloy	copper alloy
Contact plating	Au	Au
Insulating material	PA	PA
Material of housing	PA/PBT	PA/PBT

## Angled cable connectors

Male cable connector, plastic locking system, screw clamp connection

Contacts	Cable outlet	Designation	Order No.
4	4-6 mm	M12P-M04B-S-D6	163 004 511 3105
	6-8 mm	M12P-M04B-S-D8	163 004 511 3106
5	4-6 mm	M12P-M05B-S-D6	163 005 511 3105
	6-8 mm	M12P-M05B-S-D8	163 005 511 3106

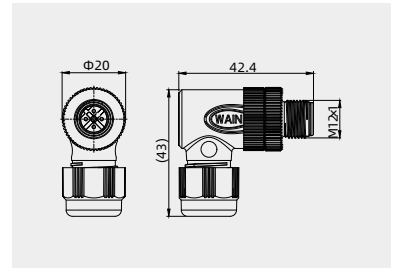
B-Code



Male angled connector, metal locking system, screw clamp connection

Contacts	Cable outlet	Designation	Order No.
4	4-6 mm	M12-M04B-S-D6	163 004 511 1001
	6-8 mm	M12-M04B-S-D8	163 004 511 1002
5	4-6 mm	M12-M05B-S-D6	163 005 511 1001
	6-8 mm	M12-M05B-S-D8	163 005 511 1002

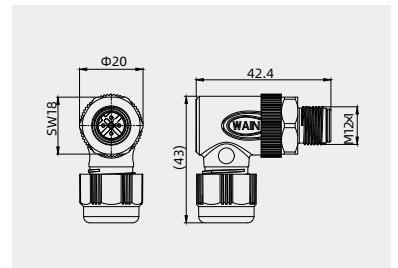
B-Code



Male cable connector, stainless steel locking system, screw clamp connection

Contacts	Cable outlet	Designation	Order No.
4	4-6 mm	M12S-M04B-S-D6	163 004 511 1003
	6-8 mm	M12S-M04B-S-D8	163 004 511 1004
5	4-6 mm	M12S-M05B-S-D6	163 005 511 1004
	6-8 mm	M12S-M05B-S-D8	163 005 511 1005

B-Code



## M12-B Circular Connector

125/250V 2/8A

## Technical characteristics

	5-pole
Rated current(40°C)	Contacts:1-4 8A; Contacts:5 2A
Rated voltage	125V
Rated impulse voltage	1500V
Pollution degree	3
Overvoltage categorie	II
Contact resistance	≤ 10 mΩ
Connector locking system	screw M12x1
Termination	screw
Wire gauge	max.1.5mm <sup>2</sup> (max.AWG16)
Cable outlet	8-10mm
Degree of protection	IP67
Mechanical operation	> 100
Limiting temperature	-40°C ...+85°C
Material group	II
Material of contact	copper alloy
Contact plating	Au
Insulating material	PA
Material of housing	PA/PBT

## Angled cable connectors

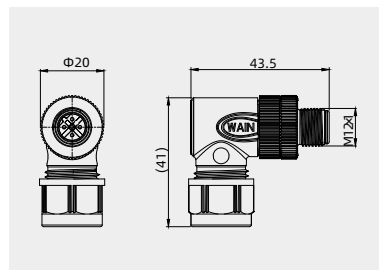
Male cable connector, plastic locking system, screw clamp connection

Contacts	Cable outlet	Designation	Order No.
5	8-10 mm	M12P-M05B-S-D10	163 005 511 3107

B-Code



5pin



Male cable connector, metal locking system, screw clamp connection

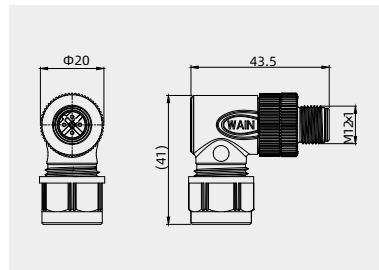
Recommended use

Contacts	Cable outlet	Designation	Order No.
5	8-10 mm	M12-M05B-S-D10	163 005 511 1003

B-Code



5pin



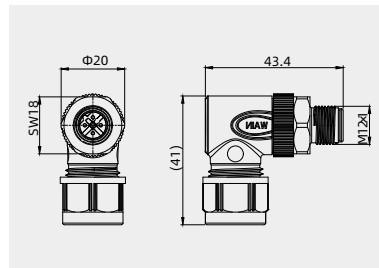
Male cable connector, stainless steel locking system, screw clamp connection

Contacts	Cable outlet	Designation	Order No.
5	8-10 mm	M12S-M05B-S-D10	163 005 511 1006

B-Code



5pin



## M12-B Circular Connector

125/250V 4A

## Technical characteristics

	4-pole	5-pole
Rated current(40°C )	4A	4A
Rated voltage	250V	125V
Rated impulse voltage	2500V	1500V
Pollution degree	3	3
Overvoltage categorie	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw M12x1	screw M12x1
Termination	screw	screw
Wire gauge	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.75mm <sup>2</sup> (max.AWG18)
Cable outlet	4-6,6-8mm	4-6,6-8mm
Degree of protection	IP67	IP67
Mechanical operation	> 100	> 100
Limiting temperature	-40°C ...+85°C	-40°C ...+85°C
Material group	II	II
Material of contact	copper alloy	copper alloy
Contact plating	Au	Au
Insulating material	PA	PA
Material of housing	zinc diecasting nickel plated	zinc diecasting nickel plated

## Angled cable connectors, shielded

Male cable connector, shielded,  
screw clamp connection,  
with shielding ring



B-Code

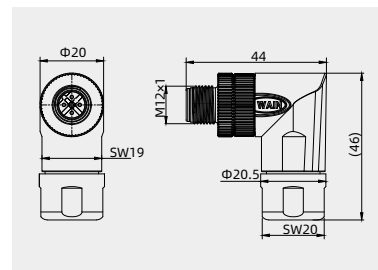


4pin



5pin

Contacts	Cable outlet	Designation	Order No.
4	4-6 mm	M12-M04B-S-D6-SH	163 004 511 2003
	6-8 mm	M12-M04B-S-D8-SH	163 004 511 2004
5	4-6 mm	M12-M05B-S-D6-SH	163 005 511 2003
	6-8 mm	M12-M05B-S-D8-SH	163 005 511 2004



## M12-B Circular Connector

125/250V 4A

## Technical characteristics

	4-pole	5-pole
Rated current(40°C )	4A	4A
Rated voltage	250V	125V
Rated impulse voltage	2500V	1500V
Pollution degree	3	3
Overvoltage categorie	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw M12x1	screw M12x1
Termination	screw	screw
Wire gauge	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.75mm <sup>2</sup> (max.AWG18)
Cable outlet	4-6,6-8 mm	4-6,6-8 mm
Degree of protection	IP67	IP67
Mechanical operation	> 100	> 100
Limiting temperature	-40°C ...+85°C	-40°C ...+85°C
Material group	III	III
Material of contact	copper alloy	copper alloy
Contact plating	Au	Au
Insulating material	PA	PA
Material of housing	PA/PBT	PA/PBT

## Straight cable connectors

Female cable connector,  
plastic locking system,  
screw clamp connection



Female cable connector,  
metal locking system,  
screw clamp connection

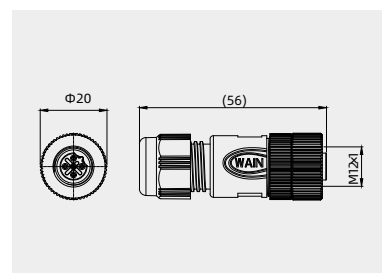
**Recommended use**



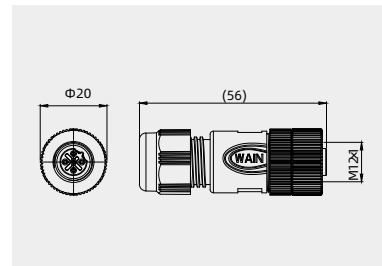
Female cable connector,  
stainless steel locking system,  
screw clamp connection,



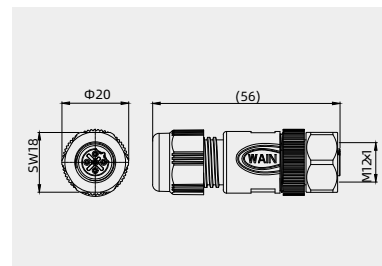
Contacts	Cable outlet	Designation	Order No.
4	4-6 mm	M12P-F04B-T-D6	163 004 421 3106
	6-8 mm	M12P-F04B-T-D8	163 004 421 3107
5	4-6 mm	M12P-F05B-T-D6	163 005 421 3106
	6-8 mm	M12P-F05B-T-D8	163 005 421 3107



Contacts	Cable outlet	Designation	Order No.
4	4-6 mm	M12-F04B-T-D6	163 004 421 1001
	6-8 mm	M12-F04B-T-D8	163 004 421 1002
5	4-6 mm	M12-F05B-T-D6	163 005 421 1001
	6-8 mm	M12-F05B-T-D8	163 105 421 3002



Contacts	Cable outlet	Designation	Order No.
4	4-6 mm	M12S-F04B-T-D6	163 004 421 1003
	6-8 mm	M12S-F04B-T-D8	163 004 421 1004
5	4-6 mm	M12S-F05B-T-D6	163 005 421 1003
	6-8 mm	M12S-F05B-T-D8	163 005 421 1004



## M12-B Circular Connector

125/250V 2/8A

## Technical characteristics

	5-pole
Rated current(40°C )	Contacts:1-4 8A; Contacts:5 2A
Rated voltage	125V
Rated impulse voltage	1500V
Pollution degree	3
Overvoltage categorie	II
Contact resistance	≤ 10 mΩ
Connector locking system	screw M12x1
Termination	screw
Wire gauge	max.1.5mm <sup>2</sup> (max.AWG16)
Cable outlet	8-10mm
Degree of protection	IP67
Mechanical operation	> 100
Limiting temperature	-40°C ...+85°C
Material group	II
Material of contact	copper alloy
Contact plating	Au
Insulating material	PA
Material of housing	PA/PBT

## Straight cable connectors

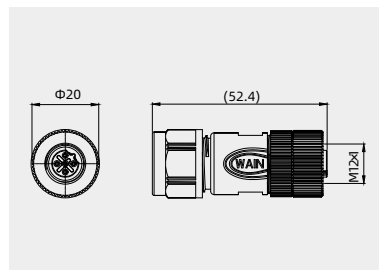
Female cable connector,  
plastic locking system,  
screw clamp connection

Contacts	Cable outlet	Designation	Order No.
5	8-10 mm	M12P-F05B-T-D10	163 005 421 3108

B-Code



5pin



Female cable connector,  
metal locking system,  
screw clamp connection

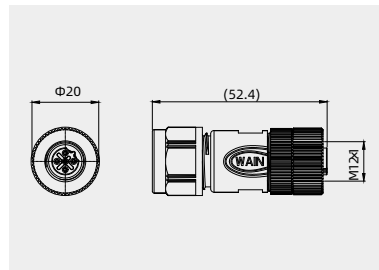
Contacts	Cable outlet	Designation	Order No.
5	8-10 mm	M12-F05B-T-D10	163 005 421 1002

Recommended use

B-Code



5pin



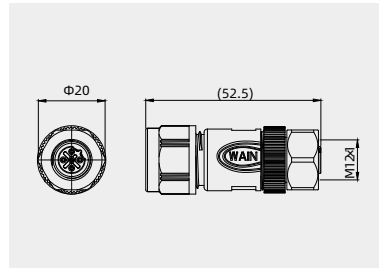
Female cable connector,  
stainless steel locking system,  
screw clamp connection

Contacts	Cable outlet	Designation	Order No.
5	8-10 mm	M12S-F05B-T-D10	163 005 421 1005

B-Code



5pin



## M12-B Circular Connector

125/250V 4A

## Technical characteristics

	4-pole	5-pole
Rated current(40°C )	4A	4A
Rated voltage	250V	125V
Rated impulse voltage	2500V	1500V
Pollution degree	3	3
Overvoltage categorie	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw M12x1	screw M12x1
Termination	screw	screw
Wire gauge	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.75mm <sup>2</sup> (max.AWG18)
Cable outlet	4-6,6-8mm	4-6,6-8mm
Degree of protection	IP67	IP67
Mechanical operation	> 100	> 100
Limiting temperature	-40°C ...+85°C	-40°C ...+85°C
Material group	II	II
Material of contact	copper alloy	copper alloy
Contact plating	Au	Au
Insulating material	PA	PA
Material of housing	zinc diecasting nickel plated, brass nickel plated	zinc diecasting nickel plated, brass nickel plated

## Straight cable connectors, shielded

Female cable connector, shielded,

screw clamp connection,

with shielding ring

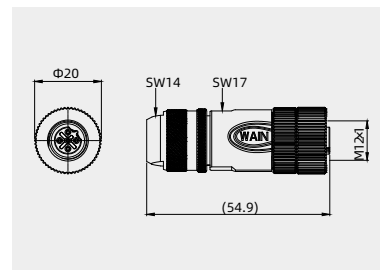
Recommended use



B-Code



Contacts	Cable outlet	Designation	Order No.
4	4-6 mm	M12-F04B-T-D6-SH	163 104 421 2001
	6-8 mm	M12-F04B-T-D8-SH	163 004 421 2005
5	4-6 mm	M12-F05B-T-D6-SH	163 005 421 2006
	6-8 mm	M12-F05B-T-D8-SH	163 105 421 3003



## M12-B Circular Connector

125/250V 4A

## Technical characteristics

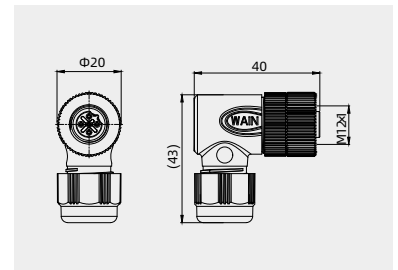
	4-pole	5-pole
Rated current(40°C)	4A	4A
Rated voltage	250V	125V
Rated impulse voltage	2500V	1500V
Pollution degree	3	3
Overvoltage categorie	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw M12x1	screw M12x1
Termination	screw	screw
Wire gauge	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.75mm <sup>2</sup> (max.AWG18)
Cable outlet	4-6,6-8 mm	4-6,6-8 mm
Degree of protection	IP67	IP67
Mechanical operation	> 100	> 100
Limiting temperature	-40°C ...+85°C	-40°C ...+85°C
Material group	II	II
Material of contact	copper alloy	copper alloy
Contact plating	Au	Au
Insulating material	PA	PA
Material of housing	PA/PBT	PA/PBT

## Angled cable connectors

Female cable connector,  
plastic locking system,  
screw clamp connection



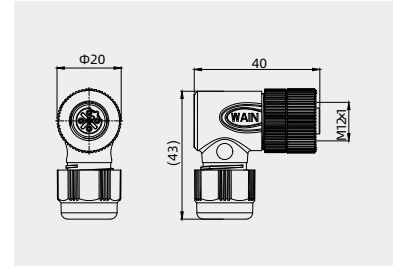
Contacts	Cable outlet	Designation	Order No.
4	4-6 mm	M12P-F04B-S-D6	163 004 521 3105
	6-8 mm	M12P-F04B-S-D8	163 004 521 3106
5	4-6 mm	M12P-F05B-S-D6	163 005 521 3103
	6-8 mm	M12P-F05B-S-D8	163 005 521 3104



Female cable connector,  
metal locking system,  
screw clamp connection



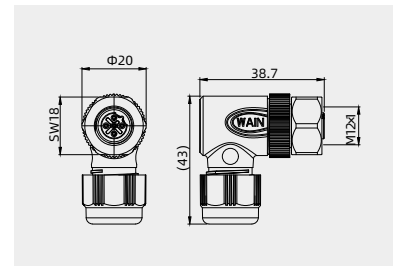
Contacts	Cable outlet	Designation	Order No.
4	4-6 mm	M12-F04B-S-D6	163 004 521 1001
	6-8 mm	M12-F04B-S-D8	163 004 521 1002
5	4-6 mm	M12-F05B-S-D6	163 005 521 1001
	6-8 mm	M12-F05B-S-D8	163 005 521 1002



Female cable connector,  
stainless steel locking system,  
screw clamp connection,



Contacts	Cable outlet	Designation	Order No.
4	4-6 mm	M12S-F04B-S-D6	163 004 521 1003
	6-8 mm	M12S-F04B-S-D8	163 004 521 1004
5	4-6 mm	M12S-F05B-S-D6	163 005 521 1004
	6-8 mm	M12S-F05B-S-D8	163 005 521 1005





## M12-B Circular Connector

125/250V 2/8A

## Technical characteristics

	5-pole
Rated current(40°C )	Contacts:1-4 8A; Contacts:5 2A
Rated voltage	125V
Rated impulse voltage	1500V
Pollution degree	3
Overvoltage categorie	II
Contact resistance	≤ 10 mΩ
Connector locking system	screw M12x1
Termination	screw
Wire gauge	max.1.5mm <sup>2</sup> (max.AWG16)
Cable outlet	8-10mm
Degree of protection	IP67
Mechanical operation	> 100
Limiting temperature	-40°C ...+85°C
Material group	II
Material of contact	copper alloy
Contact plating	Au
Insulating material	PA
Material of housing	PA/PBT

## Angled cable connectors

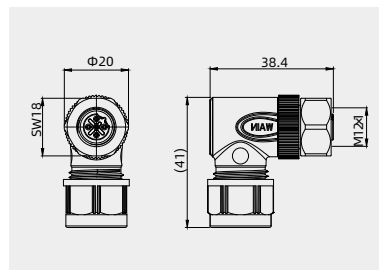
Female cable connector,  
plastic locking system,  
screw clamp connection

Contacts	Cable outlet	Designation	Order No.
5	8-10 mm	M12P-F05B-S-D10	163 005 521 3105

B-Code



5pin



Female cable connector,  
metal locking system,  
screw clamp connection

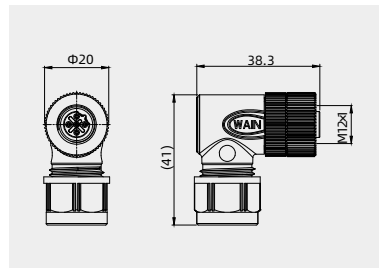
Contacts	Cable outlet	Designation	Order No.
5	8-10 mm	M12-F05B-S-D10	163 005 521 1003

Recommended use

B-Code



5pin



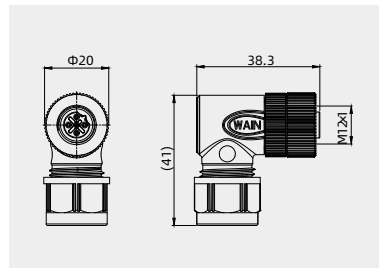
Female cable connector,  
stainless steel locking system,  
screw clamp connection,

Contacts	Cable outlet	Designation	Order No.
5	8-10 mm	M12S-F05B-S-D10	163 005 521 1006

B-Code



5pin



## M12-B Circular Connector

125/250V 4A

## Technical characteristics

	4-pole	5-pole
Rated current(40°C )	4A	4A
Rated voltage	250V	125V
Rated impulse voltage	2500V	1500V
Pollution degree	3	3
Overvoltage categorie	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw M12x1	screw M12x1
Termination	screw	screw
Wire gauge	max.0.75mm <sup>2</sup> (max.AWG18)	max.0.75mm <sup>2</sup> (max.AWG18)
Cable outlet	4-6,6-8mm	4-6,6-8mm
Degree of protection	IP67	IP67
Mechanical operation	> 100	> 100
Limiting temperature	-40°C ...+85°C	-40°C ...+85°C
Material group	II	II
Material of contact	copper alloy	copper alloy
Contact plating	Au	Au
Insulating material	PA	PA
Material of housing	zinc diecasting nickel plated	zinc diecasting nickel plated

## Angled cable connectors, shielded

Female cable connector, shielded,  
screw clamp connection,  
with shielding ring



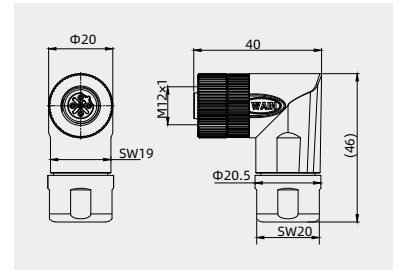
B-Code



4pin

5pin

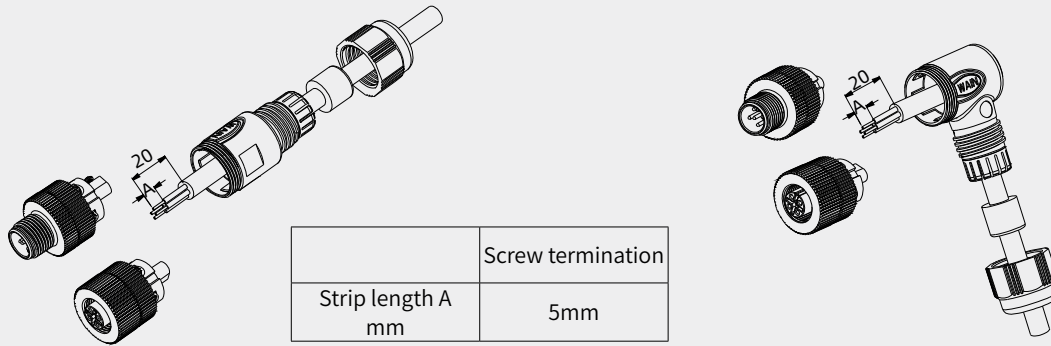
Contacts	Cable outlet	Designation	Order No.
4	4-6 mm	M12-F04B-S-D6-SH	163 004 521 2003
	6-8 mm	M12-F04B-S-D8-SH	163 004 521 2004
5	4-6 mm	M12-F05B-S-D6-SH	163 005 521 2003
	6-8 mm	M12-F05B-S-D8-SH	163 005 521 2004



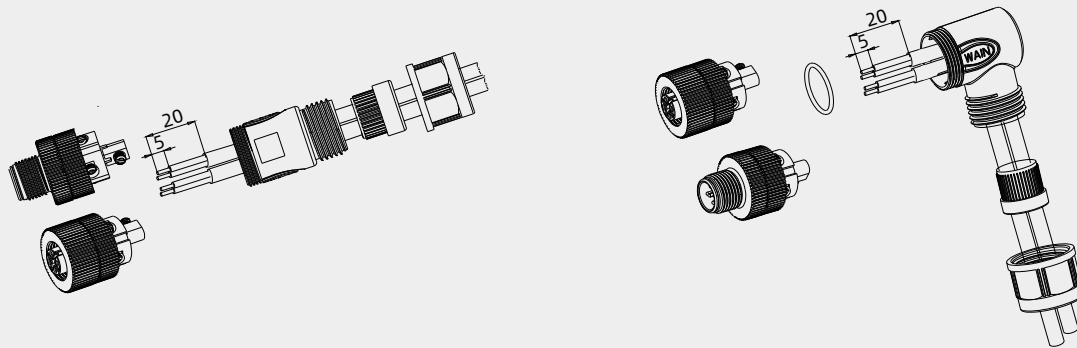
Assembly instruction

• Assembly instruction

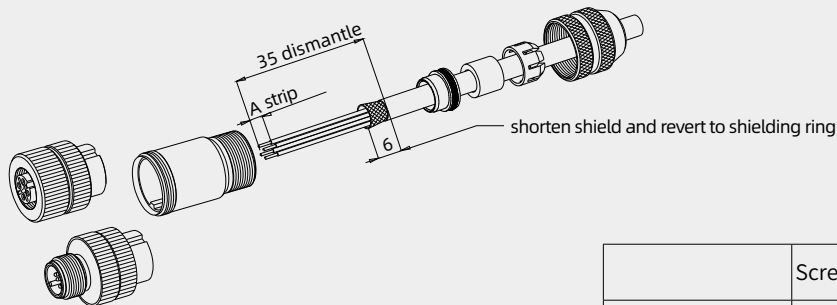
- Strip length male/female cable connector, male/female angled connector, **not shielded**



- Strip length male/female cable duo connector, male/female angled duo connector, **not shielded**



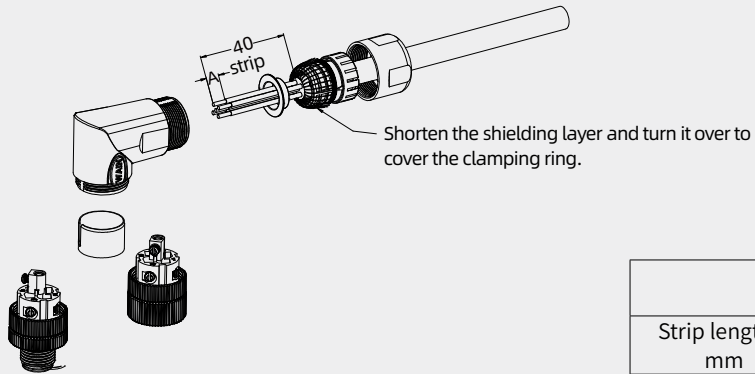
- Strip length male/female cable connector, **with shielding ring**



	Screw termination
Strip length A mm	5mm

## • Assembly instruction

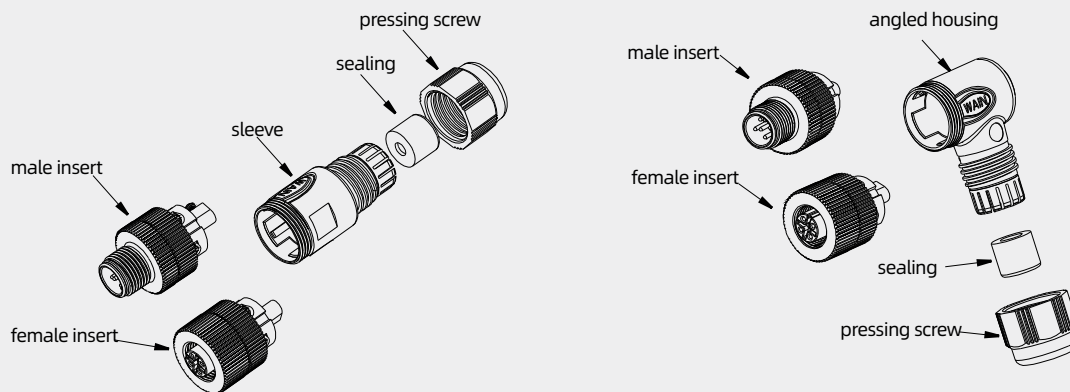
- Stripping length of male/female angled cable connector , **with shielded ring.**



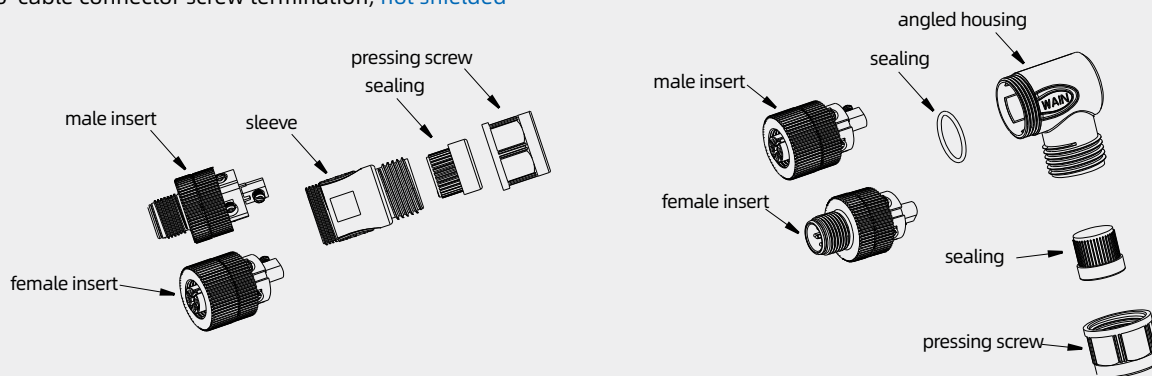
	Screw termination
Strip length A mm	5mm

• Component part drawing

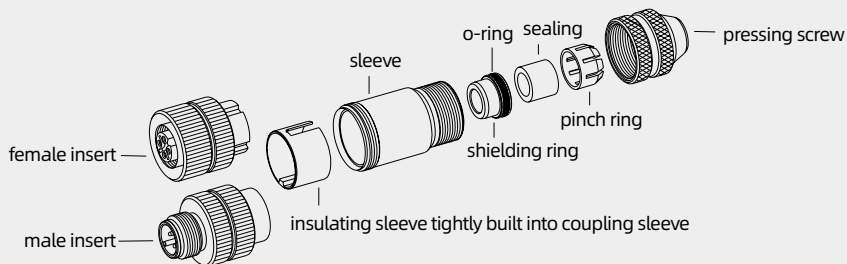
- Cable connector **not shielded**



- Duo-cable connector screw termination, **not shielded**

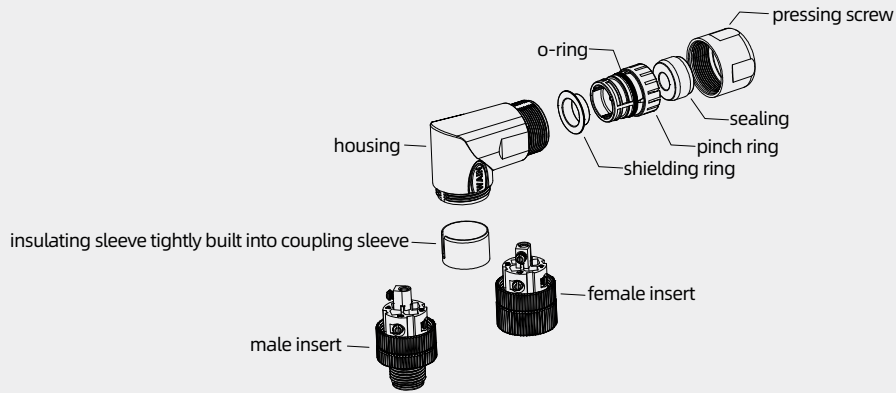


- Cable connector **with shielding ring**



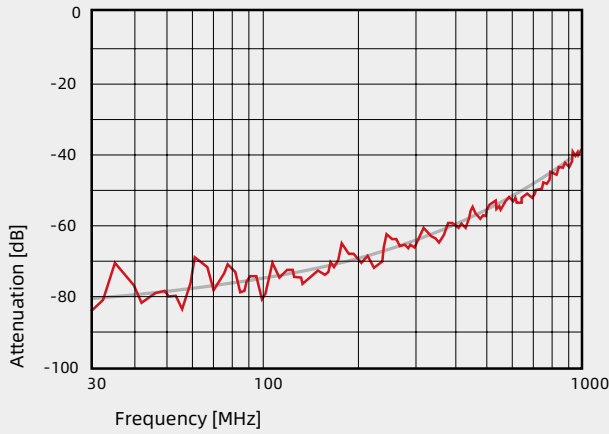
• Component part drawing

- Angled connector Screw termination, shielded

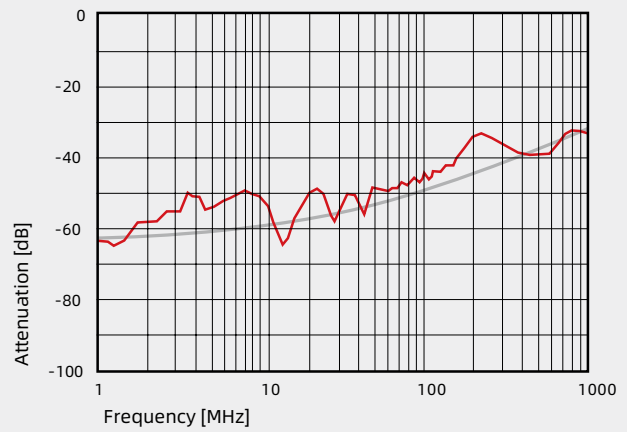


• Rating

- Attenuation curve according to DIN 47250-6
- For straight cable connectors, with shielding ring

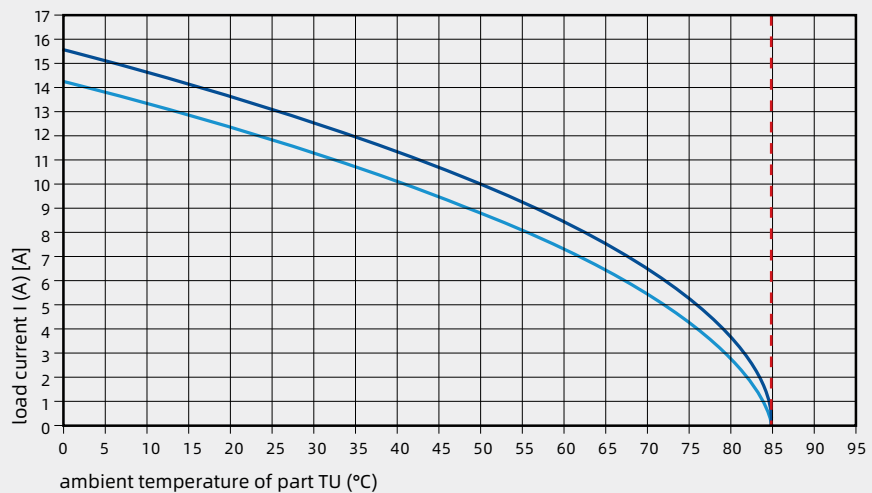


- Attenuation curve according to DIN 47250-6
- For straight cable connectors, with iris type spring



- Derating curve according to DIN EN 60512 for POWER cable connectors

- 4 pole version
- 5 pole version



## M12-B Circular Connector

125/250V 4A

## Technical characteristics

	3-pole	4-pole	5-pole
Rated current(40°C )	4A	4A	4A
Rated voltage	250V	250V	125V
Rated impulse voltage	2500V	2500V	1500V
Pollution degree	3	3	3
Overvoltage categorie	II	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw M12x1	screw M12x1	screw M12x1
Termination	crimp, moulded	crimp, moulded	crimp, moulded
Wire gauge	0.34mm <sup>2</sup> (AWG22)	0.34mm <sup>2</sup> (AWG22)	0.25mm <sup>2</sup> AWG24)
Cable outlet	-	-	-
Degree of protection	IP67 shielded	IP67 shielded	IP67 shielded
Mechanical operation	> 100	> 100	> 100
Limiting temperature	-25°C ...+85°C	-25°C ...+85°C	-25°C ...+85°C
Material group	II	II	II
Material of contact	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au
Insulating material	PA	PA	PA
Material of housing	TPU	TPU	TPU

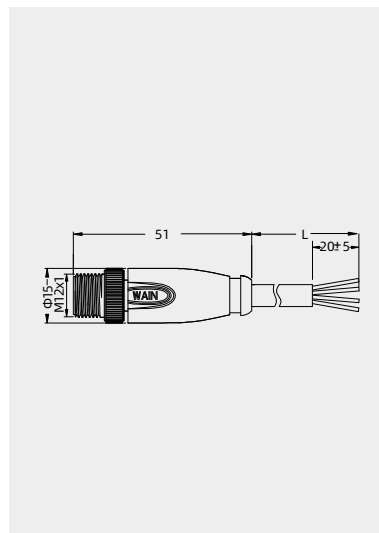
## Straight cable connectors,cable

Male connector moulded,screw shielded

Recommended use



Contacts	Cable	Cable length	Designation	Order No.
3	3x0.34PVC	1.5 m	M12-M03B-T-1.5-PVC-SH	163 003 401 4045
		5.0 m	M12-M03B-T-5.0-PVC-SH	163 003 401 4046
4	3x0.34PUR	1.5 m	M12-M03B-T-1.5-PUR-SH	163 003 401 4043
		5.0 m	M12-M03B-T-5.0-PUR-SH	163 003 401 4044
	4x0.34PVC	1.5 m	M12-M04B-T-1.5-PVC-SH	163 004 401 4047
		5.0 m	M12-M04B-T-5.0-PVC-SH	163 004 401 4048
5	4x0.34PUR	1.5 m	M12-M04B-T-1.5-PUR-SH	163 004 401 4045
		5.0 m	M12-M04B-T-5.0-PUR-SH	163 004 401 4046
	5x0.25PVC	1.5 m	M12-M05B-T-1.5-PVC-SH	163 005 401 4043
		5.0 m	M12-M05B-T-5.0-PVC-SH	163 005 401 4044
5x0.25PUR	1.5 m	M12-M05B-T-1.5-PUR-SH	163 005 401 4063	
	5.0 m	M12-M05B-T-5.0-PUR-SH	163 005 401 4064	



## B-Code



3pin

4pin

5pin

\*Further cable length upon request.

## M12-B Circular Connector

125/250V 4A

## Technical characteristics

	3-pole	4-pole	5-pole
Rated current(40°C )	4A	4A	4A
Rated voltage	250V	250V	125V
Rated impulse voltage	2500V	2500V	1500V
Pollution degree	3	3	3
Overvoltage categorie	II	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw M12x1	screw M12x1	screw M12x1
Termination	crimp, moulded	crimp, moulded	crimp, moulded
Wire gauge	0.34mm <sup>2</sup> (AWG22)	0.34mm <sup>2</sup> (AWG22)	0.25mm <sup>2</sup> AWG24)
Cable outlet	-	-	-
Degree of protection	IP67 shielded	IP67 shielded	IP67 shielded
Mechanical operation	> 100	> 100	> 100
Limiting temperature	-25°C ...+85°C	-25°C ...+85°C	-25°C ...+85°C
Material group	II	II	II
Material of contact	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au
Insulating material	PA	PA	PA
Material of housing	TPU	TPU	TPU

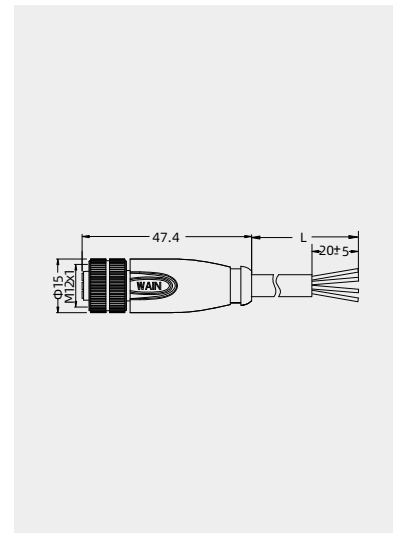
## Straight cable connectors,cable

Female connector moulded,screw shielded

Recommended use



Contacts	Cable	Cable length	Designation	Order No.
3	3x0.34PVC	1.5 m	M12-F03B-T-1.5-PVC-SH	163 003 402 4046
		5.0 m	M12-F03B-T-5.0-PVC-SH	163 003 402 4047
	3x0.34PUR	1.5 m	M12-F03B-T-1.5-PUR-SH	163 003 402 4043
		5.0 m	M12-F03B-T-5.0-PUR-SH	163 003 402 4044
4	4x0.34PVC	1.5 m	M12-F04B-T-1.5-PVC-SH	163 004 402 4046
		5.0 m	M12-F04B-T-5.0-PVC-SH	163 004 402 4047
	4x0.34PUR	1.5 m	M12-F04B-T-1.5-PUR-SH	163 004 402 4045
		5.0 m	M12-F04B-T-5.0-PUR-SH	163 004 402 4044
5	5x0.25PVC	1.5 m	M12-F05B-T-1.5-PVC-SH	163 005 402 4046
		5.0 m	M12-F05B-T-5.0-PVC-SH	163 005 402 4044
	5x0.25PUR	1.5 m	M12-F05B-T-1.5-PUR-SH	163 005 402 4064
		5.0 m	M12-F05B-T-5.0-PUR-SH	163 005 402 4065



## B-Code



3pin

4pin

5pin

•Further cable length upon request.



## M12-B Circular Connector

250V 4A

## Technical characteristics

	2-pole
Rated current(40°C )	4A
Rated voltage	250V
Rated impulse voltage	2500V
Pollution degree	3
Overvoltage categorie	II
Contact resistance	≤ 10 mΩ
Connector locking system	screw M12x1
Termination	crimp, moulded
Wire gauge	0.34mm <sup>2</sup> (AWG22)
Cable outlet	-
Degree of protection	IP67 shielded
Mechanical operation	> 100
Limiting temperature	-25°C ...+85°C
Material group	II
Material of contact	copper alloy
Contact plating	Au
Insulating material	PA
Material of housing	TPU

## Straight cable connectors,cable

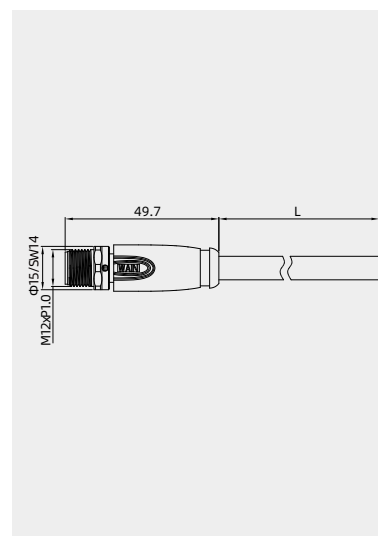
Male connector moulded,screw shielded

Recommended use

Contacts	Cable	Cable length	Designation	Order No.
2	2x0.25PVC	1.5 m	M12-M02B-T-1.5-PVC-DP	163 002 401 4005
		5.0 m	M12-M02B-T-5.0-PVC-DP	163 002 401 4007
	2x0.25PUR	1.5 m	M12-M02B-T-1.5-PUR-DP	163 002 401 4006
		5.0 m	M12-M02B-T-5.0-PUR-DP	163 002 401 4008



B-Code



M12-B

•Further cable length upon request.

## M12-B Circular Connector

250V 4A

## Technical characteristics

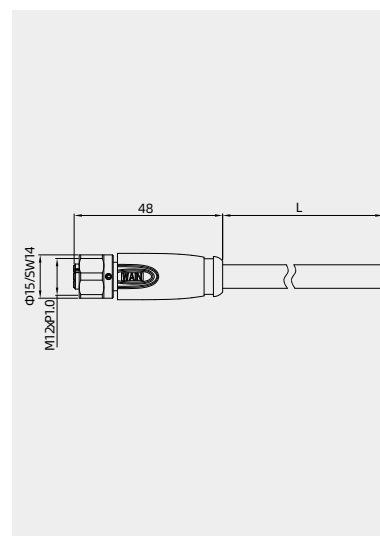
	2-pole
Rated current(40°C )	4A
Rated voltage	250V
Rated impulse voltage	2500V
Pollution degree	3
Overvoltage categorie	II
Contact resistance	≤ 10 mΩ
Connector locking system	screw M12x1
Termination	crimp, moulded
Wire gauge	0.34mm <sup>2</sup> (AWG22)
Cable outlet	-
Degree of protection	IP67 shielded
Mechanical operation	> 100
Limiting temperature	-25°C ...+85°C
Material group	II
Material of contact	copper alloy
Contact plating	Au
Insulating material	PA
Material of housing	TPU

## Straight cable connectors,cable

Female connector moulded,screw shielded

Recommended use

Contacts	Cable	Cable length	Designation	Order No.
2	2x0.25PVC	1.5 m	M12-F02B-T-1.5-PVC-DP	163 002 402 4001
		5.0 m	M12-F02B-T-5.0-PVC-DP	163 002 402 4003
	2x0.25PUR	1.5 m	M12-F02B-T-1.5-PUR-DP	163 002 402 4002
		5.0 m	M12-F02B-T-5.0-PUR-DP	163 002 402 4004



M12-B

B-Code



•Further cable length upon request.

## M12-B Circular Connector

125/250V 4A

## Technical characteristics

	4-pole	5-pole
Rated current(40°C )	4A	4A
Rated voltage	250V	125V
Rated impulse voltage	2500V	1500V
Pollution degree	3	3
Overvoltage categorie	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw M12x1	screw M12x1
Termination	single-strand wires	single-strand wires
Wire gauge	0.75mm <sup>2</sup> (AWG18)	0.75mm <sup>2</sup> (AWG18)
Cable outlet	-	-
Degree of protection	IP67	IP67
Mechanical operation	> 100	> 100
Limiting temperature	-40°C ...+85°C	-40°C ...+85°C
Material group	II	II
Material of contact	copper alloy	copper alloy
Contact plating	Au	Au
Insulating material	PA	PA
Material of housing	zinc diecasting nickel plated	zinc diecasting nickel plated

## Socket

Male panel mount connector  
with single wires, 0.25mm<sup>2</sup>  
length 0.2m

Recommended use



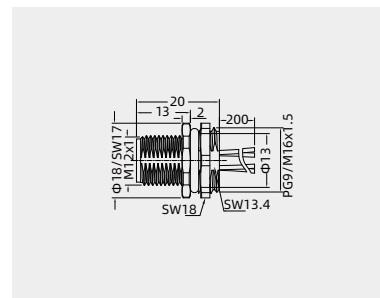
B-Code



4pin 5pin

Contacts	Thread	Designation	Order No.
4	PG9	M12-M04B-BK-PG9-W0.25	163 004 301 4004
	M16x1.5	M12-M04B-BK-M16-W0.25	163 004 301 4005
5	PG9	M12-M05B-BK-PG9-W0.25	163 005 301 4002
	M16x1.5	M12-M05B-BK-M16-W0.25	163 005 301 4003

Customized cable length upon request



Male panel mount connector, solder

Recommended use

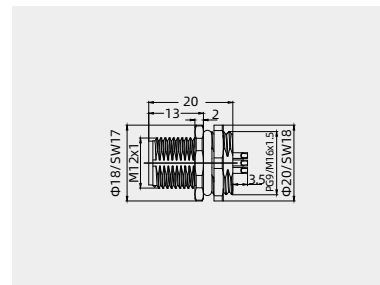


B-Code



4pin 5pin

Contacts	Thread	Designation	Order No.
4	PG9	M12-M04B-BK-PG9-C	163 004 313 1002
	M16x1.5	M12-M04B-BK-M16-C	163 004 313 1003
5	PG9	M12-M05B-BK-PG9-C	163 005 313 1002
	M16x1.5	M12-M05B-BK-M16-C	163 005 313 1003



Male panel mount connector, dip solder

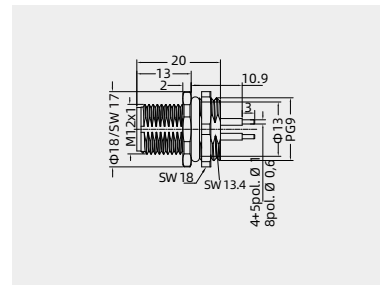


B-Code



4pin 5pin

Contacts	Thread	Designation	Order No.
4	PG9	M12-M04B-BK-PG9-D	163 004 314 1003
	M16x1.5	M12-M04B-BK-M16-D	163 004 314 1004
5	PG9	M12-M05B-BK-PG9-D	163 005 314 1003
	M16x1.5	M12-M05B-BK-M16-D	163 005 314 1004



# M12-B Circular Connector

125/250V 4A

## Technical characteristics

	4-pole	5-pole
Rated current(40°C )	4A	4A
Rated voltage	250V	125V
Rated impulse voltage	2500V	1500V
Pollution degree	3	3
Overvoltage categorie	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw M12x1	screw M12x1
Termination	single-strand wires	single-strand wires
Wire gauge	0.75mm <sup>2</sup> (AWG18)	0.75mm <sup>2</sup> (AWG18)
Cable outlet	-	-
Degree of protection	IP67	IP67
Mechanical operation	> 100	> 100
Limiting temperature	-40°C ...+85°C	-40°C ...+85°C
Material group	II	II
Material of contact	copper alloy	copper alloy
Contact plating	Au	Au
Insulating material	PA	PA
Material of housing	zinc diecasting nickel plated	zinc diecasting nickel plated

## Socket

Male panel mount connector  
with single wires, 0,25mm<sup>2</sup>  
length 0.2m, front fastened  
**Recommended use**

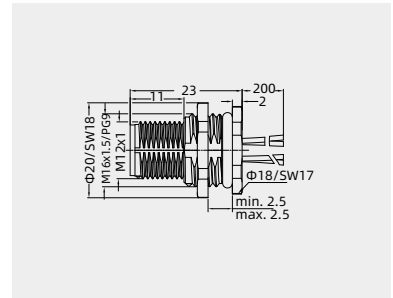


B-Code



Contacts	Thread	Designation	Order No.
4	PG9	M12-M04B-BKR-PG9-W0.25	163 004 301 4012
	M16x1.5	M12-M04B-BKR-M16-W0.25	163 004 301 4015
5	PG9	M12-M05B-BKR-PG9-W0.25	163 005 301 4012
	M16x1.5	M12-M05B-BKR-M16-W0.25	163 005 301 4013

Customized cable length upon request



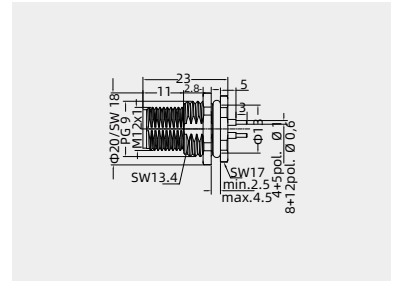
Male panel mount connector,  
front fastened, dip solder



B-Code



Contacts	Thread	Designation	Order No.
4	PG9	M12-M04B-BKR-PG9-D	163 004 314 1012
	M16x1.5	M12-M04B-BKR-M16-D	163 004 314 1013
5	PG9	M12-M05B-BKR-PG9-D	163 005 314 1012
	M16x1.5	M12-M05B-BKR-M16-D	163 005 314 1013



## M12-B Circular Connector

125/250V 4A

## Technical characteristics

	4-pole	5-pole
Rated current(40°C)	4A	4A
Rated voltage	250V	125V
Rated impulse voltage	2500V	1500V
Pollution degree	3	3
Overvoltage categorie	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	Thread	Thread
Termination	solder,single-strand wires	solder,single-strand wires
Wire gauge	0.75mm <sup>2</sup> (AWG18)	0.75mm <sup>2</sup> (AWG18)
Cable outlet	-	-
Degree of protection	IP67	IP67
Mechanical operation	> 100	> 100
Limiting temperature	-40°C ...+85°C	-40°C ...+85°C
Material group	II	II
Material of contact	copper alloy	copper alloy
Contact plating	Au	Au
Insulating material	PA	PA
Material of housing	zinc diecasting nickel plated	zinc diecasting nickel plated

## Socket

Female panel mount connector  
with single wires, /0.25mm<sup>2</sup>/length  
0.2m



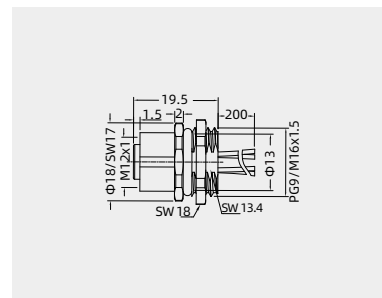
B-Code



4pin 5pin

Contacts	Thread	Designation	Order No.
4	PG9	M12-F04B-BK-PG9-W0.25	163 004 302 4003
	M16x1.5	M12-F04B-BK-M16-W0.25	163 004 302 4004
5	PG9	M12-F05B-BK-PG9-W0.25	163 005 302 4007
	M16x1.5	M12-F05B-BK-M16-W0.25	163 005 302 4008

Customized cable length upon request



Female panel mount connector, solder  
PG9/M16x1.5

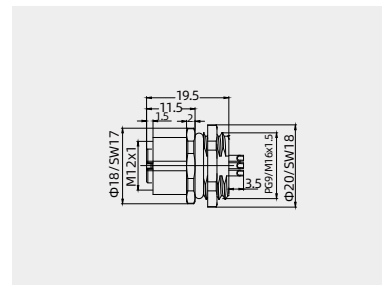


B-Code



4pin 5pin

Contacts	Thread	Designation	Order No.
4	PG9	M12-F04B-BK-PG9-C	163 004 323 1002
	M16x1.5	M12-F04B-BK-M16-C	163 004 323 1003
5	PG9	M12-F05B-BK-PG9-C	163 005 323 1002
	M16x1.5	M12-F05B-BK-M16-C	163 005 323 1003



Female panel mount connector,  
dip solder

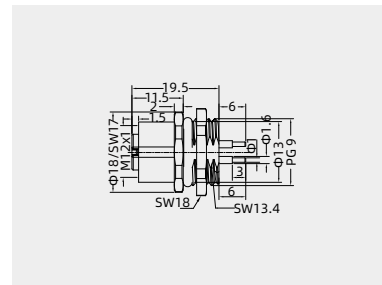


B-Code



4pin 5pin

Contacts	Thread	Designation	Order No.
4	PG9	M12-F04B-BK-PG9-D	163 004 324 1003
	M16x1.5	M12-F04B-BK-M16-D	163 004 324 1004
5	PG9	M12-F05B-BK-PG9-D	163 005 324 1003
	M16x1.5	M12-F05B-BK-M16-D	163 005 324 1004



## M12-B Circular Connector

125/250V 4A

## Technical characteristics

	4-pole	5-pole
Rated current(40°C )	4A	4A
Rated voltage	250V	125V
Rated impulse voltage	2500V	1500V
Pollution degree	3	3
Overvoltage categorie	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	Thread	Thread
Termination	solder,single-strand wires	solder,single-strand wires
Wire gauge	0.75mm <sup>2</sup> (AWG18)	0.75mm <sup>2</sup> (AWG18)
Cable outlet	-	-
Degree of protection	IP67	IP67
Mechanical operation	> 100	> 100
Limiting temperature	-40°C ...+85°C	-40°C ...+85°C
Material group	II	II
Material of contact	copper alloy	copper alloy
Contact plating	Au	Au
Insulating material	PA	PA
Material of housing	zinc diecasting nickel plated	zinc diecasting nickel plated

## Socket

Female panel mount connector,  
front fastened, with single wires,  
0.25mm<sup>2</sup>/length 0.2m

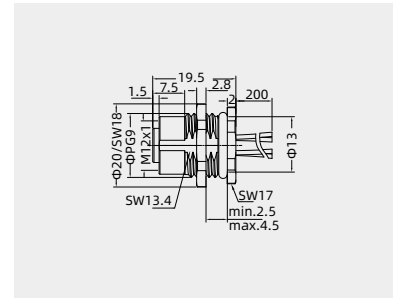


B-Code



Contacts	Thread	Designation	Order No.
4	PG9	M12-F04B-BKR-PG9-W0.25	163 004 302 4517
	M16x1.5	M12-F04B-BKR-M16-W0.25	163 004 302 4518
5	PG9	M12-F05B-BKR-PG9-W0.25	163 005 302 4512
	M16x1.5	M12-F05B-BKR-M16-W0.25	163 005 302 4513

Customized cable length upon request



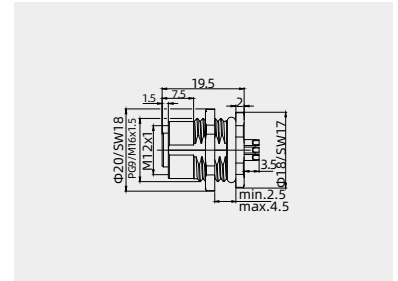
Female panel mount connector,  
solder, front fastened



B-Code



Contacts	Thread	Designation	Order No.
4	PG9	M12-F04B-BKR-PG9-C	163 004 323 1012
	M16x1.5	M12-F04B-BKR-M16-C	163 004 323 1013
5	PG9	M12-F05B-BKR-PG9-C	163 005 323 1012
	M16x1.5	M12-F05B-BKR-M16-C	163 005 323 1013



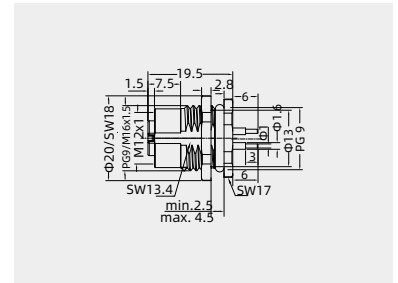
Female panel mount connector,  
dip solder, front fastened



B-Code



Contacts	Thread	Designation	Order No.
4	PG9	M12-F04B-BKR-PG9-D	163 004 324 1012
	M16x1.5	M12-F04B-BKR-M16-D	163 004 324 1013
5	PG9	M12-F05B-BKR-PG9-D	163 005 324 1012
	M16x1.5	M12-F05B-BKR-M16-D	163 005 324 1013



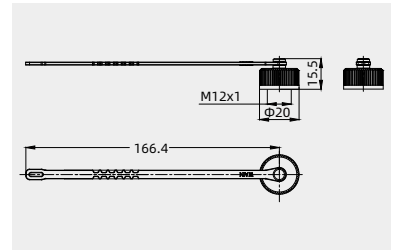
Accessories

Protection covers IP67

Protection cover  
for male cable connector



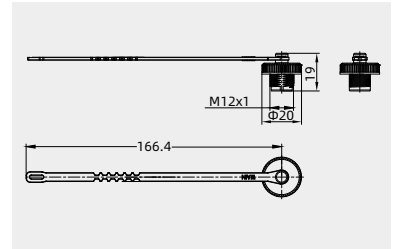
Description	Designation	Order No.
Without cord	M12-MCV	163 000 001 9003
With cord	M12-MCV/1	163 000 001 9001



Protection cover  
for female cable connector



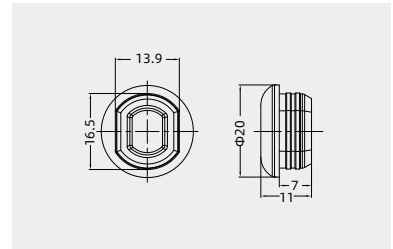
Description	Designation	Order No.
Without cord	M12-FCV	163 000 002 9003
With cord	M12-FCV/1	163 000 002 9001



Protection covers, for flange  
mount panel



Description	Designation	Order No.
Dust-proof	M12-WNPP-M16/BK	163 000 000 9001



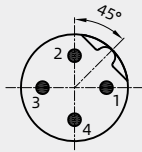
• Contact arrangements

• Male insert (mating side)

• Female insert (mating side)

2 contacts

2 contacts



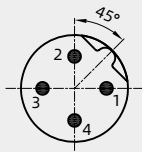
	X	Y	
1			1. n.C
2	0.00	2.50	2. green
3			3. n.C
4	0.00	-2.50	4. red



	X	Y	
1			1. n.C
2	0.00	2.50	2. green
3			3. n.C
4	0.00	-2.50	4. red

3 contacts

3 contacts



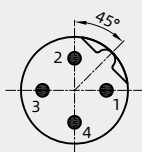
	X	Y	
1	2.50	0.00	1. brown
2			2. n.C
3	-2.50	0.00	3. blue
4	0.00	-2.50	4. black



	X	Y	
1	-2.50	0.00	1. brown
2			2. n.C
3	2.50	0.00	3. blue
4	0.00	-2.50	4. black

4 contacts

4 contacts



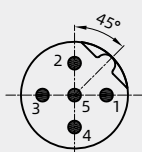
	X	Y	
1	2.50	0.00	1. brown
2	0.00	2.50	2. white
3	-2.50	0.00	3. blue
4	0.00	-2.50	4. black



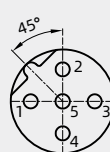
	X	Y	
1	-2.50	0.00	1. brown
2	0.00	2.50	2. white
3	2.50	0.00	3. blue
4	0.00	-2.50	4. black

5 contacts

5 contacts



	X	Y	
1	2.50	0.00	1. brown
2	0.00	2.50	2. white
3	-2.50	0.00	3. blue
4	0.00	-2.50	4. black
5	0.00	0.00	5. grey



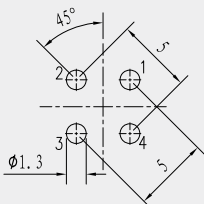
	X	Y	
1	-2.50	0.00	1. brown
2	0.00	2.50	2. white
3	2.50	0.00	3. blue
4	0.00	-2.50	4. black
5	0.00	0.00	5. grey



- Panel cut out

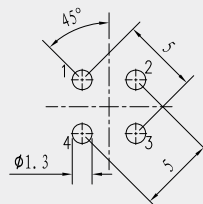
- Opening hole drawing male insert(PCB),  
Panel mount connectors

4 contacts

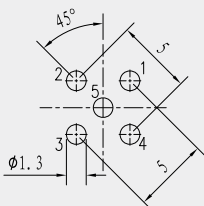


- Opening hole drawing female insert(PCB),  
Panel mount connectors

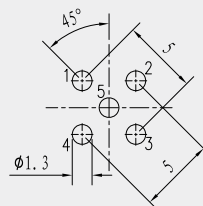
4 contacts



5 contacts



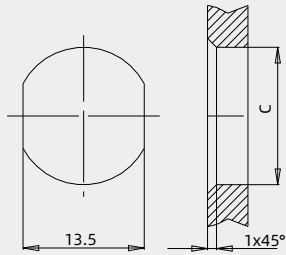
5 contacts



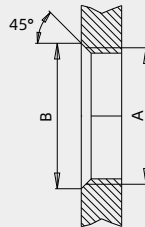
• Panel cut out

• Panel mount connectors

• Through-hole mounting



• Screw mounting



	A	B	C
PG9	PG9	16.2	15.3
PG13.5	PG13.5	21.5	20.5
M16x1.5	M16x1.5	17.0	16.1
M20x1.5	M20x1.5	21.0	20.1

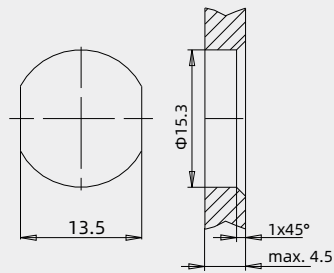
Tightening torque according to  
DIN VDE 0619

Metal housing 6,25 Nm  
Plastic housing 3,75 Nm

• Panel mount connectors

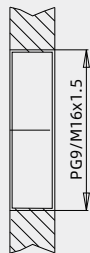
• Rear panel mounting,  
front tighten

• Through-hole mounting



• Panel mount connectors  
front tighten

• Through-hole mounting



Tightening torque 6,25 Nm



M12-B

## M12 Circular Connector,D-coded



- Cable Connector
- Shielded / unshielded series
- Installable series and cast cable series
- Thread locking M12X1
- Screw terminal
- Shielding ring and ring spring shielding connection
- Cable length 1.5m and 5m
- Other cable length upon request, minimum order quantity 200 pieces
- Cable material can be customized according to requirements
- Protection grade IP67
- Anti-loose spring with nut

## M12-D Circular Connector

250V 4A

## Technical characteristics

Number of contacts	4
Rated current (40°C)	4A
Rated voltage	250V
Rated impulse voltage	2500V
Pollution degree	3
Overvoltage categorie	II
Contact resistance	≤ 10 mΩ
Connector locking system	screw M12x1
Termination	screw, <b>crimp</b>
Wire gauge	max.0.75mm <sup>2</sup> (max.AWG18), max.0.82mm <sup>2</sup> (max.AWG18)
Cable outlet	4-6mm, 6-8mm
Degree of protection	IP67
Mechanical operation	> 100
Limiting temperature	-40°C ... +85°C
Material group	II
Material of contact	copper alloy
Contact plating	Au
Insulating material	PA
Material of housing	zinc diecasting nickel plated

## Straight cable connectors, shielded

Male cable connector, shielded,

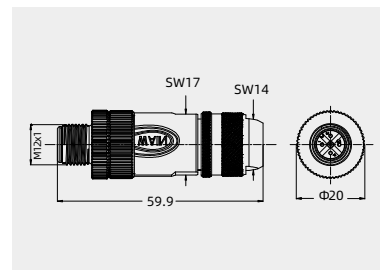
Cat.5e Screw terminal,  
with shielding ring**Recommended use**

Contacts	Cable outlet	Designation	Order No.
4	4-6 mm	M12-M04D-T-D6-SH	163 204 411 2001
	6-8 mm	M12-M04D-T-D8-SH	163 204 411 2002

D-Code



4pin



Male cable connector, shielded,

Cat.5e Screw terminal,  
with shielding ring

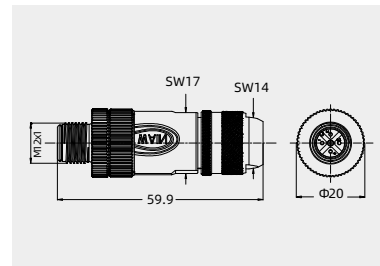
Order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
4	4-6 mm	M12-MC04D-T-D6-SH	163 004 010 2001
	6-8 mm	M12-MC04D-T-D8-SH	163 004 010 2002

D-Code



4pin

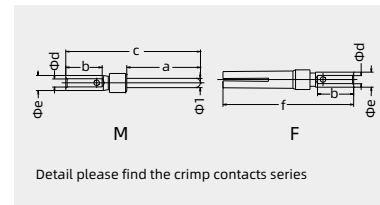


## Crimp contacts

Crimp contacts 5A

Contact resistance ≤ 3mΩ  
gold plated

Wire gauge(mm <sup>2</sup> )	Male	Order No.	Female	Order No.
0.09-0.25	CSGM-0.25	101 014 210 0101	CSGF-0.25	101 014 220 0101
0.13-0.33	CSGM-0.33	101 014 210 0201	CSGF-0.33	101 014 220 0201
0.33-0.52	CSGM-0.52	101 014 210 0501	CSGF-0.52	101 014 220 0501
0.52-0.82	CSGM-0.82	101 014 210 0701	CSGF-0.82	101 014 220 0701



Detail please find the crimp contacts series

Tools

Crimping tool



Wire gauge	Designation	Order No.
0.09-0.82mm <sup>2</sup>	TL03	198 001 001 0002

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## M12-D Circular Connector

250V 4A

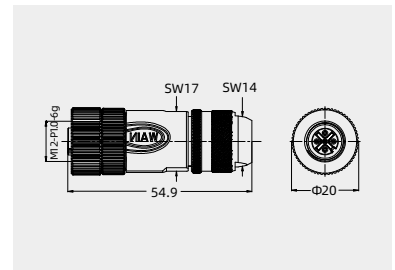
### Technical characteristics

Number of contacts	4
Rated current (40°C)	4A
Rated voltage	250V
Rated impulse voltage	2500V
Pollution degree	3
Overvoltage categorie	II
Contact resistance	≤ 10 mΩ
Connector locking system	screw M12x1
Termination	screw, <b>crimp</b>
Wire gauge	max.0.75mm <sup>2</sup> (max.AWG18), max.0.82mm <sup>2</sup> (max.AWG18)
Cable outlet	4-6mm,6-8mm
Degree of protection	IP67
Mechanical operation	> 100
Limiting temperature	-40°C ...+85°C
Material group	II
Material of contact	copper alloy
Contact plating	Au
Insulating material	PA
Material of housing	zinc diecasting nickel plated

### Straight cable connectors, shielded

Female cable connector, shielded,  
Cat.5e Screw terminal,  
with shielding ring  
**Recommended use**

Contacts	Cable outlet	Designation	Order No.
4	4-6 mm	M12-F04D-T-D6-SH	163 204 421 2001
	6-8 mm	M12-F04D-T-D8-SH	163 204 421 2002



D-Code

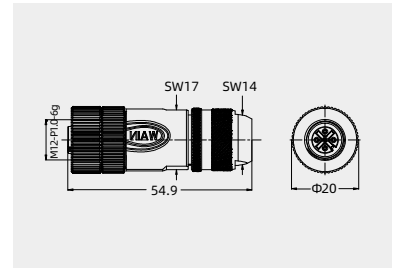


4pin



Female cable connector, shielded,  
Cat.5e Crimp terminal,  
with shielding ring  
Order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
4	4-6 mm	M12-FC04D-T-D6-SH	163 004 020 2001
	6-8 mm	M12-FC04D-T-D8-SH	163 004 020 2002



D-Code



4pin



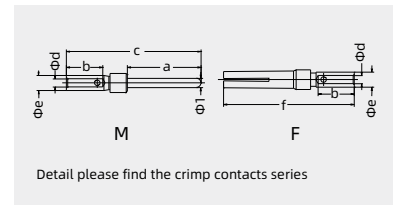
### Crimp contacts

Crimp contacts 5A

Contact resistance ≤ 3mΩ  
gold plated



Wire gauge(mm <sup>2</sup> )	Male	Order No.	Female	Order No.
0.09-0.25	CSGM-0.25	101 014 210 0101	CSGF-0.25	101 014 220 0101
0.13-0.33	CSGM-0.33	101 014 210 0201	CSGF-0.33	101 014 220 0201
0.33-0.52	CSGM-0.52	101 014 210 0501	CSGF-0.52	101 014 220 0501
0.52-0.82	CSGM-0.82	101 014 210 0701	CSGF-0.82	101 014 220 0701



Tools

Crimping tool



Wire gauge	Designation	Order No.
0.09-0.82mm <sup>2</sup>	TL03	198 001 001 0002

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## M12-D Circular Connector

250V 4A

## Technical characteristics

Number of contacts	4
Rated current (40°C)	4A
Rated voltage	250V
Rated impulse voltage	2500V
Pollution degree	3
Overvoltage categorie	II
Contact resistance	≤ 10 mΩ
Connector locking system	screw M12x1
Termination	crimp
Wire gauge	max.0.82mm <sup>2</sup> (max.AWG18)
Cable outlet	6-8mm
Degree of protection	IP67
Mechanical operation	> 100
Limiting temperature	-40°C ...+85°C
Material group	II
Material of contact	copper alloy
Contact plating	Au
Insulating material	PA
Material of housing	zinc diecasting nickel plated

## Flange base cable connector, shielded

Male cable connector, shielded,

Cat.5e Crimp terminal ,  
with shielding ring

Order crimp contacts separately

Recommended use

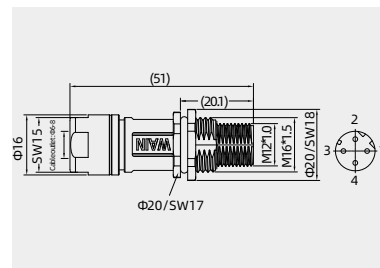
D-Code



4pin



Contacts	Cable outlet	Designation	Order No.
4	4-6 mm	M12-MC04D-CCT/R-M16-D8-SH	163 004 510 2001

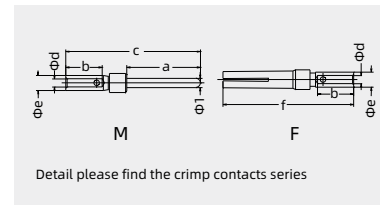


## Crimp contacts

Crimp contacts 5A

Contact resistance ≤ 3mΩ  
gold plated

Wire gauge(mm <sup>2</sup> )	Male	Order No.	Female	Order No.
0.09-0.25	CSGM-0.25	101 014 210 0101	CSGF-0.25	101 014 220 0101
0.13-0.33	CSGM-0.33	101 014 210 0201	CSGF-0.33	101 014 220 0201
0.33-0.52	CSGM-0.52	101 014 210 0501	CSGF-0.52	101 014 220 0501
0.52-0.82	CSGM-0.82	101 014 210 0701	CSGF-0.82	101 014 220 0701



Detail please find the crimp contacts series

Tools

Crimping tool



Wire gauge	Designation	Order No.
0.09-0.82mm <sup>2</sup>	TL03	198 001 001 0002

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## M12-D Circular Connector

250V 4A

## Technical characteristics

Number of contacts	4
Rated current (40°C)	4A
Rated voltage	250V
Rated impulse voltage	2500V
Pollution degree	3
Overvoltage categorie	II
Contact resistance	≤ 10 mΩ
Connector locking system	screw M12x1
Termination	crimp
Wire gauge	max.0.82mm <sup>2</sup> (max.AWG18)
Cable outlet	6-8mm
Degree of protection	IP67
Mechanical operation	> 100
Limiting temperature	-40°C ...+85°C
Material group	II
Material of contact	copper alloy
Contact plating	Au
Insulating material	PA
Material of housing	zinc diecasting nickel plated

## Flange base cable connector, shielded

Female cable connector, shielded,

Cat.5e Crimp terminal ,  
with shielding ring

Order crimp contacts separately

Recommended use

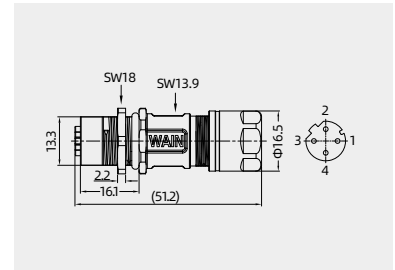
D-Code



4pin



Contacts	Cable outlet	Designation	Order No.
4	4-6 mm	M12-FC04D-CCT/R-M16-D8-SH	163 004 520 2003

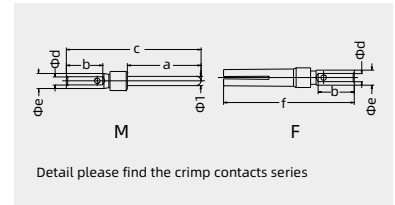


## Crimp contacts

Crimp contacts 5A

Contact resistance ≤ 3mΩ  
gold plated

Wire gauge(mm <sup>2</sup> )	Male	Order No.	Female	Order No.
0.09-0.25	CSGM-0.25	101 014 210 0101	CSGF-0.25	101 014 220 0101
0.13-0.33	CSGM-0.33	101 014 210 0201	CSGF-0.33	101 014 220 0201
0.33-0.52	CSGM-0.52	101 014 210 0501	CSGF-0.52	101 014 220 0501
0.52-0.82	CSGM-0.82	101 014 210 0701	CSGF-0.82	101 014 220 0701



Detail please find the crimp contacts series

Tools

Crimping tool



Wire gauge	Designation	Order No.
0.09-0.82mm <sup>2</sup>	TL03	198 001 001 0002

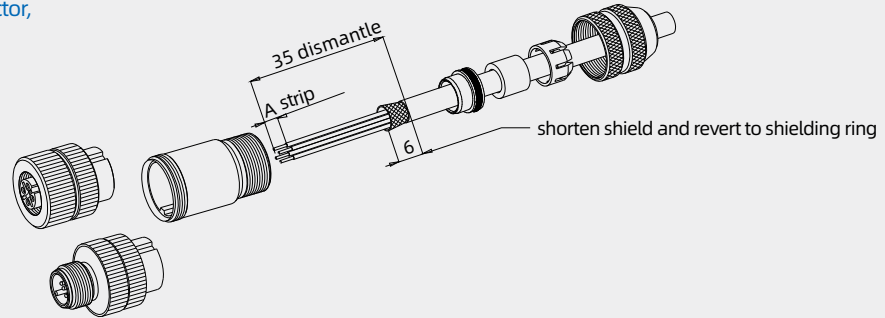
Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.



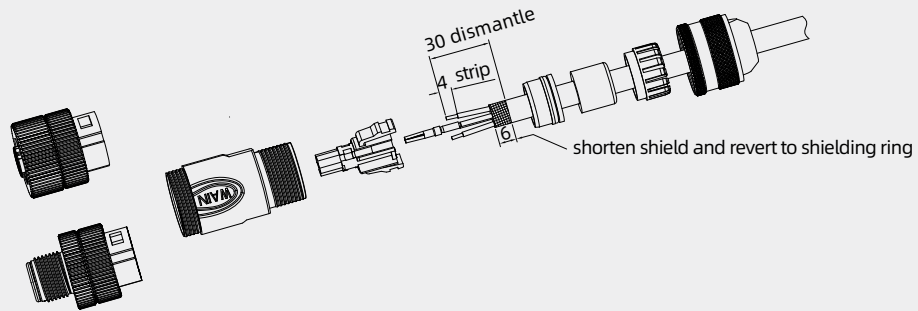
# M12-D Circular Connector

## • assembly instruction/Component part drawing

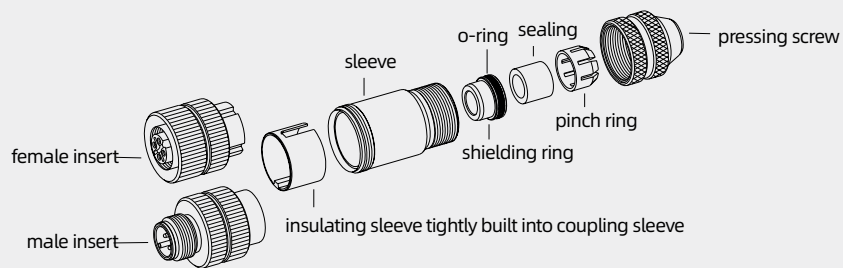
- Assembly instruction
- Strip length male/female cable connector, with shielding ring, screw terminal



- Assembly instruction
- Strip length male/female cable connector, with shielding ring, crimp terminal

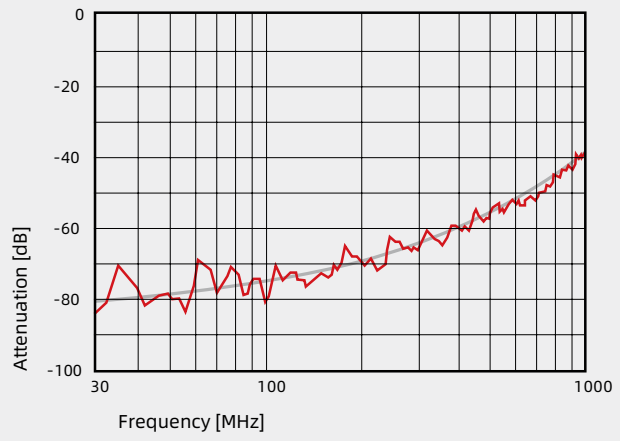


- Component part drawing
- Cable connector with shielding ring



- Rating

- Attenuation curve according to DIN 47250-6 for straight cable connectors screw termination (cable version IEEE 802.3)



## M12-D Circular Connector

250V 4A

## Technical characteristics

Number of contacts	4
Rated current (40°C)	4A
Rated voltage	250V
Rated impulse voltage	2500V
Pollution degree	3
Overvoltage categorie	II
Contact resistance	≤ 10 mΩ
Connector locking system	screw M12x1
Termination	crimp, moulded
Wire gauge	0.25mm <sup>2</sup> (AWG22)
Cable outlet	-
Degree of protection	IP67
Mechanical operation	> 500
Limiting temperature	-20°C ...+60°C
Material group	II
Material of contact	copper alloy
Contact plating	Au
Insulating material	PA
Material of housing	TPU

## Straight cable connectors, cable

## Male cable connector, PROFINET

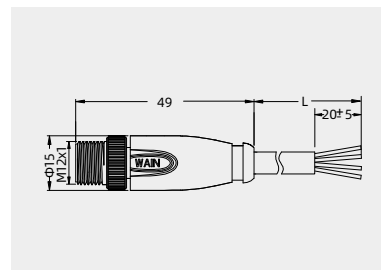


D-Code



4pin

Contacts	Cable length	Designation	Order No.
4	1.5 m	M12-M04D-T-1.5-PUR-PFN	163 204 401 4081
	5.0 m	M12-M04D-T-5.0-PUR-PFN	163 204 401 4082



## Male cable connector, Cat.5e Ethernet

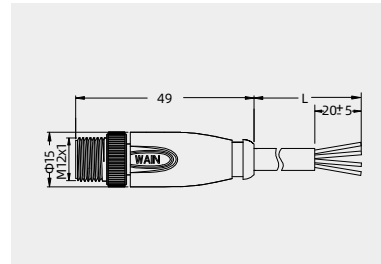


D-Code



4pin

Contacts	Cable length	Designation	Order No.
4	1.5 m	M12-M04D-T-1.5-PUR-Cat.5e	163 204 401 4091
	5.0 m	M12-M04D-T-5.0-PUR-Cat.5e	163 204 401 4092



M12-D

## M12-D Circular Connector

250V 4A

## Technical characteristics

Number of contacts	4
Rated current (40°C)	4A
Rated voltage	250V
Rated impulse voltage	2500V
Pollution degree	3
Overvoltage categorie	II
Contact resistance	≤ 10 mΩ
Connector locking system	screw M12x1
Termination	crimp, moulded
Wire gauge	0.25mm <sup>2</sup> (AWG22)
Cable outlet	-
Degree of protection	IP67
Mechanical operation	> 500
Limiting temperature	-20°C ...+60°C
Material group	II
Material of contact	copper alloy
Contact plating	Au
Insulating material	PA
Material of housing	TPU

## Straight cable connectors, cable

## Female cable connector, PROFINET

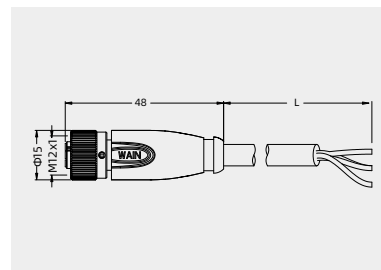


D-Code



4pin

Contacts	Cable length	Designation	Order No.
4	1.5 m	M12-F04D-T-1.5-PUR-PFN	163 204 402 4081
	5.0 m	M12-F04D-T-5.0-PUR-PFN	163 204 402 4082



## Female cable connector, Cat.5e

Ethernet

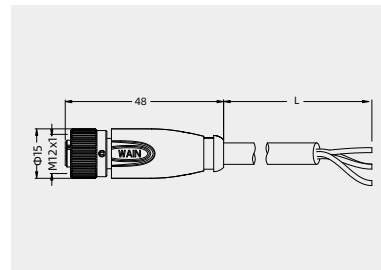


D-Code



4pin

Contacts	Cable length	Designation	Order No.
4	1.5 m	M12-F04D-T-1.5-PUR-Cat.5e	163 204 402 4091
	5.0 m	M12-F04D-T-5.0-PUR-Cat.5e	163 204 402 4092



# M12-D Circular Connector

250V 4A

## Technical characteristics

Number of contacts	4
Rated current (40°C)	4A
Rated voltage	250V
Rated impulse voltage	2500V
Pollution degree	3
Overvoltage categorie	II
Contact resistance	≤ 10 mΩ
Connector locking system	screw M12x1
Termination	crimp, moulded
Wire gauge	0.25mm <sup>2</sup> (AWG22)
Cable outlet	-
Degree of protection	IP67
Mechanical operation	> 500
Limiting temperature	-20°C ...+60°C
Material group	II
Material of contact	copper alloy
Contact plating	Au
Insulating material	PA
Material of housing	TPU

## Cable connectors-wire jumper

### Male cable connector, PROFINET

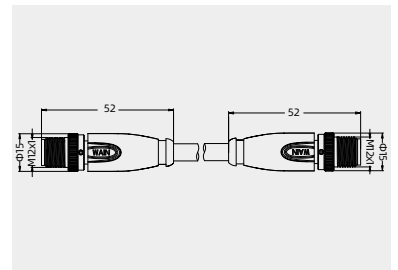


D-Code



4pin

Contacts	Cable length	Designation	Order No.
4	1.5 m	M12-M04D-T/M04D-T-1.5-PUR-PFN	163 004 401 4508
	5.0 m	M12-M04D-T/M04D-T-5.0-PUR-PFN	163 004 401 4507



### Female cable connector, PROFINET

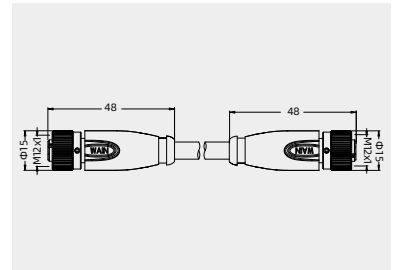


D-Code



4pin

Contacts	Cable length	Designation	Order No.
4	1.5 m	M12-F04D-T/F04D-T-1.5-PUR-PFN	163 004 402 4510
	5.0 m	M12-F04D-T/F04D-T-5.0-PUR-PFN	163 004 402 4509



### Male, Female, PROFINET



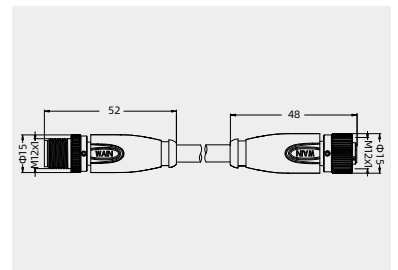
D-Code



4pin

4pin

Contacts	Cable length	Designation	Order No.
4	1.5 m	M12-M04D-T/F04D-T-1.5-PUR-PFN	163 004 400 4016
	5.0 m	M12-M04D-T/F04D-T-5.0-PUR-PFN	163 004 401 4502



## M12-D Circular Connector

250V 4A

## Technical characteristics

Number of contacts	4
Rated current (40°C)	4A
Rated voltage	250V
Rated impulse voltage	2500V
Pollution degree	3
Overvoltage categorie	II
Contact resistance	≤ 10 mΩ
Connector locking system	screw M12x1
Termination	crimp, moulded
Wire gauge	0.25mm <sup>2</sup> (AWG22)
Cable outlet	-
Degree of protection	IP67
Mechanical operation	> 500
Limiting temperature	-20°C ...+60°C
Material group	II
Material of contact	copper alloy
Contact plating	Au
Insulating material	PA
Material of housing	TPU

## Cable connectors-wire jumper

## Male cable connector,Cat.5e

## Ethernet

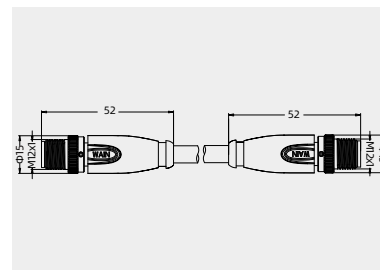


## D-Code



4pin

Contacts	Cable length	Designation	Order No.
4	1.5 m	M12-M04D-T/M04D-T-1.5-PUR-Cat.5e	163 004 401 4510
	5.0 m	M12-M04D-T/M04D-T-5.0-PUR-Cat.5e	163 004 401 4509



## Female cable connector, Cat.5e

## Ethernet

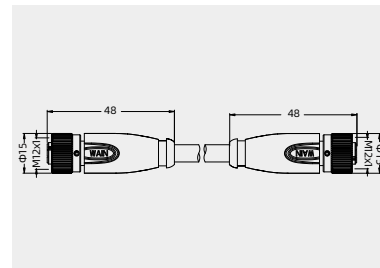


## D-Code



4pin

Contacts	Cable length	Designation	Order No.
4	1.5 m	M12-F04D-T/F04D-T-1.5-PUR-Cat.5e	163 004 402 4512
	5.0 m	M12-F04D-T/F04D-T-5.0-PUR-Cat.5e	163 004 402 4511



## Cat.5e Ethernet



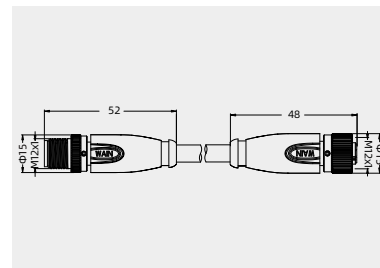
## D-Code



4pin

4pin

Contacts	Cable length	Designation	Order No.
4	1.5 m	M12-M04D-T/F04D-T-1.5-PUR-Cat.5e	163 004 400 4017
	5.0 m	M12-M04D-T/F04D-T-5.0-PUR-Cat.5e	163 004 001 4013



•Further cable length upon request, minimum order quantity is 200 pcs.

## M12-D Circular Connector

250V 4A

## Technical characteristics

Number of contacts	4
Rated current (40°C)	4A
Rated voltage	250V
Rated impulse voltage	2500V
Pollution degree	3
Overvoltage categorie	II
Contact resistance	≤ 10 mΩ
Connector locking system	screw M12x1
Termination	crimp, moulded
Wire gauge	0.25mm <sup>2</sup> (AWG22)
Cable outlet	-
Degree of protection	IP67
Mechanical operation	> 500
Limiting temperature	-20°C ...+60°C
Material group	II
Material of contact	copper alloy
Contact plating	Au
Insulating material	PA
Material of housing	TPU

## Straight cable connectors, cable

## Male cable connector, Cat.5e

## Ethernet

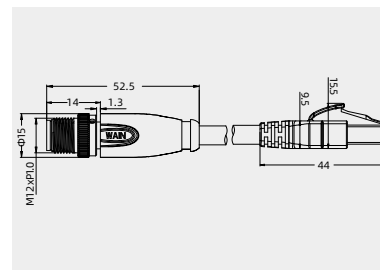


## D-Code



4pin

Contacts	Cable length	Designation	Order No.
4	1.5 m	M12-M04D-T/RJ45-1.5-PUR-Cat.5e	163 004 001 4021
	5.0 m	M12-M04D-T/RJ45-5.0-PUR-Cat.5e	163 004 001 4004



## Female cable connector, Cat.5e

## Ethernet

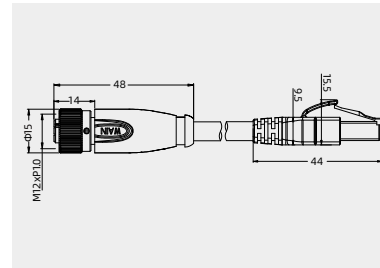


## D-Code



4pin

Contacts	Cable length	Designation	Order No.
4	1.5 m	M12-F04D-T/RJ45-1.5-PUR-Cat.5e	163 004 402 4506
	5.0 m	M12-F04D-T/RJ45-5.0-PUR-Cat.5e	163 004 402 4507

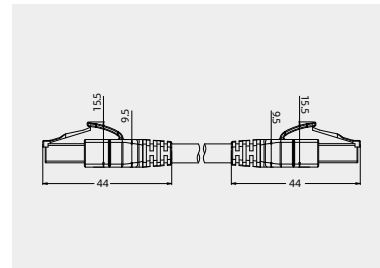


## Cat.5e Ethernet

## Ethernet, Cat.5e



Contacts	Cable length	Designation	Order No.
4	1.5 m	2RJ45-M04-T-1.5-PUR-Cat.5e	172 004 000 4002
	5.0 m	2RJ45-M04-T-5.0-PUR-Cat.5e	172 004 000 4001



## M12-D Circular Connector

60V 1A

## Technical characteristics

Number of contacts	4
Rated current (40°C)	1A
Rated voltage	60V
Rated impulse voltage	2500V
Pollution degree	3
Overvoltage categorie	II
Contact resistance	≤ 10 mΩ
Connector locking system	screw M12x1
Termination	crimp, moulded
Wire gauge	0.25mm <sup>2</sup> (AWG22)
Cable outlet	-
Degree of protection	IP67
Mechanical operation	> 100
Limiting temperature	-20°C ...+60°C
Material group	II
Material of contact	copper alloy
Contact plating	Au
Insulating material	PA
Material of housing	TPU

## Straight cable connectors, cable

## Male cable connector, PROFINET

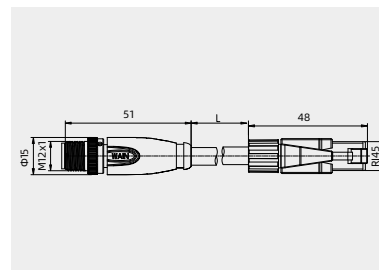


D-Code



4pin

Contacts	Cable length	Designation	Order No.
4	1.5 m	M12-M04D-T/RJ45P-T-1.5-PUR-PFN	163 004 001 4056
	5.0 m	M12-M04D-T/RJ45P-T-5.0-PUR-PFN	163 004 001 4057



## Female cable connector, PROFINET

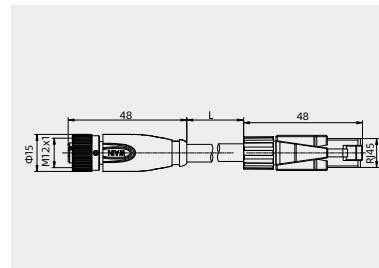


D-Code



4pin

Contacts	Cable length	Designation	Order No.
4	1.5 m	M12-F04D-T/RJ45P-T-1.5-PUR-PFN	163 004 002 4004
	5.0 m	M12-F04D-T/RJ45P-T-5.0-PUR-PFN	163 004 002 4005





### Technical characteristics

Number of contacts	4
Wire gauge mm <sup>2</sup>	2 x 2 x AWG 22
Material jacket	PUR
Insulation wire	Polyolefin
Design of wire (mm)	7 x 0,25 (AWG 22)
Cable jacket (mm)	6.7
Resistance of wire	55 Ω/Km
Temperature range (cable in move)	- 5 ° C / + 60 ° C
Temperature range (cable not in move)	- 20 ° C / + 60 ° C
Bending radius (cable in move)	min. 100 mm
Bending radius (cable not in move)	min. 35 mm
Approval	Profinet, UL 20236

## M12-D Circular Connector

250V 4A

## Technical characteristics

Number of contacts	4
Rated current (40°C)	4A
Rated voltage	250V
Rated impulse voltage	2500V
Pollution degree	3
Overvoltage categorie	II
Contact resistance	≤ 10 mΩ
Connector locking system	screw M12x1
Termination	PUR-cable
Wire gauge	AWG 22
Cable outlet	-
Degree of protection	IP67
Mechanical operation	> 100
Limiting temperature	-20°C ...+60°C
Material group	II
Material of contact	copper alloy
Contact plating	Au
Insulating material	PA
Material of housing	zinc diecasting nickel plated

## Receptacles

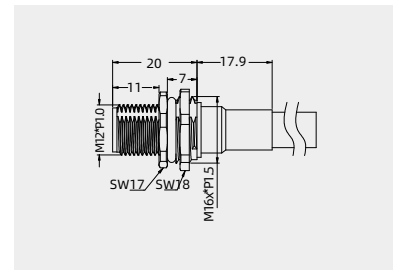
Male panel mount connector ,  
PROFINET-cable, shielded

D-Code



4pin

Contacts	Cable length	screw	Designation	Order No.
4	0.5m	PG9	M12-M04D-BK-PG9-PFN	163 004 301 4017
	0.5m	M16x1.5	M12-M04D-BK-M16-PFN	163 204 301 4022

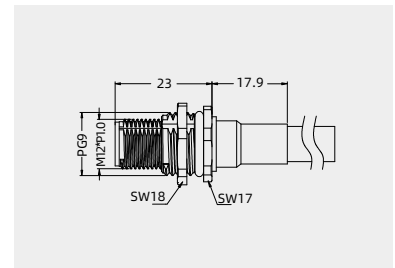
Male panel mount connector ,  
PROFINET-cable, shielded

D-Code



4pin

Contacts	Cable length	screw	Designation	Order No.
4	0.5m	PG9	M12-M04D-BKR-PG9-PFN	163 204 301 4012
	0.5m	M16x1.5	M12-M04D-BKR-M16-PFN	163 004 301 4018



## M12-D Circular Connector

250V 4A

## Technical characteristics

Number of contacts	4
Rated current (40°C)	4A
Rated voltage	250V
Rated impulse voltage	2500V
Pollution degree	3
Overvoltage categorie	II
Contact resistance	≤ 10 mΩ
Connector locking system	screw M12x1
Termination	PUR-cable
Wire gauge	AWG 22
Cable outlet	-
Degree of protection	IP67
Mechanical operation	> 100
Limiting temperature	-20°C ...+60°C
Material group	II
Material of contact	copper alloy
Contact plating	Au
Insulating material	PA
Material of housing	zinc diecasting nickel plated

## Receptacles

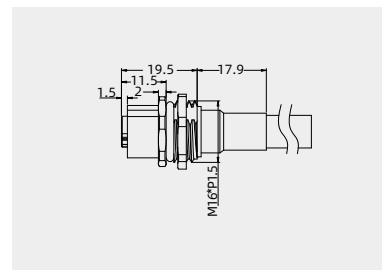
Female panel mount connector ,  
PROFINET-cable, shielded

D-Code



4pin

Contacts	Cable length	screw	Designation	Order No.
4	0.5m	PG9	M12-F04D-BK-PG9-PFN	163 004 302 4022
	0.5m	M16x1.5	M12-F04D-BK-M16-PFN	163 204 302 4022

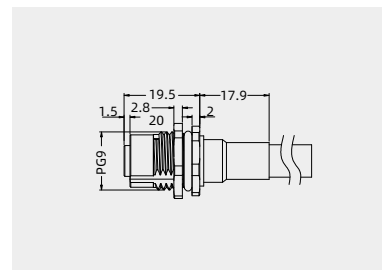
Female panel mount connector ,  
PROFINET-cable, shielded

D-Code



4pin

Contacts	Cable length	screw	Designation	Order No.
4	0.5m	PG9	M12-F04D-BKR-PG9-PFN	163 204 302 4012
	0.5m	M16x1.5	M12-F04D-BKR-M16-PFN	163 004 302 4023



M12-D

## M12-D Circular Connector

250V 4A

## Technical characteristics

Number of contacts	4
Rated current (40°C)	4A
Rated voltage	250V
Rated impulse voltage	2500V
Pollution degree	3
Overvoltage categorie	II
Contact resistance	≤ 10 mΩ
Connector locking system	screw M12x1
Termination	single wires
Wire gauge	max.0.75mm <sup>2</sup> (AWG18)
Cable outlet	-
Degree of protection	IP67
Mechanical operation	> 100
Limiting temperature	-40°C ...+85°C
Material group	II
Material of contact	copper alloy
Contact plating	Au
Insulating material	PA
Material of housing	zinc diecasting nickel plated

## Receptacles

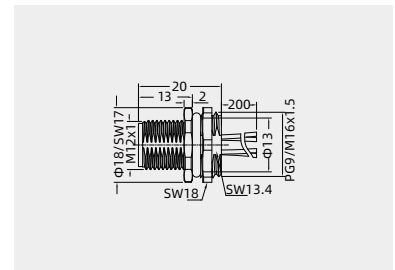
Male panel mount connector  
with single wires,0.25mm<sup>2</sup>

D-Code



4pin

Contacts	Cable length	screw	Designation	Order No.
4	0.5m	PG9	M12-M04D-BK-PG9-W0.25	163 004 301 4003
	0.5m	M16x1.5	M12-M04D-BK-M16-W0.25	163 204 301 4021

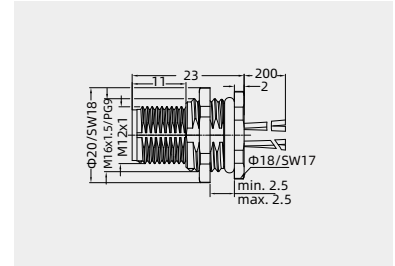
Male panel mount connector  
with single wires,0.25mm<sup>2</sup>

D-Code



4pin

Contacts	Cable length	screw	Designation	Order No.
4	0.5m	PG9	M12-M04D-BKR-PG9-W0.25	163 004 301 4014
	0.5m	M16x1.5	M12-M04D-BKR-M16-W0.25	163 004 301 4016



## M12-D Circular Connector

250V 4A

## Technical characteristics

Number of contacts	4
Rated current (40°C)	4A
Rated voltage	250V
Rated impulse voltage	2500V
Pollution degree	3
Overvoltage categorie	II
Contact resistance	≤ 10 mΩ
Connector locking system	screw M12x1
Termination	dip solder
Wire gauge	-
Cable outlet	-
Degree of protection	IP67
Mechanical operation	> 100
Limiting temperature	-40°C ...+85°C
Material group	II
Material of contact	copper alloy
Contact plating	Au
Insulating material	PA
Material of housing	zinc diecasting nickel plated

## Socket

## Male panel mount connector, solder

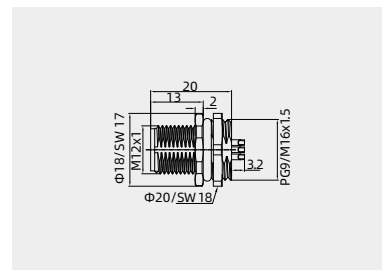


D-Code



4pin

Contacts	screw	Designation	Order No.
4	PG9	M12-M04D-BK-PG9-C	163 004 301 1006
	M16x1.5	M12-M04D-BK-M16-C	163 004 301 1007



## Male panel mount connector, dip solder

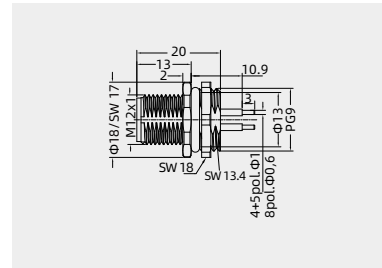


D-Code



4pin

Contacts	screw	Designation	Order No.
4	PG9	M12-M04D-BK-PG9-D	163 004 314 1005
	M16x1.5	M12-M04D-BK-M16-D	163 004 314 1006



## Male panel mount connector, dip solder

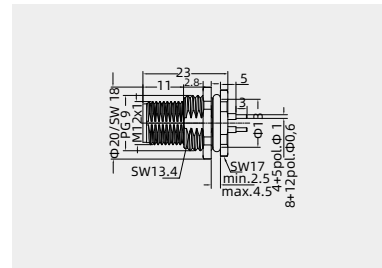


D-Code



4pin

Contacts	screw	Designation	Order No.
4	PG9	M12-M04D-BKR-PG9-D	163 004 314 1007
	M16x1.5	M12-M04D-BKR-M16-D	163 004 314 1008



## M12-D Circular Connector

250V 4A

## Technical characteristics

Number of contacts	4
Rated current (40°C)	4A
Rated voltage	250V
Rated impulse voltage	2500V
Pollution degree	3
Overvoltage categorie	II
Contact resistance	≤ 10 mΩ
Connector locking system	screw M12x1
Termination	single wires
Wire gauge	max.0.75mm <sup>2</sup> (AWG18)
Cable outlet	-
Degree of protection	IP67
Mechanical operation	> 100
Limiting temperature	-40°C ...+85°C
Material group	II
Material of contact	copper alloy
Contact plating	Au
Insulating material	PA
Material of housing	zinc diecasting nickel plated

## Receptacles

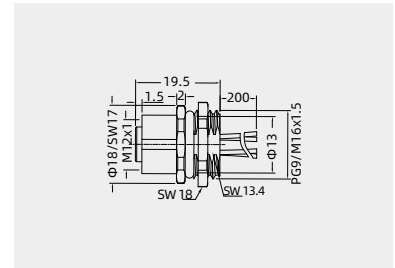
Female panel mount connector  
with single wires,0.25mm<sup>2</sup>

D-Code



4pin

Contacts	screw	Designation	Order No.
4	PG9	M12-F04D-BK-PG9-W0.25	163 204 302 4001
	M16x1.5	M12-F04D-BK-M16-W0.25	163 204 302 4021

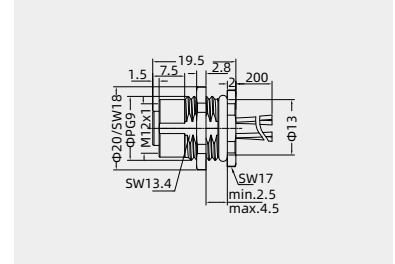
Female panel mount connector  
with single wires,0.25mm<sup>2</sup>

D-Code



4pin

Contacts	screw	Designation	Order No.
4	PG9	M12-F04D-BKR-PG9-W0.25	163 204 302 4011
	M16x1.5	M12-F04D-BKR-M16-W0.25	163 204 302 4031



## M12-D Circular Connector

250V 4A

## Technical characteristics

Number of contacts	4
Rated current (40°C)	4A
Rated voltage	250V
Rated impulse voltage	2500V
Pollution degree	3
Overvoltage categorie	II
Contact resistance	≤ 10 mΩ
Connector locking system	screw M12x1
Termination	dip solder
Wire gauge	-
Cable outlet	-
Degree of protection	IP67
Mechanical operation	> 100
Limiting temperature	-40°C ...+85°C
Material group	II
Material of contact	copper alloy
Contact plating	Au
Insulating material	PA
Material of housing	zinc diecasting nickel plated

## Receptacles

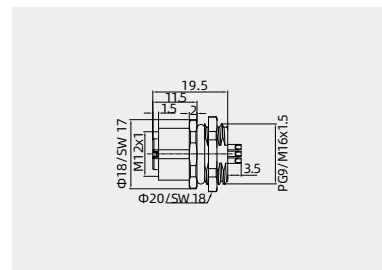
Female panel mount connector,  
solder

D-Code



4pin

Contacts	screw	Designation	Order No.
4	PG9	M12-F04D-BK-PG9-C	163 204 324 1002
	M16x1.5	M12-F04D-BK-M16-C	163 004 302 1006

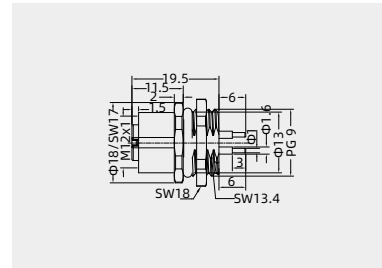
Female panel mount connector,  
dip solder

D-Code



4pin

Contacts	screw	Designation	Order No.
4	PG9	M12-F04D-BK-PG9-D	163 204 324 1001

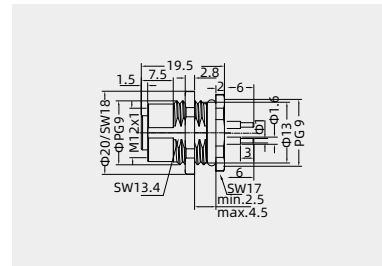
Female panel mount connector,  
dip solder

D-Code



4pin

Contacts	screw	Designation	Order No.
4	PG9	M12-F04D-BKR-PG9-D	163 204 324 1011



M12-D

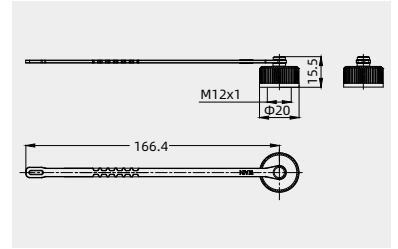
Accessories

Protection cap IP67

Protection cover  
for male cable connector



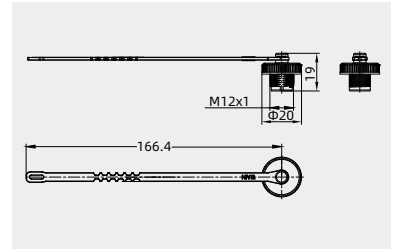
Description	Designation	Order No.
Without cord	M12-MCV	163 000 001 9003
With cord	M12-MCV/1	163 000 001 9001



Protection cover  
for female cable connector



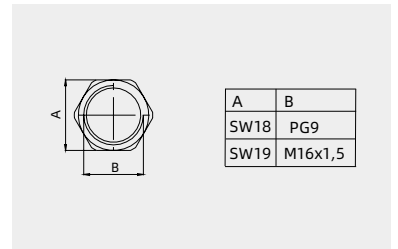
Description	Designation	Order No.
Without cord	M12-FCV	163 000 002 9003
With cord	M12-FCV/1	163 000 002 9001



Hexagonal nut for fixing thread



screw	Designation	Order No.
PG9	WNA-PG9/S	102 105 002 1101
M16X1.5	WNA-M16/S	102 105 013 1101



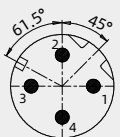


Contact arrangements

• Contact arrangements

• Male insert (mating side)

4contacts



	X	Y	PROFINET	cat.5e
1	2.50	0.00	1 yellow	1 Orange white
2	0.00	2.50	2 white	2 Green and white
3	-2.50	0.00	3 orange	3 Orange
4	0.00	-2.50	4 blue	4 green

• Female insert (mating side)

4contacts

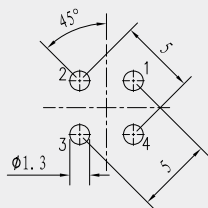


	X	Y	PROFINET	cat.5e
1	-2.50	0.00	1 yellow	1 Orange white
2	0.00	2.50	2 white	2 Green and white
3	2.50	0.00	3 orange	3 Orange
4	0.00	-2.50	4 blue	4 green

• Panel cut out

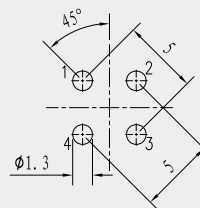
• Drilling schemes male insert (PCB), receptacles

4contacts



• Drilling schemes female insert (PCB), receptacles

4contacts



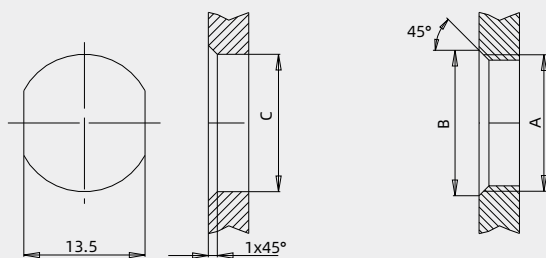
# M12-D Circular Connector

## • Panel cut out

### • Panel mount connectors

#### • Through-hole mounting

#### • Screw mounting

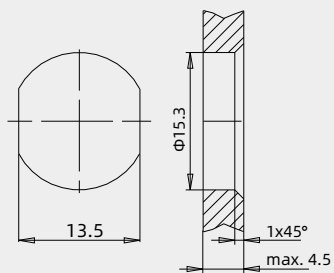


	A	B	C
PG9	PG9	16.2	15.3
PG13.5	PG13.5	21.5	20.5
M16x1.5	M16x1.5	17.0	16.1
M20x1.5	M20x1.5	21.0	20.1

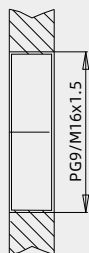
Tightening torque according to DIN VDE 0619  
 Metal housing 6.25 Nm  
 Plastic housing 3.75 Nm

### • Panel mount connectors Rear panel mounting, front tighten

#### • Through-hole mounting



### • Panel mount connectors front tighten



Tightening torque 6.25 Nm



M12-D

## M12 Circular Connector,S-coded



- [Cable Connector](#)
- crimp terminal
- Installable series and cast cable series
- M12 locking according to DIN EN 61076-2-111
- Cable length 1.5m and 5m
- Other cable length upon request, minimum order quantity 200 pieces
- Cable material can be customized according to requirements
- Protection grade IP67
- Assembled installation angle with 4 adjustable directions

## M12-S Circular Connector

630V 12A

## Technical characteristics

Number of contacts	4-pole
Rated current (40°C)	12A
Rated voltage	630V
Rated impulse voltage	6kV
Pollution degree	3
Contact resistance	≤ 3 mΩ
Connector locking system	screw M12x1
Termination	crimp
Wire gauge	max.1.5mm <sup>2</sup> (max.AWG16)
Cable outlet	4-6,6-8 mm
Degree of protection	IP67
Mechanical operation	≥ 500
Limiting temperature	-25°C ...+85°C
Material group	III
Material of contact	copper alloy
Contact plating	Au
Insulating material	PA
Material of housing	PA/PBT

## Straight cable connectors

## Male cable connector

crimp terminal,

Order crimp contacts separately

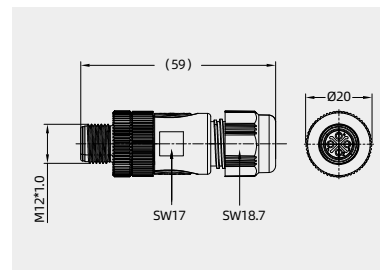


S-Code



4pin

Contacts	Cable outlet	Designation	Order No.
4(3+PE)	4-6 mm	M12-MC04S-T-D6	163 004 410 3501
	6-8 mm	M12-MC04S-T-D8	163 004 410 3500



## Female cable connector

crimp terminal,

Order crimp contacts separately

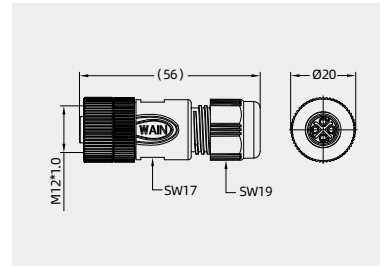


S-Code



4pin

Contacts	Cable outlet	Designation	Order No.
4(3+PE)	4-6 mm	M12-FC04S-T-D6	163 004 420 3501
	6-8 mm	M12-FC04S-T-D8	163 004 420 3500



## Crimp contacts

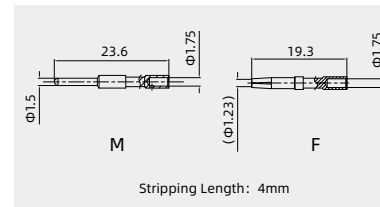
## Crimp contacts 12A

Contact resistance ≤ 3mΩ  
gold plated

Wire gauge(mm <sup>2</sup> )	Male	Order No.
0.14-1.5	M12-MC12G-1.5	101 036 210 0950

Wire gauge(mm <sup>2</sup> )	Female	Order No.
0.14-1.5	M12-FC12G-1.5	101 036 220 0950



## Tools

Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## M12-S Circular Connector

630V 12A

## Technical characteristics

Number of contacts	4-pole
Rated current (40°C)	12A
Rated voltage	630V
Rated impulse voltage	6kV
Pollution degree	3
Contact resistance	≤ 3 mΩ
Connector locking system	screw M12x1
Termination	crimp
Wire gauge	max.1.5mm <sup>2</sup> (max.AWG16)
Cable outlet	4-6,6-8 mm
Degree of protection	IP67
Mechanical operation	≥ 500
Limiting temperature	-25°C ...+85°C
Material group	III
Material of contact	copper alloy
Contact plating	Au
Insulating material	PA
Material of housing	PA/PBT

## Angled cable connectors

## Male cable connector

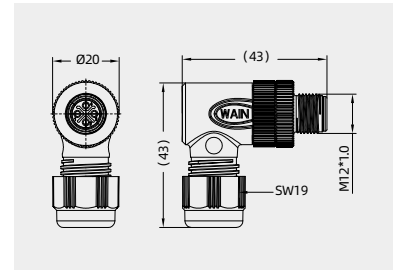
crimp terminal,

Order crimp contacts separately



S-Code  
  
 4pin

Contacts	Cable outlet	Designation	Order No.
4(3+PE)	4-6 mm	M12-MC04S-S-D6	163 004 510 3501
	6-8 mm	M12-MC04S-S-D8	163 004 510 3500



## Female cable connector

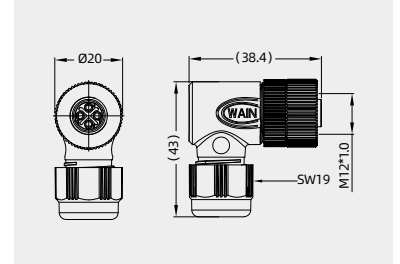
crimp terminal,

Order crimp contacts separately



S-Code  
  
 4pin

Contacts	Cable outlet	Designation	Order No.
4(3+PE)	4-6 mm	M12-FC04S-S-D6	163 004 520 3501
	6-8 mm	M12-FC04S-S-D8	163 004 520 3500



## Crimp contacts

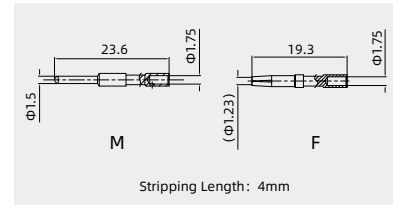
## Crimp contacts 12A

Contact resistance ≤ 3mΩ  
gold plated

Wire gauge(mm <sup>2</sup> )	Male	Order No.
0.14-1.5	M12-MC12G-1.5	101 036 210 0950

Wire gauge(mm <sup>2</sup> )	Female	Order No.
0.14-1.5	M12-FC12G-1.5	101 036 220 0950



## Tools



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## M12-S Circular Connector

630V 16/12A

## Technical characteristics

Number of contacts	3-pole	4-pole
Rated current (40°C)	16A	12A
Rated voltage	630V	630V
Rated impulse voltage	6kV	6kV
Pollution degree	3	3
Contact resistance	≤ 3 mΩ	≤ 3 mΩ
Connector locking system	screw M12x1	screw M12x1
Termination	crimp, moulded	crimp, moulded
Wire gauge	max.2.5mm <sup>2</sup> (max.AWG14)	max.1.5mm <sup>2</sup> (max.AWG16)
Cable outlet	-	-
Degree of protection	IP67	IP67
Mechanical operation	> 100	> 100
Limiting temperature	-25°C ...+85°C	-25°C ...+85°C
Material group	II	II
Material of contact	copper alloy	copper alloy
Contact plating	Au	Au
Insulating material	PA	PA
Material of housing	TPU	TPU

## Straight cable connectors, cable

## Male cable connector moulded, screw



Contacts	Cable	Cable length	Designation	Order No.
3(2+PE)	3x1.5PVC	1.5 m	M12-M03S-T-1.5-PVC	163 003 410 4501
		5.0 m	M12-M03S-T-5.0-PVC	163 003 410 4502
	3x1.5PUR	1.5 m	M12-M03S-T-1.5-PUR	163 003 410 4500
		5.0 m	M12-M03S-T-5.0-PUR	163 003 410 4503
4(3+PE)	4x1.5PVC	1.5 m	M12-M04S-T-1.5-PVC	163 004 410 4504
		5.0 m	M12-M04S-T-5.0-PVC	163 004 410 4505
	4x1.5PUR	1.5 m	M12-M04S-T-1.5-PUR	163 004 410 4503
		5.0 m	M12-M04S-T-5.0-PUR	163 004 410 4506

## S-Code

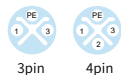


## Female cable connector moulded, screw

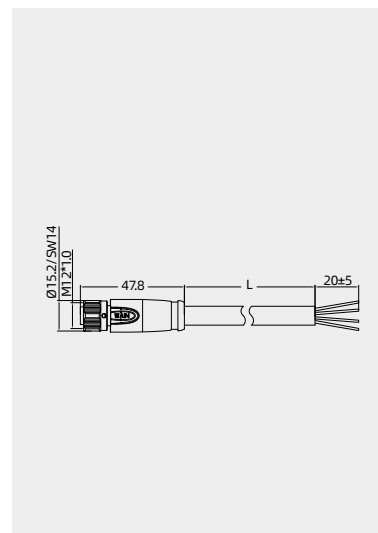
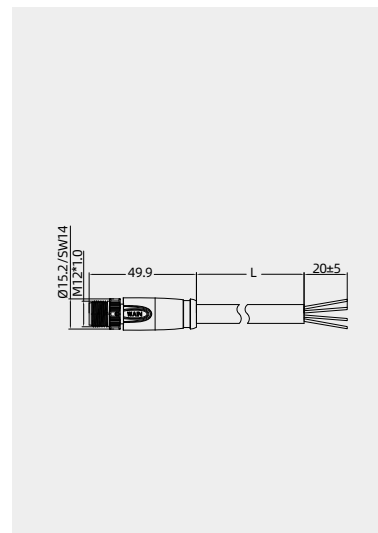


Contacts	Cable	Cable length	Designation	Order No.
3(2+PE)	3x1.5PVC	1.5 m	M12-F03S-T-1.5-PVC	163 003 420 4502
		5.0 m	M12-F03S-T-5.0-PVC	163 003 420 4504
	3x1.5PUR	1.5 m	M12-F03S-T-1.5-PUR	163 003 420 4501
		5.0 m	M12-F03S-T-5.0-PUR	163 003 420 4503
4(3+PE)	4x1.5PVC	1.5 m	M12-F04S-T-1.5-PVC	163 004 420 4501
		5.0 m	M12-F04S-T-5.0-PVC	163 004 420 4504
	4x1.5PUR	1.5 m	M12-F04S-T-1.5-PUR	163 004 420 4500
		5.0 m	M12-F04S-T-5.0-PUR	163 004 420 4503

## S-Code



•Further cable length upon request.



## M12-S Circular Connector

630V 16/12A

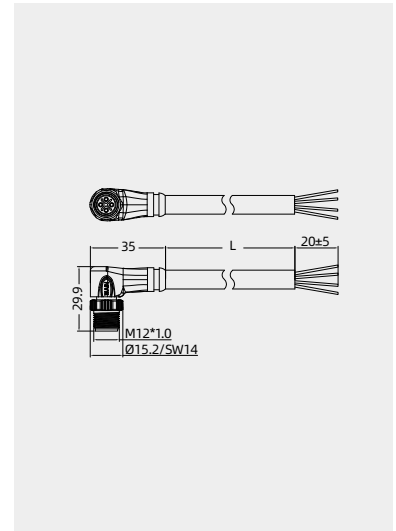
## Technical characteristics

Number of contacts	3-pole	4-pole
Rated current (40°C)	16A	12A
Rated voltage	630V	630V
Rated impulse voltage	6kV	6kV
Pollution degree	3	3
Contact resistance	≤ 3 mΩ	≤ 3 mΩ
Connector locking system	screw M12x1	screw M12x1
Termination	crimp, moulded	crimp, moulded
Wire gauge	max.2.5mm <sup>2</sup> (max.AWG14)	max.1.5mm <sup>2</sup> (max.AWG16)
Cable outlet	-	-
Degree of protection	IP67	IP67
Mechanical operation	> 100	> 100
Limiting temperature	-25°C ...+85°C	-25°C ...+85°C
Material group	II	II
Material of contact	copper alloy	copper alloy
Contact plating	Au	Au
Insulating material	PA	PA
Material of housing	TPU	TPU

## Angled cable connectors, cable

Male angled connector moulded,  
screw

Contacts	Cable	Cable length	Designation	Order No.
3(2+PE)	3x1.5PVC	1.5 m	M12-M03S-S-1.5-PVC	163 003 510 4501
		5.0 m	M12-M03S-S-5.0-PVC	163 003 510 4502
	3x1.5PUR	1.5 m	M12-M03S-S-1.5-PUR	163 003 510 4500
		5.0 m	M12-M03S-S-5.0-PUR	163 003 510 4503
4(3+PE)	4x1.5PVC	1.5 m	M12-M04S-S-1.5-PVC	163 004 510 4501
		5.0 m	M12-M04S-S-5.0-PVC	163 004 510 4502
	4x1.5PUR	1.5 m	M12-M04S-S-1.5-PUR	163 004 510 4500
		5.0 m	M12-M04S-S-5.0-PUR	163 004 510 4503



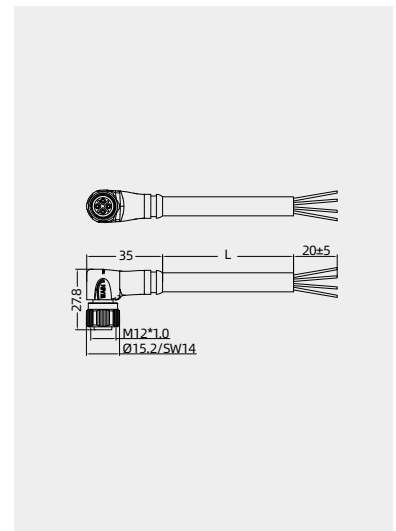
S-Code



3pin 4pin

Female angled connector moulded,  
screw

Contacts	Cable	Cable length	Designation	Order No.
3(2+PE)	3x1.5PVC	1.5 m	M12-F03S-S-1.5-PVC	163 003 520 4501
		5.0 m	M12-F03S-S-5.0-PVC	163 003 520 4503
	3x1.5PUR	1.5 m	M12-F03S-S-1.5-PUR	163 003 520 4500
		5.0 m	M12-F03S-S-5.0-PUR	163 003 520 4502
4(3+PE)	4x1.5PVC	1.5 m	M12-F04S-S-1.5-PVC	163 004 520 4501
		5.0 m	M12-F04S-S-5.0-PVC	163 004 520 4503
	4x1.5PUR	1.5 m	M12-F04S-S-1.5-PUR	163 003 520 4500
		5.0 m	M12-F04S-S-5.0-PUR	163 003 520 4502



S-Code



3pin 4pin

\*Further cable length upon request.



## M12-S Circular Connector

630V 16/12A

## Technical characteristics

Number of contacts	3-pole	4-pole
Rated current (40°C)	16A	12A
Rated voltage	630V	630V
Rated impulse voltage	6kV	6kV
Pollution degree	3	3
Contact resistance	≤ 3 mΩ	≤ 3 mΩ
Connector locking system	screw M12x1	screw M12x1
Termination	single-strand wires	single-strand wires
Wire gauge	max.2.5mm <sup>2</sup> (max.AWG14)	max.1.5mm <sup>2</sup> (max.AWG16)
Cable outlet	-	-
Degree of protection	IP67	IP67
Mechanical operation	> 100	> 100
Limiting temperature	-25°C ...+85°C	-25°C ...+85°C
Material group	II	II
Material of contact	copper alloy	copper alloy
Contact plating	Au	Au
Insulating material	PA	PA
Material of housing	zinc diecasting nickel plated	zinc diecasting nickel plated

## Socket

Male panel mount connector  
with single wires, 1.5mm<sup>2</sup>  
length 0.2m



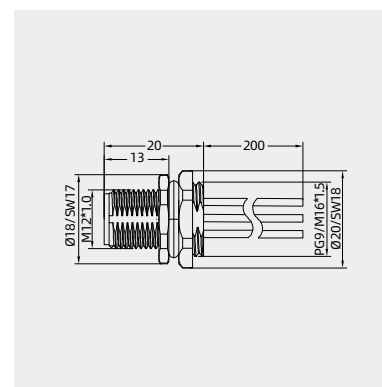
## S-Code



3pin 4pin

Contacts	screw	Designation	Order No.
3(2+PE)	PG9	M12-M03S-BK-PG9-W1.5	163 003 310 4502
	M16x1.5	M12-M03S-BK-M16-W1.5	163 003 310 4503
4(3+PE)	PG9	M12-M04S-BK-PG9-W1.5	163 004 310 4500
	M16x1.5	M12-M04S-BK-M16-W1.5	163 004 310 4501

Customized cable length upon request



Female panel mount connector  
with single wires, 1.5mm<sup>2</sup>  
length 0.2m



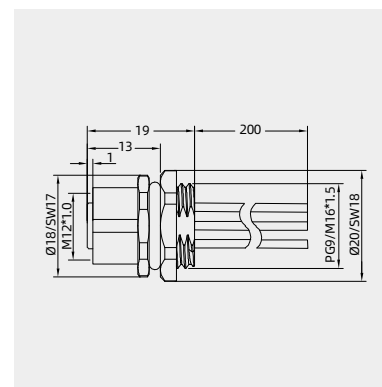
## S-Code



3pin 4pin

Contacts	screw	Designation	Order No.
3(2+PE)	PG9	M12-F03S-BK-PG9-W1.5	163 003 320 4500
	M16x1.5	M12-F03S-BK-M16-W1.5	163 003 320 4501
4(3+PE)	PG9	M12-F04S-BK-PG9-W1.5	163 004 320 4501
	M16x1.5	M12-F04S-BK-M16-W1.5	163 004 320 4502

Customized cable length upon request



## M12-S Circular Connector

630V 16/12A

## Technical characteristics

Number of contacts	3-pole	4-pole
Rated current (40°C)	16A	12A
Rated voltage	630V	630V
Rated impulse voltage	6kV	6kV
Pollution degree	3	3
Contact resistance	≤ 3 mΩ	≤ 3 mΩ
Connector locking system	screw	screw
Termination	solder	solder
Wire gauge	max.2.5mm <sup>2</sup> (max.AWG14)	max.1.5mm <sup>2</sup> (max.AWG16)
Cable outlet	-	-
Degree of protection	IP67	IP67
Mechanical operation	> 100	> 100
Limiting temperature	-25°C ...+85°C	-25°C ...+85°C
Material group	II	II
Material of contact	copper alloy	copper alloy
Contact plating	Au	Au
Insulating material	PA	PA
Material of housing	zinc diecasting nickel plated	zinc diecasting nickel plated

## Socket

## Male panel mount connector, solder

PG9/M16x1.5

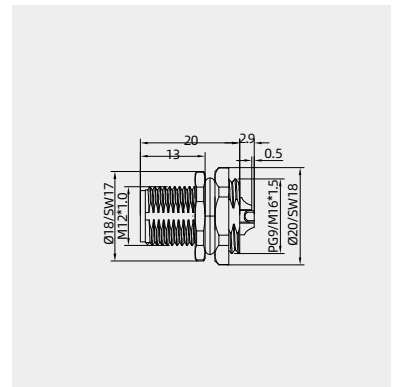


Contacts	screw	Designation	Order No.
3(2+PE)	PG9	M12-M03S-BK-PG9-C	163 003 313 2500
	M16x1.5	M12-M03S-BK-M16-C	163 003 313 2501
4(3+PE)	PG9	M12-M04S-BK-PG9-C	163 004 313 2500
	M16x1.5	M12-M04S-BK-M16-C	163 004 313 2501

## S-Code



3pin 4pin



## Female panel mount connector, solder

PG9/M16x1.5

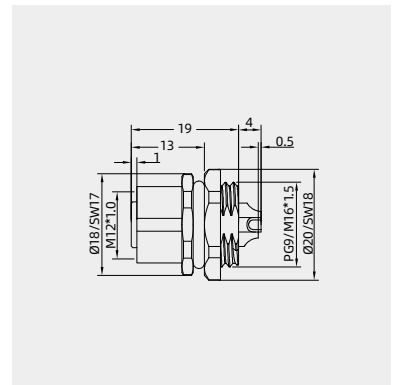


Contacts	screw	Designation	Order No.
3(2+PE)	PG9	M12-F03S-BK-PG9-C	163 003 323 2500
	M16x1.5	M12-F03S-BK-M16-C	163 003 323 2501
4(3+PE)	PG9	M12-F04S-BK-PG9-C	163 004 323 2500
	M16x1.5	M12-F04S-BK-M16-C	163 004 323 2501

## S-Code



3pin 4pin



## M12-S Circular Connector

630V 16/12A

## Technical characteristics

Number of contacts	3-pole	4-pole
Rated current (40°C)	16A	12A
Rated voltage	630V	630V
Rated impulse voltage	6kV	6kV
Pollution degree	3	3
Contact resistance	≤ 3 mΩ	≤ 3 mΩ
Connector locking system	screw	screw
Termination	dip solder	dip solder
Wire gauge	max.2.5mm <sup>2</sup> (max.AWG14)	max.1.5mm <sup>2</sup> (max.AWG16)
Cable outlet	-	-
Degree of protection	IP67	IP67
Mechanical operation	> 100	> 100
Limiting temperature	-25°C ...+85°C	-25°C ...+85°C
Material group	II	II
Material of contact	copper alloy	copper alloy
Contact plating	Au	Au
Insulating material	PA	PA
Material of housing	zinc diecasting nickel plated	zinc diecasting nickel plated

## Socket

Male panel mount connector, dip solder

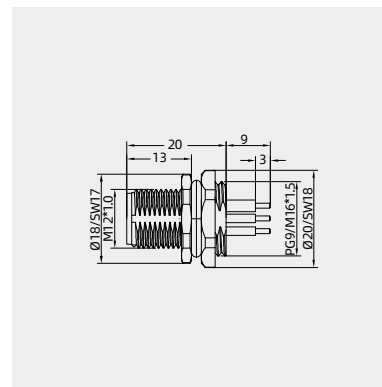


S-Code



3pin 4pin

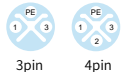
Contacts	screw	Designation	Order No.
3(2+PE)	PG9	M12-M03S-BK-PG9-D	163 003 314 2500
	M16x1.5	M12-M03S-BK-M16-D	163 003 314 2501
4(3+PE)	PG9	M12-M04S-BK-PG9-D	163 004 314 2500
	M16x1.5	M12-M04S-BK-M16-D	163 004 314 2501



Female panel mount connector, dip solder

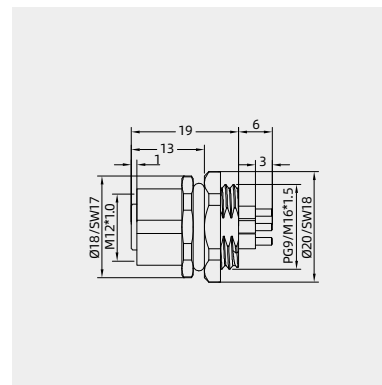


S-Code



3pin 4pin

Contacts	screw	Designation	Order No.
3(2+PE)	PG9	M12-F03S-BK-PG9-D	163 003 324 2500
	M16x1.5	M12-F03S-BK-M16-D	163 003 324 2501
4(3+PE)	PG9	M12-F04S-BK-PG9-D	163 004 324 2500
	M16x1.5	M12-F04S-BK-M16-D	163 004 324 2501



M12-S

## M12-S Circular Connector

630V 16/12A

## Technical characteristics

Number of contacts	3-pole	4-pole
Rated current (40°C)	16A	12A
Rated voltage	630V	630V
Rated impulse voltage	6kV	6kV
Pollution degree	3	3
Contact resistance	≤ 3 mΩ	≤ 3 mΩ
Connector locking system	screw M12x1	screw M12x1
Termination	single-strand wires	single-strand wires
Wire gauge	max.2.5mm <sup>2</sup> (max.AWG14)	max.1.5mm <sup>2</sup> (max.AWG16)
Cable outlet	-	-
Degree of protection	IP67	IP67
Mechanical operation	> 100	> 100
Limiting temperature	-25°C ...+85°C	-25°C ...+85°C
Material group	II	II
Material of contact	copper alloy	copper alloy
Contact plating	Au	Au
Insulating material	PA	PA
Material of housing	zinc diecasting nickel plated	zinc diecasting nickel plated

## Socket

Male panel mount connector,  
front fastened, with single wires,  
1.5mm<sup>2</sup>/length 0.2m



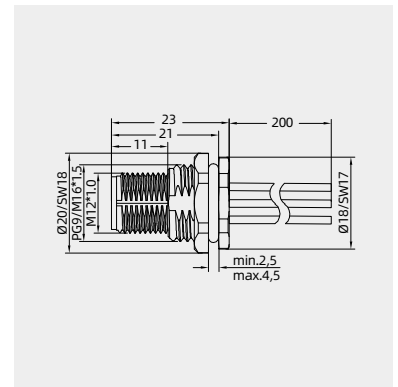
## S-Code



3pin 4pin

Contacts	screw	Designation	Order No.
3(2+PE)	PG9	M12-M03S-BKR-PG9-W1.5	163 003 310 4504
	M16x1.5	M12-M03S-BKR-M16-W1.5	163 003 310 4505
4(3+PE)	PG9	M12-M04S-BKR-PG9-W1.5	163 004 310 4502
	M16x1.5	M12-M04S-BKR-M16-W1.5	163 004 310 4503

Customized cable length upon request



Female panel mount connector,  
front fastened, with single wires,  
1.5mm<sup>2</sup>/length 0.2m



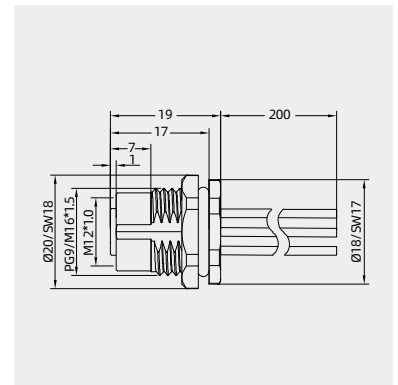
## S-Code



3pin 4pin

Contacts	screw	Designation	Order No.
3(2+PE)	PG9	M12-F03S-BKR-PG9-W1.5	163 003 320 4502
	M16x1.5	M12-F03S-BKR-M16-W1.5	163 003 320 4503
4(3+PE)	PG9	M12-F04S-BKR-PG9-W1.5	163 004 320 4503
	M16x1.5	M12-F04S-BKR-M16-W1.5	163 004 320 4504

Customized cable length upon request



## M12-S Circular Connector

630V 16/12A

## Technical characteristics

Number of contacts	3-pole	4-pole
Rated current (40°C)	16A	12A
Rated voltage	630V	630V
Rated impulse voltage	6kV	6kV
Pollution degree	3	3
Contact resistance	≤ 3 mΩ	≤ 3 mΩ
Connector locking system	screw	screw
Termination	solder	solder
Wire gauge	max.2.5mm <sup>2</sup> (max.AWG14)	max.1.5mm <sup>2</sup> (max.AWG16)
Cable outlet	-	-
Degree of protection	IP67	IP67
Mechanical operation	> 100	> 100
Limiting temperature	-25°C ...+85°C	-25°C ...+85°C
Material group	II	II
Material of contact	copper alloy	copper alloy
Contact plating	Au	Au
Insulating material	PA	PA
Material of housing	zinc diecasting nickel plated	zinc diecasting nickel plated

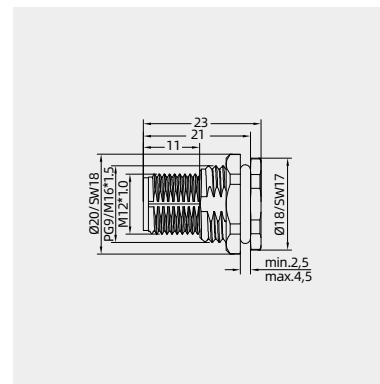
## Socket

Male panel mount connector, solder

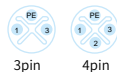
PG9/M16x1.5, front fastened



Contacts	screw	Designation	Order No.
3(2+PE)	PG9	M12-M03S-BKR-PG9-C	163 003 313 2502
	M16x1.5	M12-M03S-BKR-M16-C	163 003 313 2503
4(3+PE)	PG9	M12-M04S-BKR-PG9-C	163 004 313 2502
	M16x1.5	M12-M04S-BKR-M16-C	163 004 313 2503



S-Code



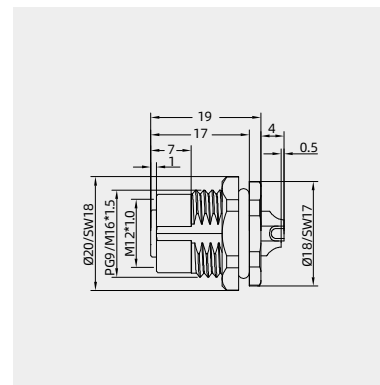
3pin 4pin

Female panel mount connector, solder

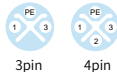
PG9/M16x1.5, front fastened



Contacts	screw	Designation	Order No.
3(2+PE)	PG9	M12-F03S-BKR-PG9-C	163 003 323 2502
	M16x1.5	M12-F03S-BKR-M16-C	163 003 323 2503
4(3+PE)	PG9	M12-F04S-BKR-PG9-C	163 004 323 2502
	M16x1.5	M12-F04S-BKR-M16-C	163 004 323 2503



S-Code



3pin 4pin

M12-S

## M12-S Circular Connector

630V 16/12A

## Technical characteristics

Number of contacts	3-pole	4-pole
Rated current (40°C)	16A	12A
Rated voltage	630V	630V
Rated impulse voltage	6kV	6kV
Pollution degree	3	3
Contact resistance	≤ 3 mΩ	≤ 3 mΩ
Connector locking system	screw	screw
Termination	dip solder	dip solder
Wire gauge	max.2.5mm <sup>2</sup> (max.AWG14)	max.1.5mm <sup>2</sup> (max.AWG16)
Cable outlet	-	-
Degree of protection	IP67	IP67
Mechanical operation	> 100	> 100
Limiting temperature	-25°C ...+85°C	-25°C ...+85°C
Material group	II	II
Material of contact	copper alloy	copper alloy
Contact plating	Au	Au
Insulating material	PA	PA
Material of housing	zinc diecasting nickel plated	zinc diecasting nickel plated

## Socket

Male panel mount connector, dip solder, front fastened

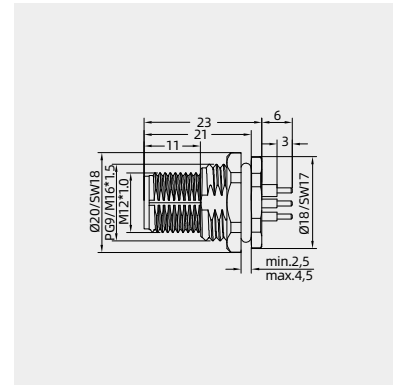


S-Code



3pin 4pin

Contacts	screw	Designation	Order No.
3(2+PE)	PG9	M12-M03S-BKR-PG9-D	163 003 314 2502
	M16x1.5	M12-M03S-BKR-M16-D	163 003 314 2503
4(3+PE)	PG9	M12-M04S-BKR-PG9-D	163 004 314 2502
	M16x1.5	M12-M04S-BKR-M16-D	163 004 314 2503



Female panel mount connector, dip solder, front fastened

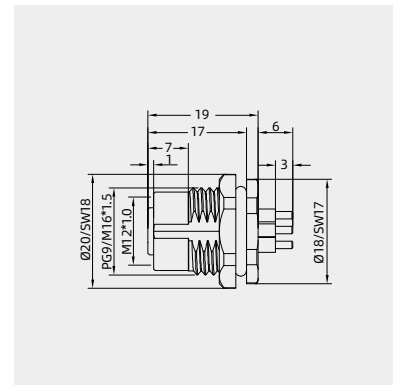


S-Code



3pin 4pin

Contacts	screw	Designation	Order No.
3(2+PE)	PG9	M12-F03S-BKR-PG9-D	163 003 324 2502
	M16x1.5	M12-F03S-BKR-M16-D	163 003 324 2503
4(3+PE)	PG9	M12-F04S-BKR-PG9-D	163 004 324 2502
	M16x1.5	M12-F04S-BKR-M16-D	163 004 324 2503



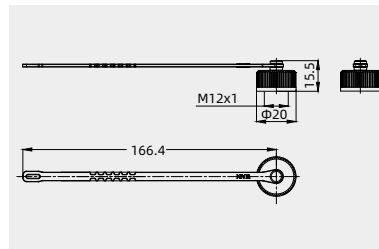
Accessories

Protection covers IP67

Protection cover  
for male cable connector



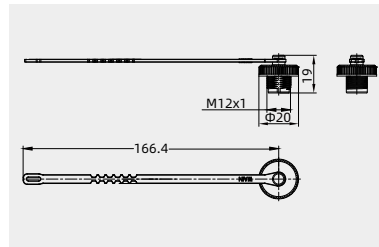
Description	Designation	Order No.
Without cord	M12-MCV	163 000 001 9003
With cord	M12-MCV/1	163 000 001 9001



Protection cover  
for female cable connector



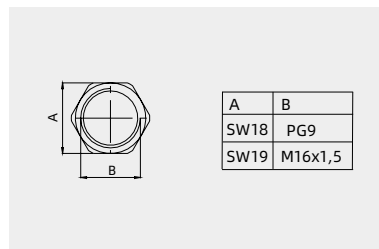
Description	Designation	Order No.
Without cord	M12-FCV	163 000 002 9003
With cord	M12-FCV/1	163 000 002 9001



Hexagonal nut for fixing thread



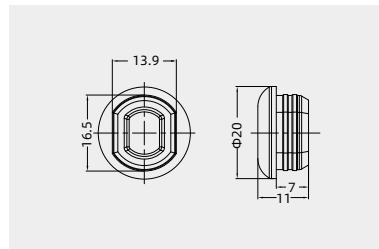
screw	Designation	Order No.
PG9	WNA-PG9/S	102 105 002 1101
M16x1.5	WNA-M16/S	102 105 013 1101



Protection covers, for flange  
mount panel



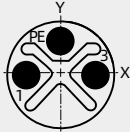
Description	Designation	Order No.
Dust-proof	M12-WNPP-M16/BK	163 000 000 9001



• Contact arrangements

• Male insert (mating side)

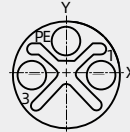
3 contacts



	X	Y	
1	-2.55	0.00	1. brown
3	2.55	0.00	2. blue
PE	0.00	2.55	PE. yellow green

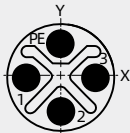
• Female insert (mating side)

3 contacts



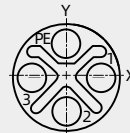
	X	Y	
1	2.55	0.00	1. brown
3	-2.55	0.00	2. blue
PE	0.00	2.55	PE. yellow green

4 contacts



	X	Y	
1	-2.55	0.00	1. brown
2	0.00	-2.55	2. white
3	2.55	0.00	3. blue
PE	0.00	2.55	PE. yellow green

4 contacts



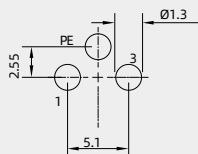
	X	Y	
1	2.55	0.00	1. brown
2	0.00	-2.55	2. white
3	-2.55	0.00	3. blue
PE	0.00	2.55	PE. yellow green



• Panel cut out

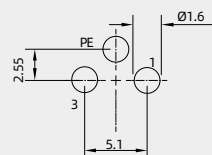
- Opening hole drawing male insert(PCB), Panel mount connectors

3 contacts

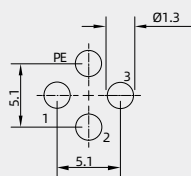


- Opening hole drawing female insert(PCB), Panel mount connectors

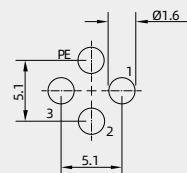
3 contacts



4 contacts



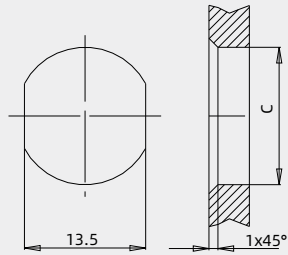
4 contacts



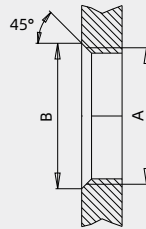
• Panel cut out

• Panel mount connectors

• Through-hole mounting



• Screw mounting



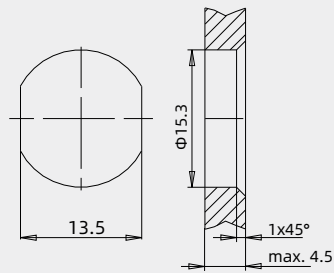
	A	B	C
PG9	PG9	16.2	15.3
PG13.5	PG13.5	21.5	20.5
M16x1.5	M16x1.5	17.0	16.1
M20x1.5	M20x1.5	21.0	20.1

Tightening torque according to DIN VDE 0619  
 Metal housing 6,25 Nm  
 Plastic housing 3,75 Nm

• Panel mount connectors

Rear panel mounting,  
 front tighten

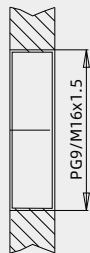
• Through-hole mounting



• Panel mount connectors

front tighten

• 通孔安装



Tightening torque 6,25 Nm



## M12 Circular Connector,X-coded



- Cable Connector
- Degree of protection IP67
- With nut locking spring
- Gigabit transmission
- Shieldable/360° shield connection
- Anti-loose spring with nut

## M12-X Circular Connector

50V/60V 0.5A

## Technical characteristics

Number of contacts	8
Rated current (40°C)	0.5A
Rated voltage	50V a.c / 60V d.c
Rated impulse voltage	0.8kV
Pollution degree	3
Contact resistance	≤ 10 mΩ
Insulation resistance	≥ 10 mΩ
Connector locking system	screw M12x1
Wire gauge	0.14mm <sup>2</sup> (AWG 26)
Degree of protection	IP67
Mechanical operation	≥ 100
Limiting temperature	-40°C ... +85°C
Material of contact	copper alloy
Contact plating	Au
Insulating material	PA
Material of housing	zinc diecasting nickel plated

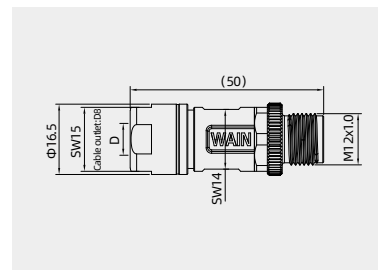
## Straight cable connectors

Male cable connector, Cat.6a

Order crimp contacts separately



Contacts	Cable outlet	Designation	Order No.
8	6-8mm	M12-MC08X-T-D8-SH	163 008 010 2001

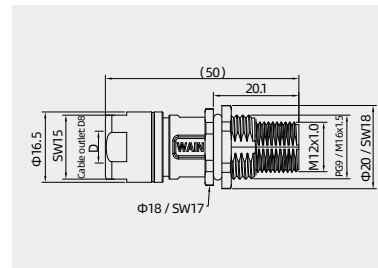


Male cable connector, Cat.6a

Order crimp contacts separately



Contacts	Cable outlet	Designation	Order No.
8	6-8mm	M12-MC08X-CCT/R-M16-D8-SH	163 008 710 2001

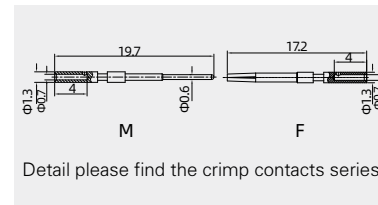


## Crimp contacts

Crimp contacts 5A

Contact resistance ≤ 3mΩ  
gold plated

Wire gauge(mm <sup>2</sup> )	Male	Order No.
0.09-0.25	M12-MC0.5G-0.25	101 038 210 0101
Wire gauge(mm <sup>2</sup> )	Female	Order No.
0.09-0.25	M12-FC0.5G-0.25	101 038 220 0101



Tools

Crimping tool



Wire gauge	Designation	Order No.
0.09-0.25mm <sup>2</sup>	TL27	198 001 001 0037

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## M12-X Circular Connector

50V/60V 0.5A

## Technical characteristics

Number of contacts	8
Rated current (40°C)	0.5A
Rated voltage	50V a.c / 60V d.c
Rated impulse voltage	0.8kV
Pollution degree	3
Contact resistance	≤ 10 mΩ
Insulation resistance	≥ 10 mΩ
Connector locking system	screw M12x1
Wire gauge	0.14mm <sup>2</sup> (AWG 26)
Degree of protection	IP67
Mechanical operation	≥ 100
Limiting temperature	-40°C ...+85°C
Material of contact	copper alloy
Contact plating	Au
Insulating material	PA
Material of housing	zinc diecasting nickel plated

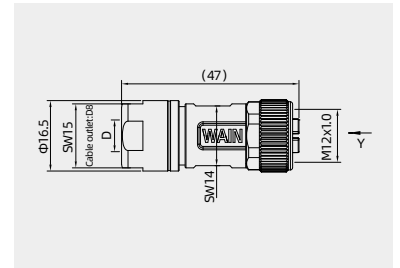
## Straight cable connectors

Female cable connector, Cat.6a

Order crimp contacts separately



Contacts	Cable outlet	Designation	Order No.
8	6-8mm	M12-FC08X-T-D8-SH	163 008 020 0001

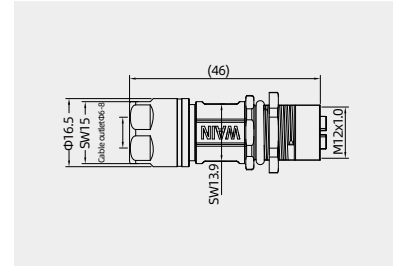


Female cable connector, Cat.6a

Order crimp contacts separately



Contacts	Cable outlet	Designation	Order No.
8	6-8mm	M12-FC08X-CCT/R-M16-D8-SH	163 008 720 2001

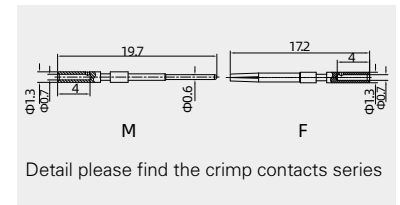


## Crimp contacts

Crimp contacts 5A

Contact resistance ≤ 3mΩ  
gold plated

Wire gauge(mm <sup>2</sup> )	Male	Order No.
0.09-0.25	M12-MC0.5G-0.25	101 038 210 0101
Wire gauge(mm <sup>2</sup> )	Female	Order No.
0.09-0.25	M12-FC0.5G-0.25	101 038 220 0101



Tools

Crimping tool



Wire gauge	Designation	Order No.
0.09-0.25mm <sup>2</sup>	TL27	198 001 001 0037

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## M12-X Circular Connector

50V/60V 0.5A

## Technical characteristics

Number of contacts	8
Rated current (40°C)	0.5A
Rated voltage	50V a.c / 60V d.c
Rated impulse voltage	0.8kV
Pollution degree	3
Contact resistance	≤ 10 mΩ
Insulation resistance	≥ 10 mΩ
Connector locking system	screw M12x1
Wire gauge	0.14mm <sup>2</sup> (AWG 26)
Degree of protection	IP67
Mechanical operation	≥ 100
Limiting temperature	-40°C ...+85°C
Material of contact	copper alloy
Contact plating	Au
Insulating material	PA
Material of housing	zinc diecasting nickel plated

## Socket

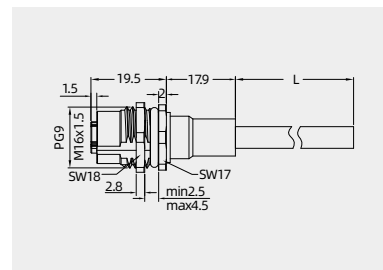
Female panel mount connector ,  
shielded

X-Code



8pin

Contacts	Cable length	screw	Designation	Order No.
8	0.5m	PG9	M12-F08X-BKR-PG9-Cat.6a	163 008 302 4003
	0.5m	M16x1.5	M12-F08X-BKR-M16-0.5-PUR-Cat.6a	163 008 302 4005



## M12-X Circular Connector

50V/60V 0.5A

## Technical characteristics

Number of contacts	8
Rated current (40°C)	0.5A
Rated voltage	50V a.c / 60V d.c
Rated impulse voltage	0.8kV
Pollution degree	3
Contact resistance	≤ 10 mΩ
Insulation resistance	≥ 10 mΩ
Connector locking system	screw M12x1
Wire gauge	0.14mm <sup>2</sup> (AWG 26)
Degree of protection	IP67
Mechanical operation	≥ 100
Limiting temperature	-40°C ...+85°C
Material of contact	copper alloy
Contact plating	Au
Insulating material	PA
Material of housing	zinc diecasting nickel plated

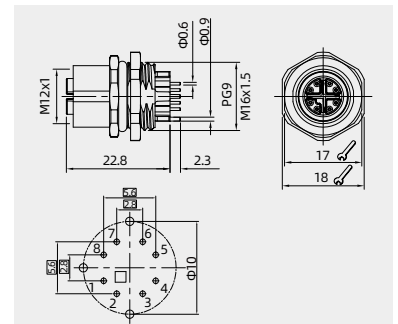
## Socket

Female panel mount connector , shielded

Contacts	Cable length	screw	Designation	Order No.
8	0.5m	M16x1.5	M12-F08X-BKR-M16-D	163 008 324 1004



X-Code





## M12-X Circular Connector

50V/60V 0.5A

## Technical characteristics

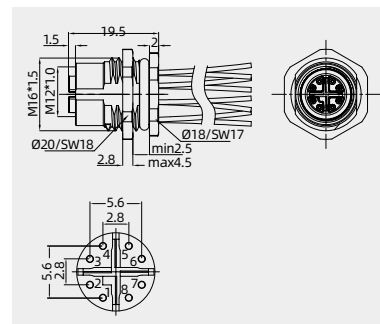
Number of contacts	8
Rated current (40°C)	0.5A
Rated voltage	50V a.c / 60V d.c
Rated impulse voltage	0.8kV
Pollution degree	3
Contact resistance	≤ 10 mΩ
Insulation resistance	≥ 10 mΩ
Connector locking system	screw M12x1
Wire gauge	0.14mm <sup>2</sup> (AWG 26)
Degree of protection	IP67
Mechanical operation	≥ 100
Limiting temperature	-40°C ...+85°C
Material of contact	copper alloy
Contact plating	Au
Insulating material	PA
Material of housing	zinc diecasting nickel plated

## Socket

Female panel mount connector , shielded



Contacts	Cable length	screw	Designation	Order No.
8	0.5m	M16x1.5	M12-F08X-BKR-M16-W0.14	163 008 302 4006



X-Code



8pin

## M12-X Circular Connector

50V/60V 0.5A

## Technical characteristics

Number of contacts	8
Rated current (40°C)	0.5A
Rated voltage	50V a.c / 60V d.c
Rated impulse voltage	0.8kV
Pollution degree	3
Contact resistance	≤ 10 mΩ
Insulation resistance	≥ 10 mΩ
Connector locking system	screw M12x1
Wire gauge	0.14mm <sup>2</sup> (AWG 26)
Degree of protection	IP67
Mechanical operation	≥ 100
Limiting temperature	-40°C ...+85°C
Material of contact	copper alloy
Contact plating	Au
Insulating material	PA
Material of housing	zinc diecasting nickel plated

## Straight cable connectors, cable

## Male cable connector

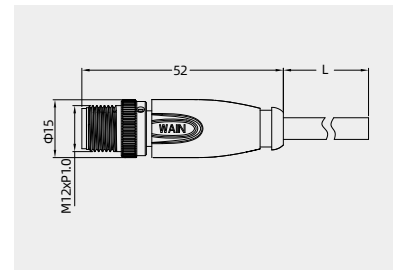


X-Code



8pin

Contacts	Cable length	Designation	Order No.
8	1.5 m	M12-M08X-T-1.5-PUR-Cat.6a	163 008 401 4001
	5.0 m	M12-M08X-T-5.0-PUR-Cat.6a	163 008 401 4002



## M12-X Circular Connector

50V/60V 0.5A

## Technical characteristics

Number of contacts	8
Rated current (40°C)	0.5A
Rated voltage	50V a.c. / 60V d.c
Rated impulse voltage	0.8kV
Pollution degree	3
Contact resistance	≤ 10 mΩ
Insulation resistance	≥ 10 mΩ
Connector locking system	screw M12x1
Wire gauge	0.14mm <sup>2</sup> (AWG 26)
Degree of protection	IP67
Mechanical operation	≥ 100
Limiting temperature	-40°C ... +85°C
Material of contact	copper alloy
Contact plating	Au
Insulating material	PA
Material of housing	zinc diecasting nickel plated

## Angled cable connectors

## Male cable connector

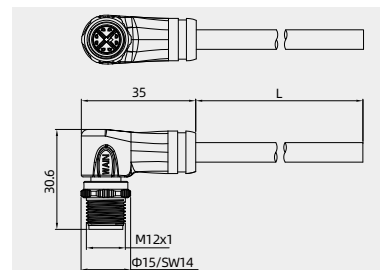


X-Code



8pin

Contacts	Cable length	Designation	Order No.
8	1.5 m	M12-M08X-S-1.5-PUR-Cat.6a	163 008 501 4001
	5.0 m	M12-M08X-S-5.0-PUR-Cat.6a	163 008 501 4002



## M12-X Circular Connector

50V/60V 0.5A

## Technical characteristics

Number of contacts	8
Rated current (40°C)	0.5A
Rated voltage	50V a.c / 60V d.c
Rated impulse voltage	0.8kV
Pollution degree	3
Contact resistance	≤ 10 mΩ
Insulation resistance	≥ 10 mΩ
Connector locking system	screw M12x1
Wire gauge	0.14mm <sup>2</sup> (AWG 26)
Degree of protection	IP67
Mechanical operation	≥ 100
Limiting temperature	-40°C ...+85°C
Material of contact	copper alloy
Contact plating	Au
Insulating material	PA
Material of housing	zinc diecasting nickel plated

## Straight cable connectors, cable

## Male cable connector

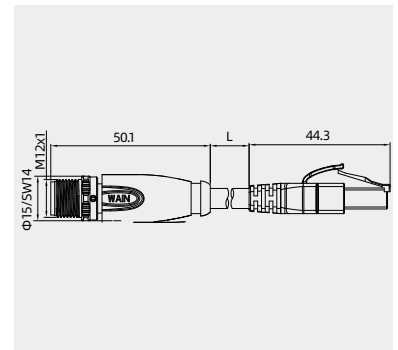


X-Code



8pin

Contacts	Cable length	Designation	Order No.
8	1.5 m	M12-M08X-T/RJ45-T-1.5-PUR-Cat.6a	163 008 402 4040
	5.0 m	M12-M08X-T/RJ45-T-5.0-PUR-Cat.6a	163 008 401 4015



## M12-X Circular Connector

50V/60V 0.5A

## Technical characteristics

Number of contacts	8
Rated current (40°C)	0.5A
Rated voltage	50V a.c. / 60V d.c
Rated impulse voltage	0.8kV
Pollution degree	3
Contact resistance	≤ 10 mΩ
Insulation resistance	≥ 10 mΩ
Connector locking system	screw M12x1
Wire gauge	0.14mm <sup>2</sup> (AWG 26)
Degree of protection	IP67
Mechanical operation	≥ 100
Limiting temperature	-40°C ... +85°C
Material of contact	copper alloy
Contact plating	Au
Insulating material	PA
Material of housing	zinc diecasting nickel plated

## Angled cable connectors

## Male cable connector

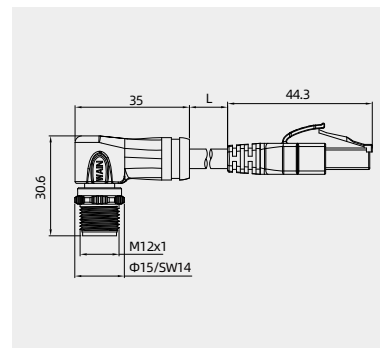


X-Code



8pin

Contacts	Cable length	Designation	Order No.
8	1.5 m	M12-M08X-S/RJ45-T-1.5-PUR-Cat.6a	163 008 001 4002
	5.0 m	M12-M08X-S/RJ45-T-5.0-PUR-Cat.6a	163 008 001 4003



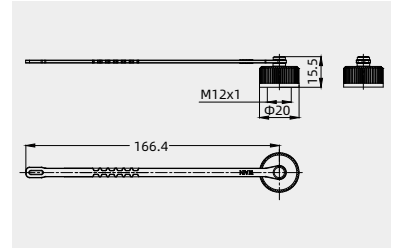
Accessories

Protection cap IP67

Protection cover  
for male cable connector



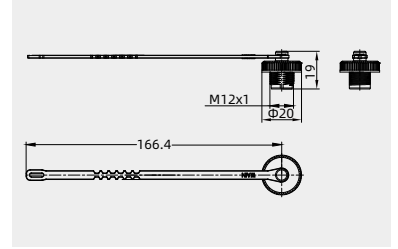
Description	Designation	Order No.
Without cord	M12-MCV	163 000 001 9003
With cord	M12-MCV/1	163 000 001 9001



Protection cover  
for female cable connector



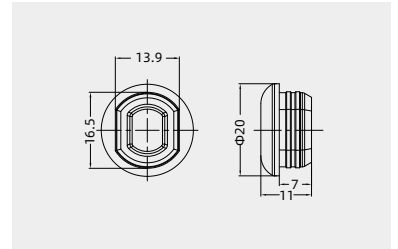
Description	Designation	Order No.
Without cord	M12-FCV	163 000 002 9003
With cord	M12-FCV/1	163 000 002 9001



Protection covers, for flange mount  
panel



Description	Designation	Order No.
Dust-proof	M12-WNPP-M16/BK	163 000 000 9001



Contact arrangements

• Contact arrangements

• Male insert (mating side)

8 contacts



	X	Y
1	1.40	-2.80
2	0.00	-1.40
3	2.80	1.40
4	1.40	2.80
5	-1.40	2.80
6	2.80	1.40
7	-2.80	-1.40
8	-1.40	-2.80

	568A	568B
1	1 white/green	1 white/Orange
2	2 green	2 Orange
3	3 white/Orange	3 white/green
4	4 Orange	4 green
5	5 white/brown	5 white/brown
6	6 brown	6 brown
7	7 white/blue	7 white/blue
8	8 blue	8 blue

• Female insert (mating side)

8 contacts



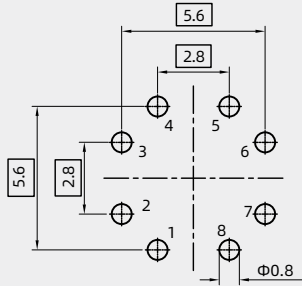
	X	Y
1	-1.40	-2.80
2	-2.80	-1.40
3	-2.80	1.40
4	-1.40	2.80
5	1.40	2.80
6	2.80	1.40
7	2.80	-1.40
8	1.40	-2.80

	568A	568B
1	1 white/green	1 white/Orange
2	2 green	2 Orange
3	3 white/Orange	3 white/green
4	4 Orange	4 green
5	5 white/brown	5 white/brown
6	6 brown	6 brown
7	7 white/blue	7 white/blue
8	8 blue	8 blue

PCB cut out

- Opening hole drawing female insert(PCB), Panel mount connectors

8 contacts



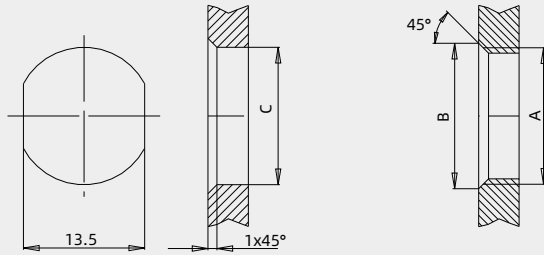


Panel cut out

• Panel mount connectors

• Through-hole mounting

• Screw mounting



	A	B	C
PG9	PG9	16.2	15.3
PG13.5	PG13.5	21.5	20.5
M16x1.5	M16x1.5	17.0	16.1
M20x1.5	M20x1.5	21.0	20.1

Tightening torque according to DIN VDE 0619

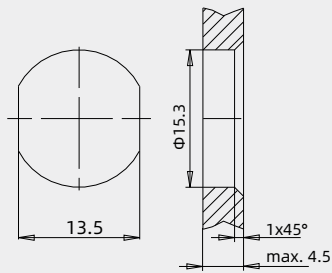
Metal housing 6,25 Nm

Plastic housing 3,75 Nm

Panel mount connectors

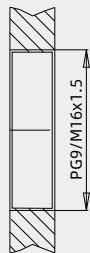
Rear panel mounting,  
front tighten

• Through-hole mounting



• Panel mount connectors

front tighten



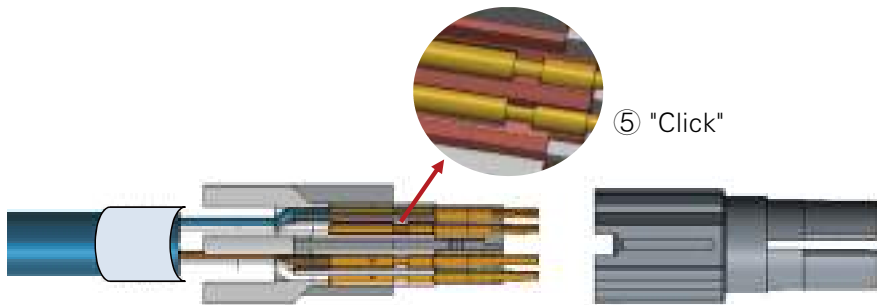
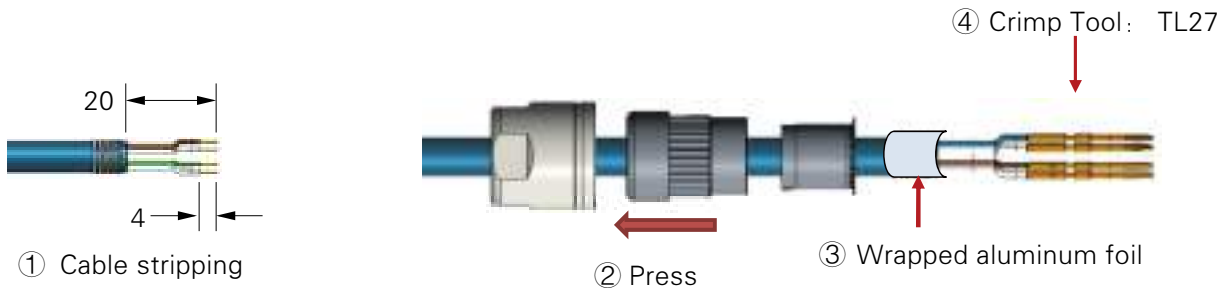
Tightening torque 6,25 Nm

PCB cut out

• Assembly instruction

- M12-MC08X-T-D8-SH
- M12-FC08X-T-D8-SH
- M12-MC08X-CCT/R-M16-D8-SH
- M12-FC08X-CCT/R-M16-D8-SH)

• Installation Step



Insert the pin according to the wiring diagram



⑧ Installation complete





M12-X

## M8/M12 distributor, Sensor junction box



## Y distributor

30V 4A

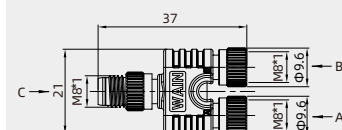
## Technical characteristics

Number of contacts	4/3	4/4
Rated current (40°C)	4A	4A
Rated voltage	30V	30V
Rated impulse voltage	800V	800V
Pollution degree	3	3
Overvoltage categorie	II	II
Contact resistance	≤ 3mΩ	≤ 3mΩ
Connector locking system	screw	screw
Termination	-	-
Wire gauge	-	-
Cable outlet	-	-
Degree of protection	IP67	IP67
Mechanical operation	> 100	> 100
Limiting temperature	-25°C ...+85°C	-25°C ...+85°C
Material group	II	II
Material of contact	copper alloy	copper alloy
Contact plating	Au	Au
Insulating material	PA	PA
Material of housing	TPU	TPU

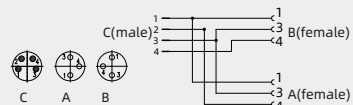
## Y distributor

Three-way, male connector M8 x 1  
- 2 female connectors M8 x 1

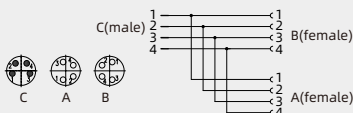
	Designation	Order No.
4-2*3pole	M8Y-M04/2M8-F03-NX	171 202 004 0317
4-2*4pole	M8Y-M04/2M8-F04-NX	171 202 004 0219



3 pol



4 pol



## Y distributor

60V/250V 4A

## Technical characteristics

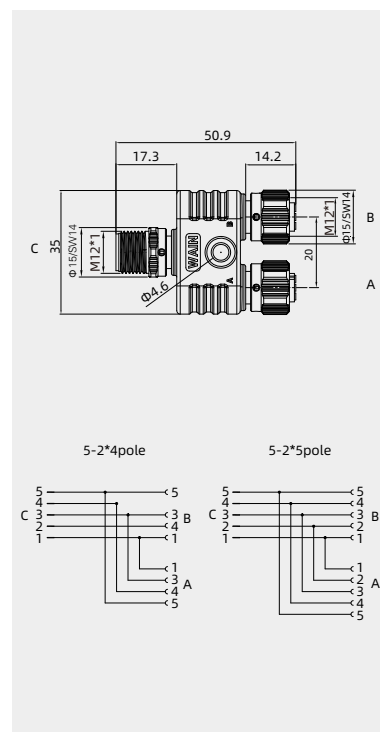
Number of contacts	5/4	5/5
Rated current (40°C)	4A	4A
Rated voltage	250V	60V
Rated impulse voltage	2500V	1500V
Pollution degree	3	3
Overvoltage categorie	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw	screw
Termination	-	-
Wire gauge	-	-
Cable outlet	-	-
Degree of protection	IP67	IP67
Mechanical operation	> 100	> 100
Limiting temperature	-25°C ...+85°C	-25°C ...+85°C
Material group	II	II
Material of contact	copper alloy	copper alloy
Contact plating	Au	Au
Insulating material	PA	PA
Material of housing	TPU	TPU

## Y distributor

Three-way, male connector M12 x 1

- 2 female connectors M12 x 1

	Designation	Order No.
5-2*4pole	M12Y-M05A/2M12-F04A-NX	171 302 005 0318
5-2*5pole	M12Y-M05A/2M12-F05A-NX	171 302 005 0320



## Y distributor

60V/250V 4A

## Technical characteristics

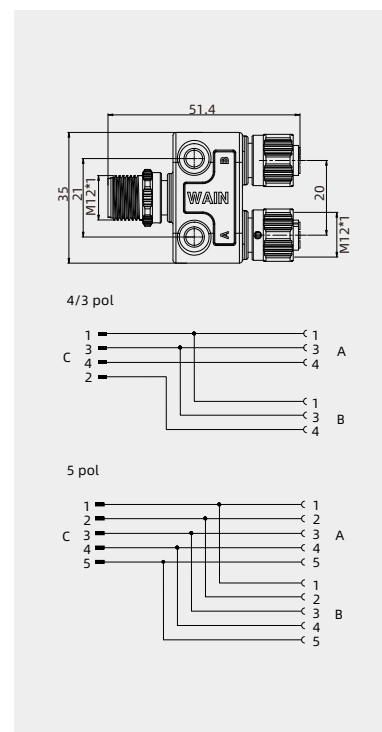
Number of contacts	4/3	5/5
Rated current (40°C)	4A	4A
Rated voltage	250V	60V
Rated impulse voltage	2500V	1500V
Pollution degree	3	3
Overvoltage categorie	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	screw	screw
Termination	-	-
Wire gauge	-	-
Cable outlet	-	-
Degree of protection	IP67	IP67
Mechanical operation	> 100	> 100
Limiting temperature	-25°C ...+85°C	-25°C ...+85°C
Material group	II	II
Material of contact	copper alloy	copper alloy
Contact plating	Au	Au
Insulating material	PA	PA
Material of housing	TPU	TPU

## Y distributor

Three-way, male connector M12 x 1  
- 2 female connectors M12 x 1



	Designation	Order No.
4-2*3pole	M12Y-M04A/2M12-F03A-CX	171 302 003 0301
5-2*5pole	M12Y-M05A/2M12-F05A-CX	171 302 005 0301



## Y distributor

60V 4A

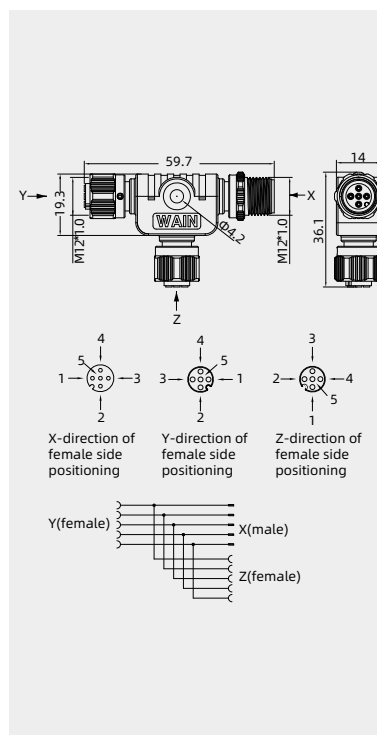
## Technical characteristics

Number of contacts	5/5
Rated current (40°C)	4A
Rated voltage	60V
Rated impulse voltage	1500V
Pollution degree	3
Overvoltage categorie	II
Contact resistance	≤ 10 mΩ
Connector locking system	screwM12*1
Termination	-
Wire gauge	-
Cable outlet	-
Degree of protection	IP67
Mechanical operation	> 100
Limiting temperature	-25°C ...+85°C
Material group	II
Material of contact	copper alloy
Contact plating	Au
Insulating material	PA
Material of housing	TPU

## Y distributor

Three-way, male connector M12 x 1  
- 2 female connectors M12 x 1

	Designation	Order No.
5-2*5pole	M12T-M05A/2F05A-NX	163 005 000 1003





## Y distributor

60V 4A

## Technical characteristics

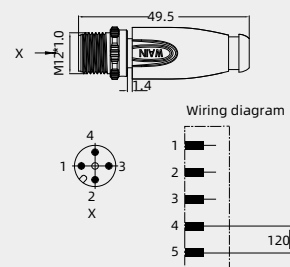
Number of contacts	5
Rated current (40°C)	4A
Rated voltage	60V
Rated impulse voltage	-
Pollution degree	3
Overvoltage categorie	II
Contact resistance	≤ 10 mΩ
Connector locking system	screwM12*1
Termination	-
Wire gauge	-
Cable outlet	-
Degree of protection	IP67
Mechanical operation	> 100
Limiting temperature	-25°C ...+85°C
Material group	II
Material of contact	copper alloy
Contact plating	Au
Insulating material	PA
Material of housing	TPU

## M12 Terminal resistance

Twin distributor, male connector M12x1

- 2 female connectors M12x1

	Designation	Order No.
5pole	M12-M05A-T-R120	163 005 401 4518



## Y distributor

60V 4A

## Technical characteristics

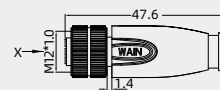
Number of contacts	5
Rated current (40°C)	4A
Rated voltage	60V
Rated impulse voltage	-
Pollution degree	3
Overvoltage categorie	II
Contact resistance	≤ 10 mΩ
Connector locking system	screwM12*1
Termination	-
Wire gauge	-
Cable outlet	-
Degree of protection	IP67
Mechanical operation	> 100
Limiting temperature	-25°C ...+85°C
Material group	II
Material of contact	copper alloy
Contact plating	Au
Insulating material	PA
Material of housing	TPU

## M12 Terminal resistance

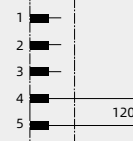
Twin distributor, male connector M12x1

- 2 female connectors M12x1

	Designation	Order No.
5pole	M12-F05A-T-R120	163 005 402 4512



Wiring diagram



## Sensor junction box-M8

24~30V DC 2A/6A

## Technical characteristics

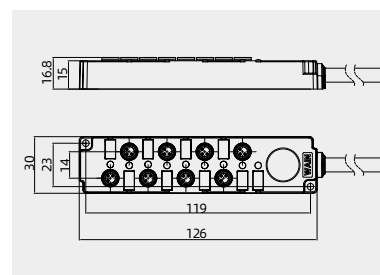
Number of contacts	3-pole
Rated current (40°C)	6A/2A
Rated voltage	24V~30V(max)
Rated impulse voltage	-
Pollution degree	3
Overvoltage categorie	II
Contact resistance	≤ 3 mΩ
Connector locking system	M8 x 1
Termination	electric cable
Cable outlet	Φ6-12mm
Degree of protection	IP67
Mechanical operation	> 100
Limiting temperature	-25°C ...+85°C
Material group	-
Material of contact	copper alloy
Contact plating	Au
Insulating material	PA
Material of housing	PA

## Sensor junction box-M8

## Pluggable 4-way interface box



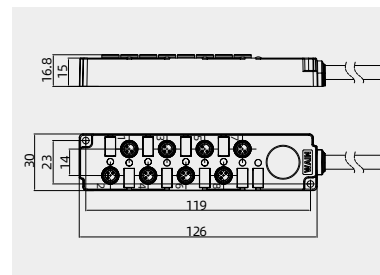
Cable length	Circuit	Designation	Order No.
3.0m	PNP single channel	SJB-M8-4F03-3.0-PUR	171 204 003 0003



## Pluggable 8-way interface box



Cable length	Circuit	Designation	Order No.
3.0m	PNP single channel	SJB-M8-8F03-3.0-PUR	171 208 003 0003



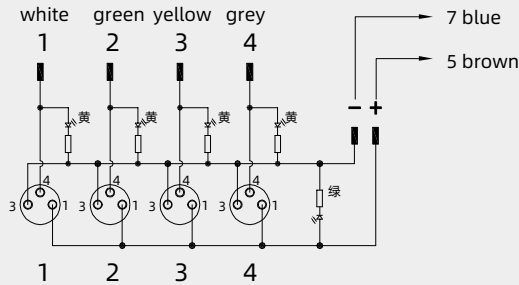
distributor

Sensor junction box-M8

- Sensor junction box-M8

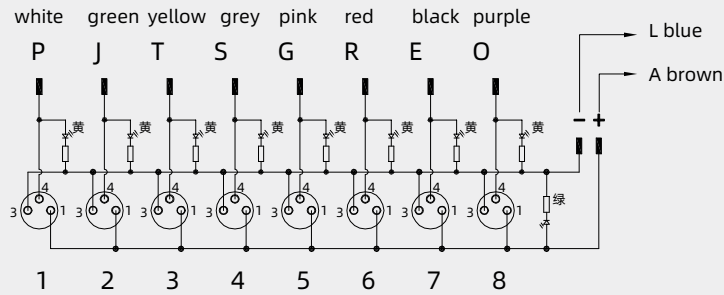
- M8 4-way interface box with wire

3



- M8 8-way interface box with wire

3



## Sensor junction box-M12

10~30V DC 2A/9A

## Technical characteristics

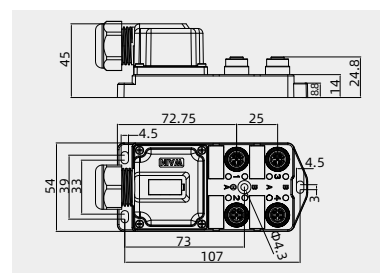
Number of contacts	4-pole	5-pole
Rated current (40°C)	9A/2A	9A/2A
Rated voltage	10-30V	10-30V
Rated impulse voltage	-	-
Pollution degree	3	3
Overvoltage categorie	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	M12 x 1	M12 x 1
Wire gauge	0,34 mm <sup>2</sup> (AWG 22)	3x0,75 mm <sup>2</sup> (AWG 20)
Cable outlet	-	-
Degree of protection	IP67	IP67
Mechanical operation	> 100	> 100
Limiting temperature	-25°C ...+80°C	-25°C ...+80°C
Material group	-	-
Material of contact	copper alloy	copper alloy
Contact plating	Au	Au
Insulating material	PBT/PA	PBT/PA
Material of housing	PA	PA

## Sensor junction box-M12

## Four-hole junction box without cable



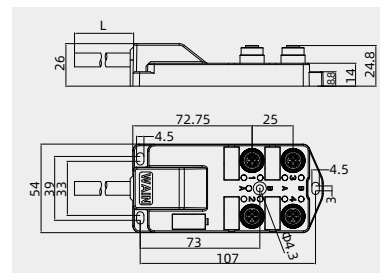
Cable outlet	Circuit	Designation	Order No.
6-8mm	PNP single channel	SJB-M12-4F04A-D8	171 304 004 0001
8-10mm	PNP single channel	SJB-M12-4F04A-D10.5	171 304 004 0002
10-12mm	PNP single channel	SJB-M12-4F04A-D12.5	171 304 004 0003
6-8mm	PNP double channel	SJB-M12-4F05A-D8	171 304 005 0001
8-10mm	PNP double channel	SJB-M12-4F05A-D10.5	171 304 005 0002
10-12mm	PNP double channel	SJB-M12-4F05A-D12.5	171 304 005 0003



## Four-hole junction box with cable



Cable length	Circuit	Designation	Order No.
3.0m	PNP single channel	SJB-M12-4F04A-3.0-PUR	171 304 004 0004
3.0m	PNP single channel	SJB-M12-4F04A-3.0-PVC	171 304 004 0005
3.0m	PNP double channel	SJB-M12-4F05A-3.0-PUR	171 304 005 0004
3.0m	PNP double channel	SJB-M12-4F05A-3.0-PVC	171 304 005 0005

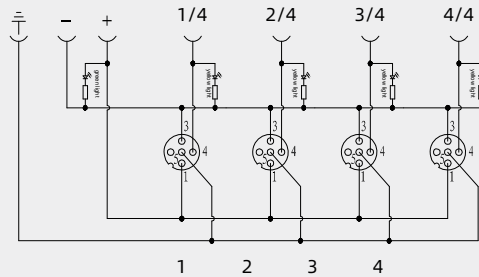


Sensor junction box-M12

• Sensor junction box-M12

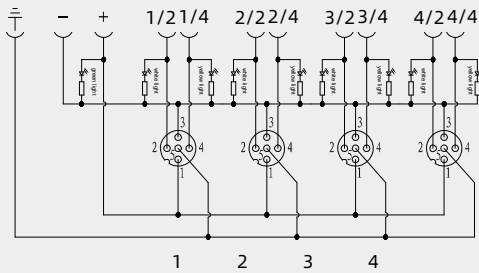
- M12 4-way interface box without wire

4



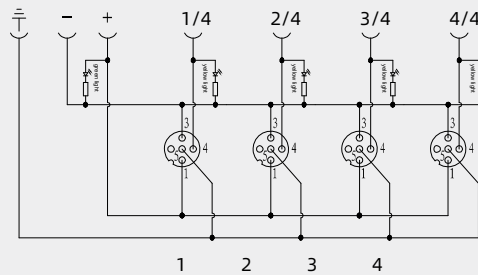
- M12 4-way interface box without wire

5



- M12 4-way interface box with wire

4

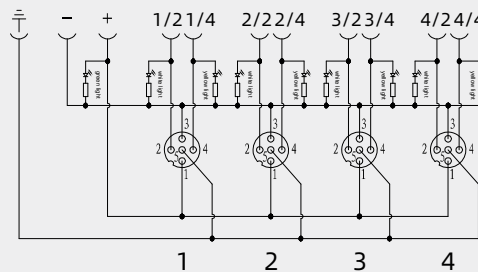


Colors of wires

- 1/4 - white
- 2/4 - green
- 3/4 - yellow
- 4/4 - grey
- (+)-brown
- (-)-blue
- (PE)-yellow/green

- M12 4-way interface box with wire

5



Colors of wires

- 1/2 - grey/pink
- 1/4 - white
- 2/2 - red/blue
- 2/4 - green
- 3/2 - white/green
- 3/4 - yellow
- 4/2 - brown/green
- 4/4 - grey
- (+)-brown
- (-)-blue
- (PE)-yellow/green

## Sensor junction box-M12

24~30V DC 2A/10A

## Technical characteristics

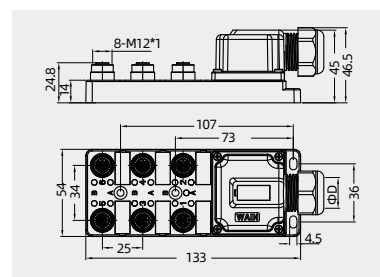
Number of contacts	4-pole	5-pole
Rated current (40°C)	总 :10A, 分线 2A	总 :10A, 分线 2A
Rated voltage	24-30V	24-30V
Rated impulse voltage	-	-
Pollution degree	3	3
Overvoltage categorie	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	M12 x 1	M12 x 1
Wire gauge	0,34 mm <sup>2</sup> (AWG 22),	3x0,75 mm <sup>2</sup> (AWG 20)
Cable outlet	6-12mm	6-12mm
Degree of protection	IP67	IP67
Mechanical operation	> 100	> 100
Limiting temperature	-25°C ...+80°C	-25°C ...+80°C
Material group	-	-
Material of contact	copper alloy	copper alloy
Contact plating	Au	Au
Insulating material	PBT/PA	PBT/PA
Material of housing	PA	PA

## Sensor junction box-M12

## 6-hole double channel junction box without cable



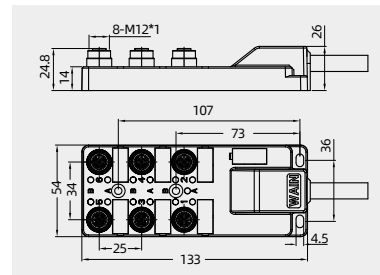
Cable outlet	Circuit	Designation	Order No.
6-8mm	PNP single channel	SJB-M12-6F04A-D8	171 306 004 0001
8-10mm	PNP single channel	SJB-M12-6F04A-D10.5	171 306 004 0002
8-10mm	PNP double channel	SJB-M12-6F05A-D10.5	171 306 005 0001
10-12mm	PNP double channel	SJB-M12-6F05A-D12.5	171 306 005 0002



## 6-hole double channel junction box with cable



Cable length	Circuit	Designation	Order No.
3.0m	PNP single channel	SJB-M12-6F04A-3.0-PUR	171 306 004 0003
3.0m	PNP single channel	SJB-M12-6F04A-3.0-PVC	171 306 004 0004
3.0m	PNP double channel	SJB-M12-6F05A-3.0-PUR	171 306 005 0003
3.0m	PNP double channel	SJB-M12-6F05A-3.0-PVC	171 306 005 0004

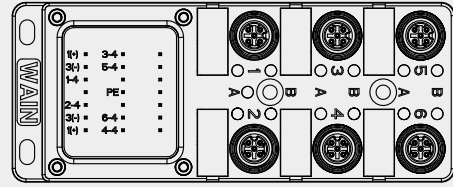
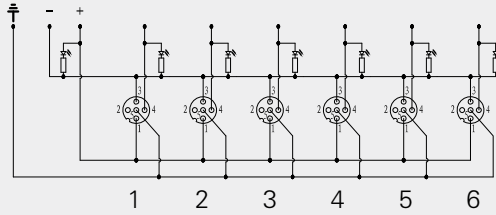


Sensor junction box-M12

• Sensor junction box-M12

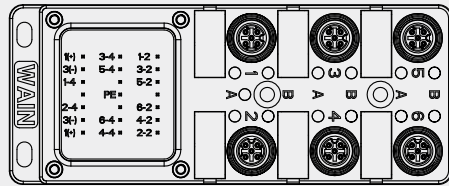
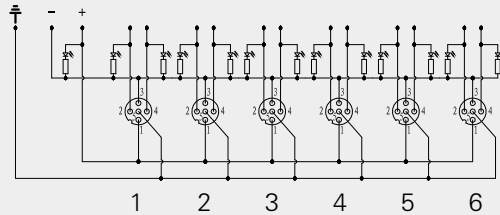
• M12 6-way interface box without wire

4



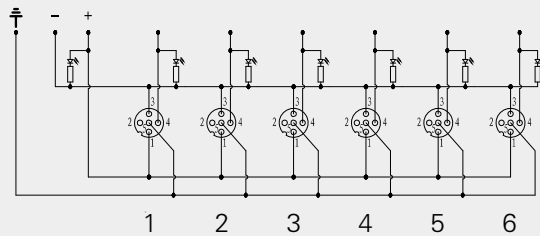
• M12 6-way interface box without wire

5



• M12 6-way interface box with wire

4

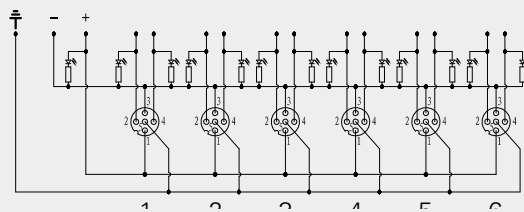


Colors of wires

- 1/4 – white
- 2/4 – green
- 3/4 – yellow
- 4/4 – grey
- 5/4 – pink
- 6/4 – red
- 1(+)-brown
- 1(-)-blue
- 5(PE)-yellow/green

• M12 6-way interface box with wire

5



Colors of wires

- 1/2 – grey/pink
- 1/4 – white
- 2/2 – red/blue
- 2/4 – green
- 3/2 – white/green
- 3/4 – yellow
- 4/2 – brown/green
- 4/4 – grey
- 5/2 – white/yellow
- 5/4 – pink
- 6/2 – yellow/brown
- 6/4 – red
- 1(+)-brown
- 1(-)-blue
- 5(PE)-yellow/green



## Sensor junction box-M12

10~30V DC 2A/9A

### Technical characteristics

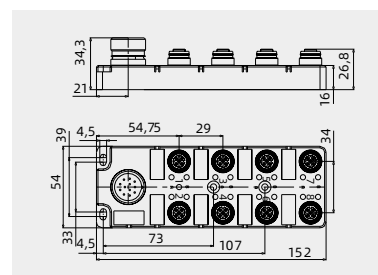
Number of contacts	4-pole	5-pole
Rated current (40°C)	9A/2A	9A/2A
Rated voltage	10-30V	10-30V
Rated impulse voltage	-	-
Pollution degree	3	3
Overvoltage categorie	II	II
Contact resistance	≤ 10 mΩ	≤ 10 mΩ
Connector locking system	M12 x 1	M12 x 1
Wire gauge	0,34 mm <sup>2</sup> (AWG 22),	3x0,75 mm <sup>2</sup> (AWG 20)
Cable outlet	-	-
Degree of protection	IP67	IP67
Mechanical operation	> 100	> 100
Limiting temperature	-25°C ...+80°C	-25°C ...+80°C
Material group	-	-
Material of contact	copper alloy	copper alloy
Contact plating	Au	Au
Insulating material	PBT/PA	PBT/PA
Material of housing	PA	PA

## Sensor junction box-M12

Pluggable 8-way interface box with M23 connector 12/19 pole, equipment-on LED (green) and functional indicator (yellow) M12 Push-Pull-locking



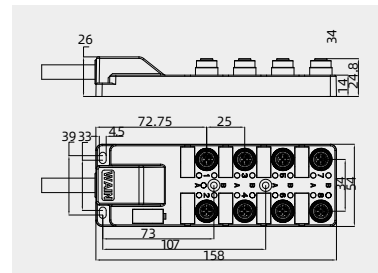
Cable outlet	Circuit	Designation	Order No.
M23-12pole	PNP single channel	SJB-M12-8F04-M23-12P	171 308 004 0601
M23-19pole	PNP double channel	SJB-M12-8F05A-M23-19P	171 308 005 0601



### Junction box with wire



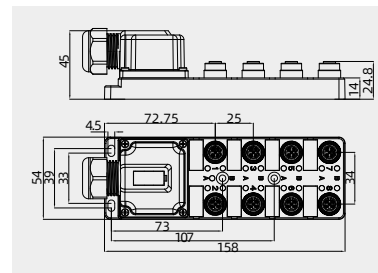
Cable length	Circuit	Designation	Order No.
3.0m	PNP single channel	SJB-M12-8F04A-3.0-PUR	171 308 004 0001
3.0m	PNP double channel	SJB-M12-8F05A-3.0-PUR	171 308 005 0002



### Junction box without wire



Cable outlet	Circuit	Designation	Order No.
10-12mm	PNP single channel	SJB-M12-8F04A-D12.5	171 308 004 0002
10-12mm	PNP double channel	SJB-M12-8F05A-D12.5	171 308 005 0001



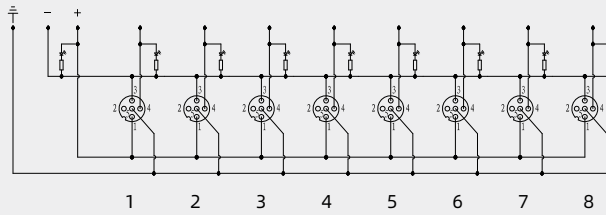
distributor

# Sensor junction box-M12

## • Sensor junction box-M12

### • M12 8-way interface box with wire

4

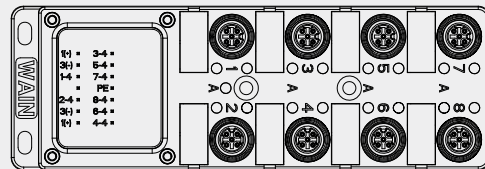
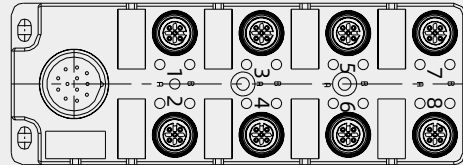
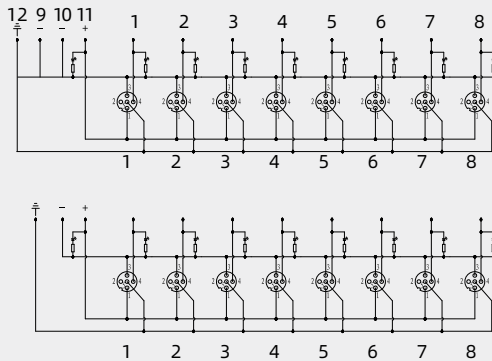


Colors of wires

- 1/4 - white
- 2/4 - green
- 3/4 - yellow
- 4/4 - grey
- 5/4 - pink
- 6/4 - red
- 7/4 - black
- 8/4 - purple
- 1(+) - brown
- 1(-) - blue
- 5(PE) - yellow/green

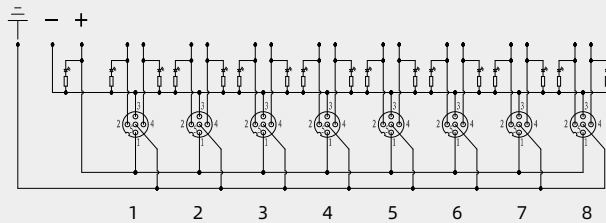
### • M12 8-way interface box

4



### • M12 8-way interface box with wire

5

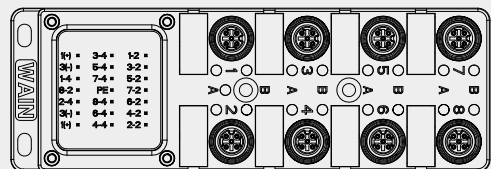
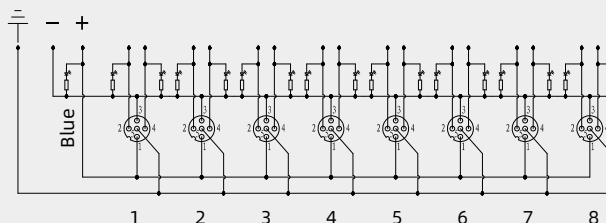


Colors of wires

- 1/2 - grey/pink
- 1/4 - white
- 2/2 - red/blue
- 2/4 - green
- 3/2 - white/green
- 3/4 - yellow
- 4/2 - blue/green
- 4/4 - grey
- 5/2 - white/yellow
- 5/4 - pink
- 6/2 - yellow/brown
- 6/4 - red
- 7/2 - white/grey
- 7/4 - black
- 8/2 - grey/brown
- 8/4 - purple
- 1(+) - brown
- 1(-) - brown
- 5(PE) - yellow/green

### • M12 8-way interface box

5





distributor

## 7/8 Circular Connector



- Panel Mount, socket/receptacle series
- 7/8-16UN Locking
- Screw Terminal
- Blocking nut constructure
- Protection Degree IP67

## 7/8 Circular Connector

300V 12/9A

## Technical characteristics

Number of contacts	3 (2+PE)	4 (3+PE)	5 (4+PE)
Rated current (40°C)	12A	9A	9A
Rated voltage	300V	300V	300V
Rated impulse voltage	4000V	4000V	4000V
Pollution degree	3	3	3
Overvoltage categorie	III	III	III
Contact resistance	≤ 3 mΩ	≤ 3 mΩ	≤ 3 mΩ
Connector locking system	screw7/8-16UN	screw7/8-16UN	screw7/8-16UN
Termination	screw	screw	screw
Wire gauge	max.1.5mm <sup>2</sup> (max.AWG16)	max.1.5mm <sup>2</sup> (max.AWG16)	max.1.5mm <sup>2</sup> (max.AWG16)
Cable outlet	6-8,8-10,10-12mm	6-8,8-10,10-12mm	6-8,8-10,10-12mm
Degree of protection	IP67	IP67	IP67
Mechanical operation	> 100	> 100	> 100
Limiting temperature	-25°C ...+85°C	-25°C ...+85°C	-25°C ...+85°C
Material group	III	III	III
Material of contact	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au
Insulating material	PA	PA	PA
Material of housing	PA	PA	PA

## Straight cable connectors

Male cable connector, metal locking system, screw clamp connection

Recommended use

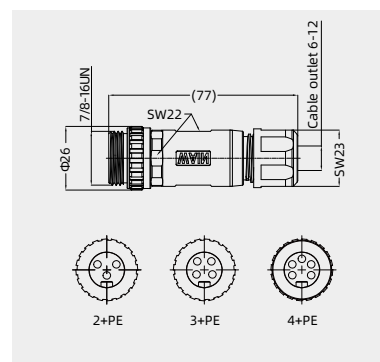


7/8



2+PE 3+PE 4+PE

Contacts	Cable outlet	Designation	Order No.
3 (2+PE)	6-8 mm	7/8-M03-T-D8	168 003 411 3001
	8-10 mm	7/8-M03-T-D10	168 003 411 3002
	10-12mm	7/8-M03-T-D12	168 003 411 3003
4 (3+PE)	6-8 mm	7/8-M04-T-D8	168 004 411 3002
	8-10 mm	7/8-M04-T-D10	168 004 411 3001
	10-12mm	7/8-M04-T-D12	168 004 411 3003
5 (4+PE)	6-8 mm	7/8-M05-T-D8	168 005 411 3001
	8-10 mm	7/8-M05-T-D10	168 005 411 3003
	10-12mm	7/8-M05-T-D12	168 005 411 3002



## 7/8 Circular Connector

300V 12/9A

## Technical characteristics

Number of contacts	3 (2+PE)	4 (3+PE)	5 (4+PE)
Rated current (40°C)	12A	9A	9A
Rated voltage	300V	300V	300V
Rated impulse voltage	4000V	4000V	4000V
Pollution degree	3	3	3
Overvoltage categorie	III	III	III
Contact resistance	≤ 3 mΩ	≤ 3 mΩ	≤ 3 mΩ
Connector locking system	screw7/8-16UN	screw7/8-16UN	screw7/8-16UN
Termination	screw	screw	screw
Wire gauge	max.1.5mm <sup>2</sup> (max.AWG16)	max.1.5mm <sup>2</sup> (max.AWG16)	max.1.5mm <sup>2</sup> (max.AWG16)
Cable outlet	6-8,8-10,10-12mm	6-8,8-10,10-12mm	6-8,8-10,10-12mm
Degree of protection	IP67	IP67	IP67
Mechanical operation	> 100	> 100	> 100
Limiting temperature	-25°C ...+85°C	-25°C ...+85°C	-25°C ...+85°C
Material group	III	III	III
Material of contact	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au
Insulating material	PA	PA	PA
Material of housing	PA	PA	PA

## Flange base cable connector

Male cable connector, metal locking system, screw clamp connection

Recommended use

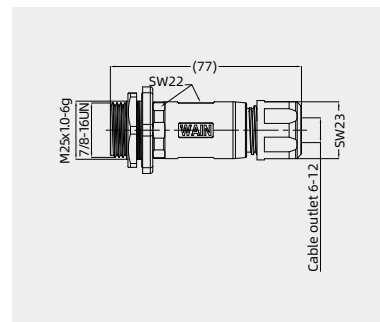


7/8



2+PE 3+PE 4+PE

Contacts	Cable outlet	Designation	Order No.
3 (2+PE)	6-8 mm	7/8-M03-CCT/R-T-D8	168 003 711 3001
	8-10 mm	7/8-M03-CCT/R-T-D10	168 003 711 3002
	10-12mm	7/8-M03-CCT/R-T-D12	168 003 711 3003
4 (3+PE)	6-8 mm	7/8-M04-CCT/R-T-D8	168 004 711 3001
	8-10 mm	7/8-M04-CCT/R-T-D10	168 004 711 3002
	10-12mm	7/8-M04-CCT/R-T-D12	168 004 711 3003
5 (4+PE)	6-8 mm	7/8-M05-CCT/R-T-D8	168 005 711 3001
	8-10 mm	7/8-M05-CCT/R-T-D10	168 005 711 3002
	10-12mm	7/8-M05-CCT/R-T-D12	168 005 711 3003



## 7/8 Circular Connector

300V 12/9A

## Technical characteristics

Number of contacts	3 (2+PE)	4 (3+PE)	5 (4+PE)
Rated current (40°C)	12A	9A	9A
Rated voltage	300V	300V	300V
Rated impulse voltage	4000V	4000V	4000V
Pollution degree	3	3	3
Overvoltage categorie	III	III	III
Contact resistance	≤ 3 mΩ	≤ 3 mΩ	≤ 3 mΩ
Connector locking system	screw7/8-16UN	screw7/8-16UN	screw7/8-16UN
Termination	screw	screw	screw
Wire gauge	max.1.5mm <sup>2</sup> (max.AWG16)	max.1.5mm <sup>2</sup> (max.AWG16)	max.1.5mm <sup>2</sup> (max.AWG16)
Cable outlet	6-8,8-10,10-12mm	6-8,8-10,10-12mm	6-8,8-10,10-12mm
Degree of protection	IP67	IP67	IP67
Mechanical operation	> 100	> 100	> 100
Limiting temperature	-25°C ...+85°C	-25°C ...+85°C	-25°C ...+85°C
Material group	III	III	III
Material of contact	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au
Insulating material	PA	PA	PA
Material of housing	PA	PA	PA

## Angled cable connectors

Male cable connector, metal locking system, screw clamp connection

Recommended use



7/8

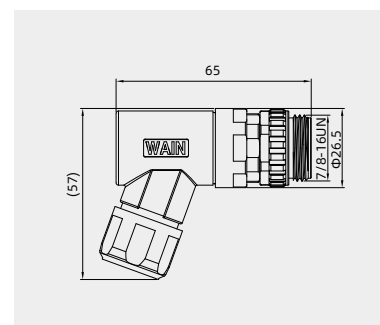


2+PE

3+PE

4+PE

Contacts	Cable outlet	Designation	Order No.
3 (2+PE)	6-8 mm	7/8-M03-S-D8	168 003 511 3001
	8-10 mm	7/8-M03-S-D10	168 003 511 3002
	10-12mm	7/8-M03-S-D12	168 003 511 3003
4 (3+PE)	6-8 mm	7/8-M04-S-D8	168 004 511 3001
	8-10 mm	7/8-M04-S-D10	168 004 511 3002
	10-12mm	7/8-M04-S-D12	168 004 511 3003
5 (4+PE)	6-8 mm	7/8-M05-S-D8	168 005 511 3001
	8-10 mm	7/8-M05-S-D10	168 005 511 3002
	10-12mm	7/8-M05-S-D12	168 005 511 3003



## 7/8 Circular Connector

300V 12/9A

## Technical characteristics

Number of contacts	3 (2+PE)	4 (3+PE)	5 (4+PE)
Rated current (40°C)	12A	9A	9A
Rated voltage	300V	300V	300V
Rated impulse voltage	4000V	4000V	4000V
Pollution degree	3	3	3
Overvoltage categorie	III	III	III
Contact resistance	≤ 3 mΩ	≤ 3 mΩ	≤ 3 mΩ
Connector locking system	screw7/8-16UN	screw7/8-16UN	screw7/8-16UN
Termination	screw	screw	screw
Wire gauge	max.1.5mm <sup>2</sup> (max.AWG16)	max.1.5mm <sup>2</sup> (max.AWG16)	max.1.5mm <sup>2</sup> (max.AWG16)
Cable outlet	6-8,8-10,10-12mm	6-8,8-10,10-12mm	6-8,8-10,10-12mm
Degree of protection	IP67	IP67	IP67
Mechanical operation	> 100	> 100	> 100
Limiting temperature	-25°C ...+85°C	-25°C ...+85°C	-25°C ...+85°C
Material group	III	III	III
Material of contact	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au
Insulating material	PA	PA	PA
Material of housing	PA	PA	PA

## Straight cable connectors

Female cable connector, metal locking system, screw clamp connection

Recommended use

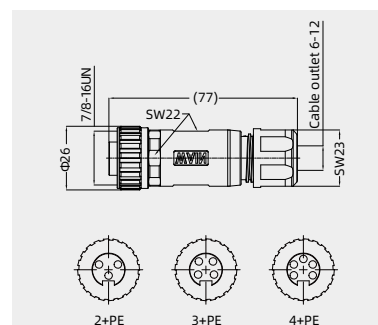


7/8



2+PE 3+PE 4+PE

Contacts	Cable outlet	Designation	Order No.
3 (2+PE)	6-8 mm	7/8-F03-T-D8	168 003 421 3001
	8-10 mm	7/8-F03-T-D10	168 003 421 3002
	10-12mm	7/8-F03-T-D12	168 003 421 3003
4 (3+PE)	6-8 mm	7/8-F04-T-D8	168 004 421 3002
	8-10 mm	7/8-F04-T-D10	168 004 421 3001
	10-12mm	7/8-F04-T-D12	168 004 421 3003
5 (4+PE)	6-8 mm	7/8-F05-T-D8	168 005 421 3003
	8-10 mm	7/8-F05-T-D10	168 005 421 3001
	10-12mm	7/8-F05-T-D12	168 005 421 3002





## 7/8 Circular Connector

300V 12/9A

## Technical characteristics

Number of contacts	3 (2+PE)	4 (3+PE)	5 (4+PE)
Rated current (40°C)	12A	9A	9A
Rated voltage	300V	300V	300V
Rated impulse voltage	4000V	4000V	4000V
Pollution degree	3	3	3
Overvoltage categorie	III	III	III
Contact resistance	≤ 3 mΩ	≤ 3 mΩ	≤ 3 mΩ
Connector locking system	screw7/8-16UN	screw7/8-16UN	screw7/8-16UN
Termination	screw	screw	screw
Wire gauge	max.1.5mm <sup>2</sup> (max.AWG16)	max.1.5mm <sup>2</sup> (max.AWG16)	max.1.5mm <sup>2</sup> (max.AWG16)
Cable outlet	6-8,8-10,10-12mm	6-8,8-10,10-12mm	6-8,8-10,10-12mm
Degree of protection	IP67	IP67	IP67
Mechanical operation	> 100	> 100	> 100
Limiting temperature	-25°C ...+85°C	-25°C ...+85°C	-25°C ...+85°C
Material group	III	III	III
Material of contact	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au
Insulating material	PA	PA	PA
Material of housing	PA	PA	PA

## Flange base cable connector

Female cable connector, metal locking system, screw clamp connection

Recommended use



7/8



2+PE

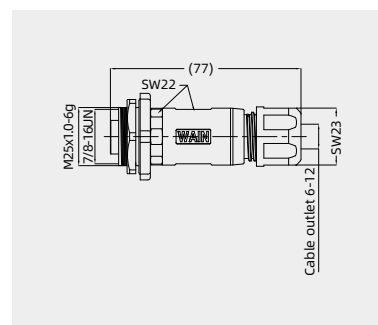


3+PE



4+PE

Contacts	Cable outlet	Designation	Order No.
3 (2+PE)	6-8 mm	7/8-F03-CCT/R-T-D8	168 003 721 3001
	8-10 mm	7/8-F03-CCT/R-T-D10	168 003 721 3002
	10-12mm	7/8-F03-CCT/R-T-D12	168 003 721 3003
4 (3+PE)	6-8 mm	7/8-F04-CCT/R-T-D8	168 004 721 3001
	8-10 mm	7/8-F04-CCT/R-T-D10	168 004 721 3002
	10-12mm	7/8-F04-CCT/R-T-D12	168 004 721 3003
5 (4+PE)	6-8 mm	7/8-F05-CCT/R-T-D8	168 005 721 3001
	8-10 mm	7/8-F05-CCT/R-T-D10	168 005 721 3002
	10-12mm	7/8-F05-CCT/R-T-D12	168 005 721 3003



## 7/8 Circular Connector

300V 12/9A

## Technical characteristics

Number of contacts	3 (2+PE)	4 (3+PE)	5 (4+PE)
Rated current (40°C)	12A	9A	9A
Rated voltage	300V	300V	300V
Rated impulse voltage	4000V	4000V	4000V
Pollution degree	3	3	3
Overvoltage categorie	III	III	III
Contact resistance	≤ 3 mΩ	≤ 3 mΩ	≤ 3 mΩ
Connector locking system	screw7/8-16UN	screw7/8-16UN	screw7/8-16UN
Termination	screw	screw	screw
Wire gauge	max.1.5mm <sup>2</sup> (max.AWG16)	max.1.5mm <sup>2</sup> (max.AWG16)	max.1.5mm <sup>2</sup> (max.AWG16)
Cable outlet	6-8,8-10,10-12mm	6-8,8-10,10-12mm	6-8,8-10,10-12mm
Degree of protection	IP67	IP67	IP67
Mechanical operation	> 100	> 100	> 100
Limiting temperature	-25°C ...+85°C	-25°C ...+85°C	-25°C ...+85°C
Material group	III	III	III
Material of contact	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au
Insulating material	PA	PA	PA
Material of housing	PA	PA	PA

## Angled cable connectors

Female cable connector, metal locking system, screw clamp connection

Recommended use



7/8



2+PE

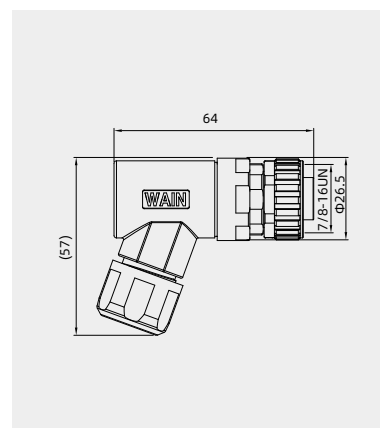


3+PE



4+PE

Contacts	Cable outlet	Designation	Order No.
3 (2+PE)	6-8 mm	7/8-F03-S-D8	168 003 521 3001
	8-10 mm	7/8-F03-S-D10	168 003 521 3002
	10-12mm	7/8-F03-S-D12	168 003 521 3003
4 (3+PE)	6-8 mm	7/8-F04-S-D8	168 004 521 3001
	8-10 mm	7/8-F04-S-D10	168 004 521 3002
	10-12mm	7/8-F04-S-D12	168 004 521 3003
5 (4+PE)	6-8 mm	7/8-F05-S-D8	168 005 521 3001
	8-10 mm	7/8-F05-S-D10	168 005 521 3002
	10-12mm	7/8-F05-S-D12	168 005 521 3003



## 7/8 Circular Connector

300V 12/9A

## Technical characteristics

Number of contacts	3 (2+PE)	4 (3+PE)	5 (4+PE)
Rated current (40°C)	12A	9A	9A
Rated voltage	300V	300V	300V
Rated impulse voltage	4000V	4000V	4000V
Pollution degree	3	3	3
Overvoltage categorie	III	III	III
Contact resistance	≤ 3 mΩ	≤ 3 mΩ	≤ 3 mΩ
Connector locking system	screw7/8-16UN	screw7/8-16UN	screw7/8-16UN
Termination	screw	screw	screw
Wire gauge	max.1.5mm <sup>2</sup> (max.AWG16)	max.1.5mm <sup>2</sup> (max.AWG16)	max.1.5mm <sup>2</sup> (max.AWG16)
Degree of protection	IP67	IP67	IP67
Mechanical operation	> 100	> 100	> 100
Limiting temperature	-25°C ...+85°C	-25°C ...+85°C	-25°C ...+85°C
Material group	III	III	III
Material of contact	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au
Insulating material	PA	PA	PA
Material of housing	TPE	TPE	TPE

## Straight cable connectors, cable

Male connector moulded,screw

Contacts	Cable	Cable length	Designation	Order No.	
3	3x1.5PVC	1.5 m	7/8-M03-T-1.5-PVC	168 003 401 4001	
		5.0 m	7/8-M03-T-5.0-PVC	168 003 401 4002	
	3x1.5PUR	1.5 m	7/8-M03-T-1.5-PUR	168 003 401 4003	
		5.0 m	7/8-M03-T-5.0-PUR	168 003 401 4004	
4	4x1.5PVC	1.5 m	7/8-M04-T-1.5-PVC	168 004 401 4002	
		5.0 m	7/8-M04-T-5.0-PVC	168 004 401 4003	
	4x1.5PUR	1.5 m	7/8-M04-T-1.5-PUR	168 004 401 4004	
		5.0 m	7/8-M04-T-5.0-PUR	168 004 401 4005	
	5	5x1.5PVC	1.5 m	7/8-M05-T-1.5-PVC	168 005 401 4002
			5.0 m	7/8-M05-T-5.0-PVC	168 005 401 4003
5x1.5PUR	1.5 m	7/8-M05-T-1.5-PUR	168 005 401 4004		
	5.0 m	7/8-M05-T-5.0-PUR	168 005 401 4005		



7/8



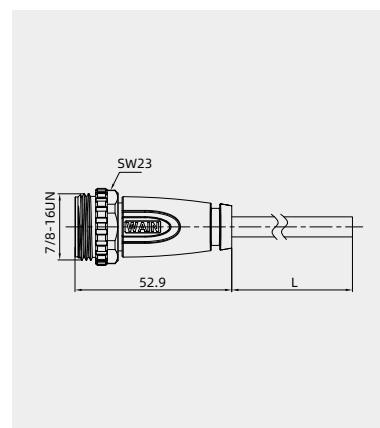
2+PE



3+PE



4+PE



## 7/8 Circular Connector

300V 12/9A

## Technical characteristics

Number of contacts	3 (2+PE)	4 (3+PE)	5 (4+PE)
Rated current (40°C)	12A	9A	9A
Rated voltage	300V	300V	300V
Rated impulse voltage	4000V	4000V	4000V
Pollution degree	3	3	3
Overvoltage categorie	III	III	III
Contact resistance	≤ 3 mΩ	≤ 3 mΩ	≤ 3 mΩ
Connector locking system	screw7/8-16UN	screw7/8-16UN	screw7/8-16UN
Termination	screw	screw	screw
Wire gauge	max.1.5mm <sup>2</sup> (max.AWG16)	max.1.5mm <sup>2</sup> (max.AWG16)	max.1.5mm <sup>2</sup> (max.AWG16)
Degree of protection	IP67	IP67	IP67
Mechanical operation	> 100	> 100	> 100
Limiting temperature	-25°C ...+85°C	-25°C ...+85°C	-25°C ...+85°C
Material group	III	III	III
Material of contact	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au
Insulating material	PA	PA	PA
Material of housing	TPE	TPE	TPE

## Angled cable connectors,cable

Male connector moulded,screw

Recommended use



7/8

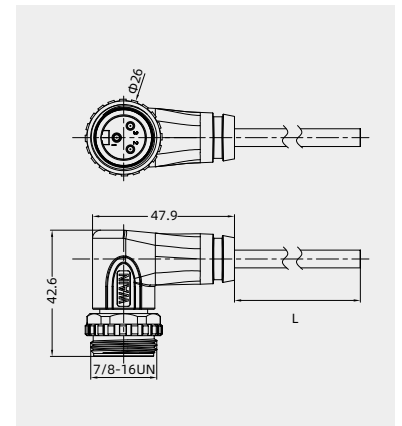


2+PE

3+PE

4+PE

Contacts	Cable	Cable length	Designation	Order No.
3	3x1.5PVC	1.5 m	7/8-M03-S-1.5-PVC	168 003 501 4001
		5.0 m	7/8-M03-S-5.0-PVC	168 003 501 4002
	3x1.5PUR	1.5 m	7/8-M03-S-1.5-PUR	168 003 501 4003
		5.0 m	7/8-M03-S-5.0-PUR	168 003 501 4004
4	4x1.5PVC	1.5 m	7/8-M04-S-1.5-PVC	168 004 501 4001
		5.0 m	7/8-M04-S-5.0-PVC	168 004 501 4002
	4x1.5PUR	1.5 m	7/8-M04-S-1.5-PUR	168 004 501 4003
		5.0 m	7/8-M04-S-5.0-PUR	168 004 501 4004
5	5x1.5PVC	1.5 m	7/8-M05-S-1.5-PVC	168 005 501 4001
		5.0 m	7/8-M05-S-5.0-PVC	168 005 501 4002
	5x1.5PUR	1.5 m	7/8-M05-S-1.5-PUR	168 005 501 4003
		5.0 m	7/8-M05-S-5.0-PUR	168 005 501 4004



## 7/8 Circular Connector

300V 12/9A

## Technical characteristics

Number of contacts	3 (2+PE)	4 (3+PE)	5 (4+PE)
Rated current (40°C)	12A	9A	9A
Rated voltage	300V	300V	300V
Rated impulse voltage	4000V	4000V	4000V
Pollution degree	3	3	3
Overvoltage categorie	III	III	III
Contact resistance	≤ 3 mΩ	≤ 3 mΩ	≤ 3 mΩ
Connector locking system	screw7/8-16UN	screw7/8-16UN	screw7/8-16UN
Termination	screw	screw	screw
Wire gauge	max.1.5mm <sup>2</sup> (max.AWG16)	max.1.5mm <sup>2</sup> (max.AWG16)	max.1.5mm <sup>2</sup> (max.AWG16)
Degree of protection	IP67	IP67	IP67
Mechanical operation	> 100	> 100	> 100
Limiting temperature	-25°C ...+85°C	-25°C ...+85°C	-25°C ...+85°C
Material group	III	III	III
Material of contact	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au
Insulating material	PA	PA	PA
Material of housing	TPE	TPE	TPE

## Straight cable connectors, cable

Female connector moulded,screw

## Recommended use



7/8



2+PE

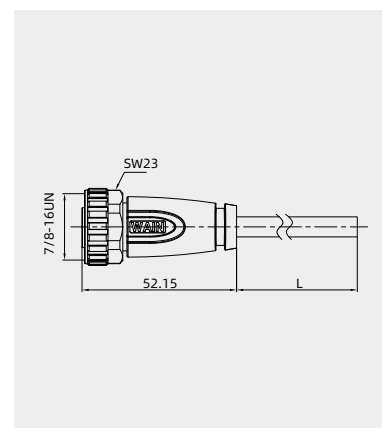


3+PE



4+PE

Contacts	Cable	Cable length	Designation	Order No.	
3	3x1.5PVC	1.5 m	7/8-F03-T-1.5-PVC	168 003 402 4001	
		5.0 m	7/8-F03-T-5.0-PVC	168 003 402 4002	
	3x1.5PUR	1.5 m	7/8-F03-T-1.5-PUR	168 003 402 4003	
		5.0 m	7/8-F03-T-5.0-PUR	168 003 402 4004	
4	4x1.5PVC	1.5 m	7/8-F04-T-1.5-PVC	168 004 402 4002	
		5.0 m	7/8-F04-T-5.0-PVC	168 004 402 4003	
	4x1.5PUR	1.5 m	7/8-F04-T-1.5-PUR	168 004 402 4004	
		5.0 m	7/8-F04-T-5.0-PUR	168 004 402 4005	
	5	5x1.5PVC	1.5 m	7/8-F05-T-1.5-PVC	168 005 402 4002
			5.0 m	7/8-F05-T-5.0-PVC	168 005 402 4003
5x1.5PUR		1.5 m	7/8-F05-T-1.5-PUR	168 005 402 4004	
		5.0 m	7/8-F05-T-5.0-PUR	168 005 402 4005	



## 7/8 Circular Connector

300V 12/9A

## Technical characteristics

Number of contacts	3 (2+PE)	4 (3+PE)	5 (4+PE)
Rated current (40°C)	12A	9A	9A
Rated voltage	300V	300V	300V
Rated impulse voltage	4000V	4000V	4000V
Pollution degree	3	3	3
Overvoltage categorie	III	III	III
Contact resistance	≤ 3 mΩ	≤ 3 mΩ	≤ 3 mΩ
Connector locking system	screw7/8-16UN	screw7/8-16UN	screw7/8-16UN
Termination	screw	screw	screw
Wire gauge	max.1.5mm <sup>2</sup> (max.AWG16)	max.1.5mm <sup>2</sup> (max.AWG16)	max.1.5mm <sup>2</sup> (max.AWG16)
Degree of protection	IP67	IP67	IP67
Mechanical operation	> 100	> 100	> 100
Limiting temperature	-25°C ...+85°C	-25°C ...+85°C	-25°C ...+85°C
Material group	III	III	III
Material of contact	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au
Insulating material	PA	PA	PA
Material of housing	TPE	TPE	TPE

## Angled cable connectors,cable

Female connector moulded,screw

## Recommended use



7/8



2+PE

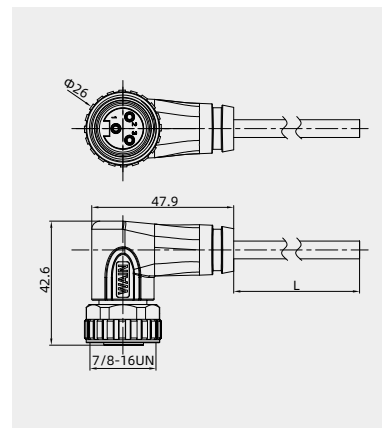


3+PE



4+PE

Contacts	Cable	Cable length	Designation	Order No.	
3	3x1.5PVC	1.5 m	7/8-F03-S-1.5-PVC	168 003 502 4001	
		5.0 m	7/8-F03-S-5.0-PVC	168 003 502 4002	
	3x1.5PUR	1.5 m	7/8-F03-S-1.5-PUR	168 003 502 4003	
		5.0 m	7/8-F03-S-5.0-PUR	168 003 502 4004	
4	4x1.5PVC	1.5 m	7/8-F04-S-1.5-PVC	168 004 502 4001	
		5.0 m	7/8-F04-S-5.0-PVC	168 004 502 4002	
	4x1.5PUR	1.5 m	7/8-F04-S-1.5-PUR	168 004 502 4003	
		5.0 m	7/8-F04-S-5.0-PUR	168 004 502 4004	
	5	5x1.5PVC	1.5 m	7/8-F05-S-1.5-PVC	168 005 502 4001
			5.0 m	7/8-F05-S-5.0-PVC	168 005 502 4002
5x1.5PUR		1.5 m	7/8-F05-S-1.5-PUR	168 005 502 4003	
		5.0 m	7/8-F05-S-5.0-PUR	168 005 502 4004	



## 7/8 Circular Connector

300V 10/8A

## Technical characteristics

Number of contacts	3 (2+PE)	4 (3+PE)	5 (4+PE)
Rated current (40°C)	10A	8A	8A
Rated voltage	300V	300V	300V
Rated impulse voltage	2500V	2500V	2500V
Pollution degree	3	3	3
Overvoltage categorie	III	III	III
Contact resistance	≤ 3 mΩ	≤ 3 mΩ	≤ 3 mΩ
Connector locking system	screw7/8-16UN	screw7/8-16UN	screw7/8-16UN
Termination	single wires	single wires	single wires
Wire gauge	max.1.5mm <sup>2</sup> (max.AWG16)	max.1.5mm <sup>2</sup> (max.AWG16)	max.1.5mm <sup>2</sup> (max.AWG16)
Cable outlet	-	-	-
Degree of protection	IP67	IP67	IP67
Mechanical operation	> 100	> 100	> 100
Limiting temperature	-25°C ...+85°C	-25°C ...+85°C	-25°C ...+85°C
Material group	II	II	II
Material of contact	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au
Insulating material	TPU	TPU	TPU
Material of housing	brass nickel plated	brass nickel plated	brass nickel plated

## Socket

## Male panel mount connector

with single wires,  
0.82mm<sup>2</sup>, MAX.1.5mm<sup>2</sup>  
length 0.2m  
font fastened



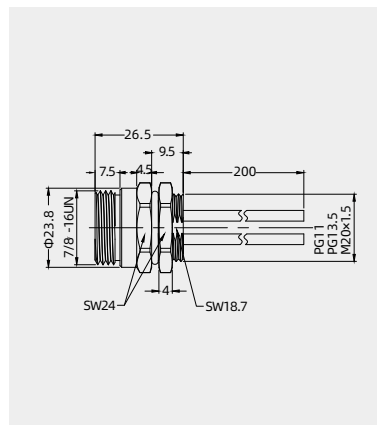
7/8



2+PE 3+PE 4+PE

Contacts	screw	Designation	Order No.
3 (2+PE)	PG11	7/8-M03-BK-PG11-W0.82	168 003 301 4001
	PG13.5	7/8-M03-BK-PG13.5-W0.82	168 003 301 4002
	M20×1.5	7/8-M03-BK-M20-W0.82	168 003 301 4003
4 (3+PE)	PG11	7/8-M04-BK-PG11-W0.82	168 004 301 4001
	PG13.5	7/8-M04-BK-PG13.5-W0.82	168 004 301 4002
	M20×1.5	7/8-M04-BK-M20-W0.82	168 004 301 4003
5 (4+PE)	PG11	7/8-M05-BK-PG11-W0.82	168 005 301 4001
	PG13.5	7/8-M05-BK-PG13.5-W0.82	168 005 301 4002
	M20×1.5	7/8-M05-BK-M20-W0.82	168 005 301 4003

Customized cable length upon request



## Male panel mount connector ,solder

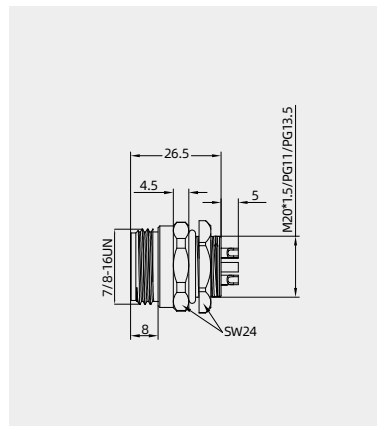


7/8



2+PE 3+PE 4+PE

Contacts	screw	Designation	Order No.
3 (2+PE)	PG11	7/8-M03-BK-PG11-C	168 003 313 1500
	PG13.5	7/8-M03-BK-PG13.5-C	168 003 313 1501
	M20×1.5	7/8-M03-BK-M20-C	168 003 313 1502
4 (3+PE)	PG11	7/8-M04-BK-PG11-C	168 004 313 1500
	PG13.5	7/8-M04-BK-PG13.5-C	168 004 313 1501
	M20×1.5	7/8-M04-BK-M20-C	168 004 301 4009
5 (4+PE)	PG11	7/8-M05-BK-PG11-C	168 005 313 1500
	PG13.5	7/8-M05-BK-PG13.5-C	168 005 313 1501
	M20×1.5	7/8-M05-BK-M20-C	168 005 313 0500



7/8

## 7/8 Circular Connector

300V 10/8A

## Technical characteristics

Number of contacts	3 (2+PE)	4 (3+PE)	5 (4+PE)
Rated current (40°C)	10A	8A	8A
Rated voltage	300V	300V	300V
Rated impulse voltage	2500V	2500V	2500V
Pollution degree	3	3	3
Overvoltage categorie	III	III	III
Contact resistance	≤ 3 mΩ	≤ 3 mΩ	≤ 3 mΩ
Connector locking system	screw 7/8-16UN	screw 7/8-16UN	screw 7/8-16UN
Termination	single wires	single wires	single wires
Wire gauge	max.1.5mm <sup>2</sup> (max.AWG16)	max.1.5mm <sup>2</sup> (max.AWG16)	max.1.5mm <sup>2</sup> (max.AWG16)
Cable outlet	-	-	-
Degree of protection	IP67	IP67	IP67
Mechanical operation	> 100	> 100	> 100
Limiting temperature	-25°C ...+85°C	-25°C ...+85°C	-25°C ...+85°C
Material group	II	II	II
Material of contact	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au
Insulating material	TPU	TPU	TPU
Material of housing	brass nickel plated	brass nickel plated	brass nickel plated

## Socket

## Female panel mount connector

with single wires,  
0.82mm<sup>2</sup>, MAX.1.5mm<sup>2</sup>  
length 0.2m  
font fastened

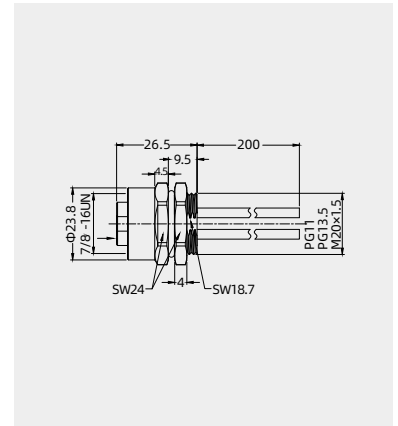


7/8



Contacts	screw	Designation	Order No.
3 (2+PE)	7/8-16UN	7/8-F03-BK-7/8-W0.82	168 003 302 4004
	PG11	7/8-F03-BK-PG11-W0.82	168 003 302 4001
	PG13.5	7/8-F03-BK-PG13.5-W0.82	168 003 302 4002
	M20×1.5	7/8-F03-BK-M20-W0.82	168 003 302 4003
4 (3+PE)	7/8-16UN	7/8-F04-BK-7/8-W0.82	168 004 302 4005
	PG11	7/8-F04-BK-PG11-W0.82	168 004 302 4001
	PG13.5	7/8-F04-BK-PG13.5-W0.82	168 004 302 4002
	M20×1.5	7/8-F04-BK-M20-W0.82	168 004 302 4003
5 (4+PE)	7/8-16UN	7/8-F05-BK-7/8-W0.82	168 005 302 4005
	PG11	7/8-F05-BK-PG11-W0.82	168 005 302 4001
	PG13.5	7/8-F05-BK-PG13.5-W0.82	168 005 302 4002
	M20×1.5	7/8-F05-BK-M20-W0.82	168 005 302 4003

Customized cable length upon request



## Female panel mount connector , solder

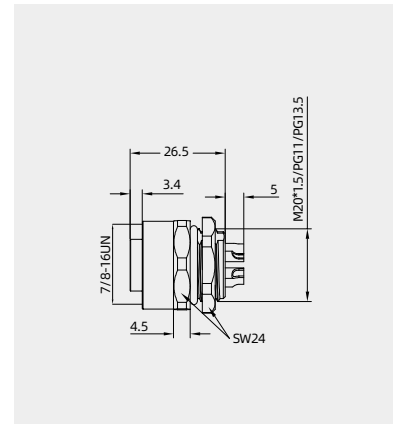


7/8

7/8



Contacts	screw	Designation	Order No.
3 (2+PE)	PG11	7/8-F03-BK-PG11-C	168 003 323 1500
	PG13.5	7/8-F03-BK-PG13.5-C	168 003 323 1501
	M20×1.5	7/8-F03-BK-M20-C	168 003 323 1502
4 (3+PE)	PG11	7/8-F04-BK-PG11-C	168 004 323 1500
	PG13.5	7/8-F04-BK-PG13.5-C	168 004 323 1501
	M20×1.5	7/8-F04-BK-M20-C	168 004 323 1502
5 (4+PE)	PG11	7/8-F05-BK-PG11-C	168 005 323 1500
	PG13.5	7/8-F05-BK-PG13.5-C	168 005 323 1501
	M20×1.5	7/8-F05-BK-M20-C	168 005 323 1502





## 7/8 Circular Connector

300V 10/8A

## Technical characteristics

Number of contacts	3 (2+PE)	4 (3+PE)	5 (4+PE)
Rated current (40°C)	10A	8A	8A
Rated voltage	300V	300V	300V
Rated impulse voltage	2500V	2500V	2500V
Pollution degree	3	3	3
Overvoltage categorie	III	III	III
Contact resistance	≤ 3 mΩ	≤ 3 mΩ	≤ 3 mΩ
Connector locking system	screw7/8-16UN	screw7/8-16UN	screw7/8-16UN
Termination	single wires	single wires	single wires
Wire gauge	max.1.5mm <sup>2</sup> (max.AWG16)	max.1.5mm <sup>2</sup> (max.AWG16)	max.1.5mm <sup>2</sup> (max.AWG16)
Cable outlet	-	-	-
Degree of protection	IP67	IP67	IP67
Mechanical operation	> 100	> 100	> 100
Limiting temperature	-25°C ...+85°C	-25°C ...+85°C	-25°C ...+85°C
Material group	II	II	II
Material of contact	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au
Insulating material	TPU	TPU	TPU
Material of housing	brass nickel plated	brass nickel plated	brass nickel plated

## Socket

## Male panel mount connector

with single wires,  
0.82mm<sup>2</sup>, MAX.1.5mm<sup>2</sup>  
length 0.2m  
font fastened

Contacts	screw	Designation	Order No.
3 (2+PE)	7/8-16UN	7/8-M03-BKR-7/8-W0.82	168 003 301 4004
4 (3+PE)	7/8-16UN	7/8-M04-BKR-7/8-W0.82	168 004 301 4004
5 (4+PE)	7/8-16UN	7/8-M05-BKR-7/8-W0.82	168 005 301 4004



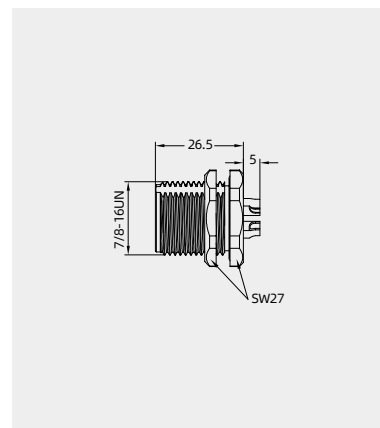
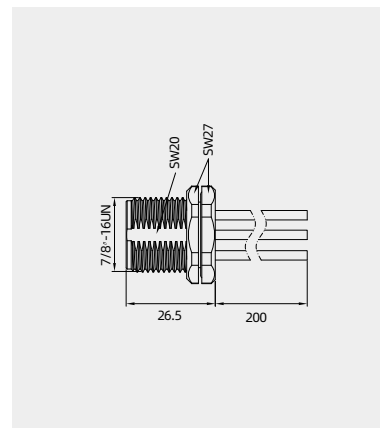
7/8

Male panel mount connector ,solder  
font fastened

Contacts	screw	Designation	Order No.
3 (2+PE)	7/8-16UN	7/8-M03-BKR-7/8-C	168 003 313 1503
4 (3+PE)	7/8-16UN	7/8-M04-BKR-7/8-C	168 004 313 1502
5 (4+PE)	7/8-16UN	7/8-M05-BKR-7/8-C	168 005 313 1502



7/8



## 7/8 Circular Connector

300V 10/8A

## Technical characteristics

Number of contacts	3 (2+PE)	4 (3+PE)	5 (4+PE)
Rated current (40°C)	10A	8A	8A
Rated voltage	300V	300V	300V
Rated impulse voltage	2500V	2500V	2500V
Pollution degree	3	3	3
Overvoltage categorie	III	III	III
Contact resistance	≤ 3 mΩ	≤ 3 mΩ	≤ 3 mΩ
Connector locking system	screw7/8-16UN	screw7/8-16UN	screw7/8-16UN
Termination	single wires	single wires	single wires
Wire gauge	max.1.5mm <sup>2</sup> (max.AWG16)	max.1.5mm <sup>2</sup> (max.AWG16)	max.1.5mm <sup>2</sup> (max.AWG16)
Cable outlet	-	-	-
Degree of protection	IP67	IP67	IP67
Mechanical operation	> 100	> 100	> 100
Limiting temperature	-25°C ...+85°C	-25°C ...+85°C	-25°C ...+85°C
Material group	II	II	II
Material of contact	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au
Insulating material	TPU	TPU	TPU
Material of housing	brass nickel plated	brass nickel plated	brass nickel plated

## Socket

Female panel mount connector  
with single wires, 0.82mm<sup>2</sup>,  
MAX.1.5mm<sup>2</sup>, length 0.2m  
font fastened



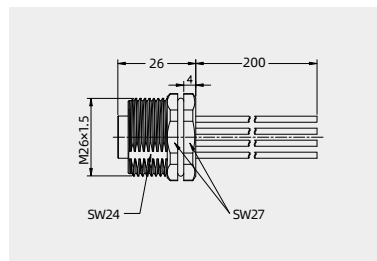
7/8



2+PE 3+PE 4+PE

Contacts	screw	Designation	Order No.
3 (2+PE)	M26	7/8-F03-BKR-M26-W0.82	168 003 302 4005
4 (3+PE)	M26	7/8-F04-BKR-M26-W0.82	168 004 302 4006
5 (4+PE)	M26	7/8-F05-BKR-M26-W0.82	168 005 302 4006

Customized cable length upon request



Female panel mount connector  
with single wires, 0.82mm<sup>2</sup>,  
MAX.1.5mm<sup>2</sup>, length 0.2m  
font fastened



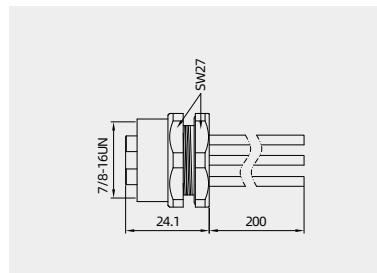
7/8



2+PE 3+PE 4+PE

Contacts	screw	Designation	Order No.
3 (2+PE)	7/8-16UN	7/8-F03-BKR-7/8-W0.82	168 003 302 4006
4 (3+PE)	7/8-16UN	7/8-F04-BKR-7/8-W0.82	168 003 302 4007
5 (4+PE)	7/8-16UN	7/8-F05-BKR-7/8-W0.82	168 003 302 4008

Customized cable length upon request



Female panel mount connector,  
solder

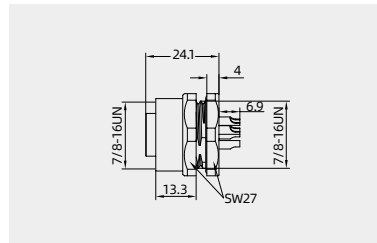


7/8



2+PE 3+PE 4+PE

Contacts	screw	Designation	Order No.
3 (2+PE)	7/8-16UN	7/8-F03-BKR-7/8-C	168 003 323 1503
4 (3+PE)	7/8-16UN	7/8-F04-BKR-7/8-C	168 004 323 1503
5 (4+PE)	7/8-16UN	7/8-F05-BKR-7/8-C	168 005 323 1503



Female panel mount connector,  
solder

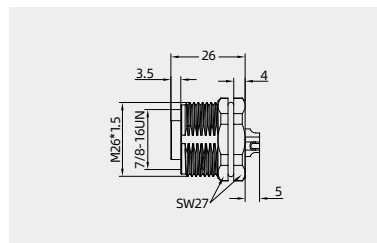


7/8



2+PE 3+PE 4+PE

Contacts	screw	Designation	Order No.
3 (2+PE)	M26	7/8-F03-BKR-M26-C	168 003 323 1504
4 (3+PE)	M26	7/8-F04-BKR-M26-C	168 004 323 1504
5 (4+PE)	M26	7/8-F05-BKR-M26-C	168 005 323 1504



## 7/8 Circular Connector

300V 10/8A

## Technical characteristics

Number of contacts	3 (2+PE)	4 (3+PE)	5 (4+PE)
Rated current (40°C)	10A	8A	8A
Rated voltage	300V	300V	300V
Rated impulse voltage	2500V	2500V	2500V
Pollution degree	3	3	3
Overvoltage categorie	II	II	II
Contact resistance	≤ 3 mΩ	≤ 3 mΩ	≤ 3 mΩ
Connector locking system	screw 7/8-16UN	screw 7/8-16UN	screw 7/8-16UN
Termination	-	-	-
Wire gauge	-	-	-
Cable outlet	-	-	-
Degree of protection	IP67	IP67	IP67
Mechanical operation	> 100	> 100	> 100
Limiting temperature	-25°C ...+85°C	-25°C ...+85°C	-25°C ...+85°C
Material group	II	II	II
Material of contact	copper alloy	copper alloy	copper alloy
Contact plating	Au	Au	Au
Insulating material	TPU	TPU	TPU
Material of housing	brass nickel plated	brass nickel plated	brass nickel plated

## Socket

Male integrate with female  
direct tighten

7/8

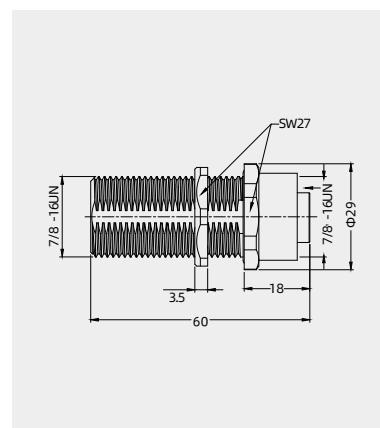


2+PE 3+PE 4+PE



2+PE 3+PE 4+PE

Contacts	screw	Designation	Order No.
3 (2+PE)	7/8-16UN	7/8-M03-BK-F03-7/8	168 003 300 1001
4 (3+PE)	7/8-16UN	7/8-M04-BK-F04-7/8	168 003 300 1002
5 (4+PE)	7/8-16UN	7/8-M05-BK-F05-7/8	168 003 300 1003

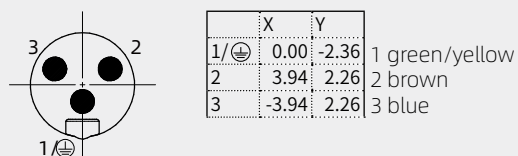


## 7/8 Circular Connector

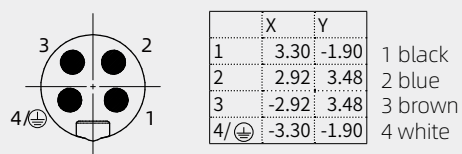
- Contact arrangements

- Male insert (mating side)

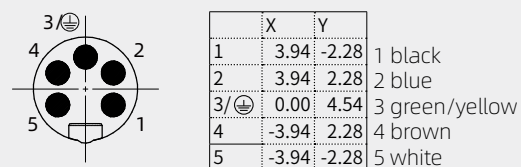
3 (2+PE)



4 (3+PE)

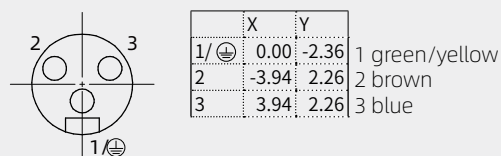


5 (4+PE)

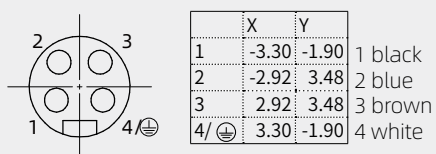


- Female insert (mating side)

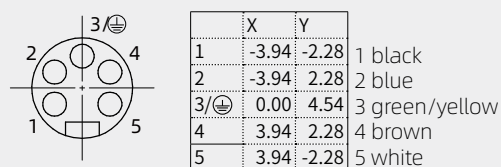
3 (2+PE)



4 (3+PE)



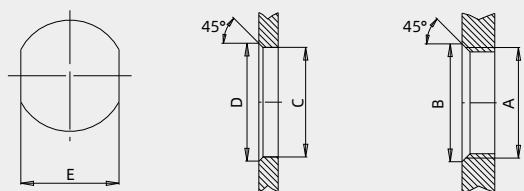
5 (4+PE)



- Panel cut out

7/8

- Front panel mounting, back panel tighten
- Through-hole mounting
- Screw mounting



	A	B	C	D	E
PG11	PG11	20.2	18.7	20.2	17.0
PG13.5	PG13.5	22.2	20.5	22.2	18.8
M20×1.5	M20×1.5	21.6	20.1	21.6	17.8

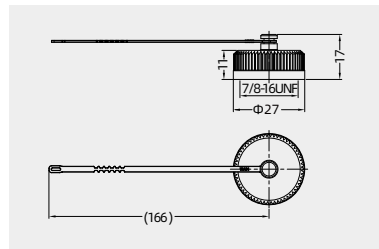
Accessories

Protection cap IP67

Protection cover  
for male cable connector



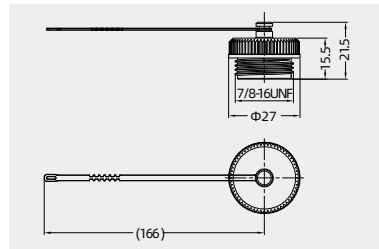
Description	Designation	Order No.
Without cord	7/8-MCV	168 000 001 9003
With cord	7/8-MCV/1	168 000 001 9001



Protection cover  
for female cable connector



Description	Designation	Order No.
Without cord	7/8-FCV	168 000 002 9003
With cord	7/8-FCV/1	168 000 002 9001



# M17 SERIES



## M17 Circular connector

630V- 20A

## Technical characteristics

Specifications			
Specifications	DIN EN 60 664 DIN EN 61 984		
Approvals			
Electrical data	Mechanical data		
Number of contacts	4(3+PE)	Housing material	copper alloy,zinc alloy
Rated current	20A	Housing surface	Nickel-plated
mm <sup>2</sup> / AWG	(0.35-2.5 mm <sup>2</sup> / AWG 22-14)	Contact resistance	≤ 5 mΩ
Rated voltage	630V	Insulating bodies	PBT
Rated impulse voltage	6kV	Contact material	copper alloy
Pollution degree	3	Contact surface	gold plated
Flammability acc. to UL 94	V0 (UL94)	Mechanical working life	>500
Overvoltage categorie	III	Degree of protection	IP67
		Temperature range	-40°C ...+130°C

## Male, Crimp terminal

order crimp contacts separately

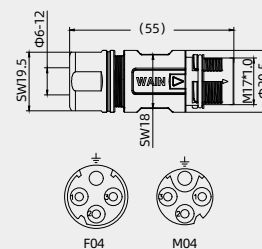
Contacts	Cable outlet	Designation	Order No.
4(3+PE)	6-9mm	M17-MC04-CCT-D9.5-SH	165 004 710 2500
	9-12mm	M17-MC04-CCT-D12-SH	165 004 710 2501



## Female, Crimp terminal

order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
4(3+PE)	6-9mm	M17-FC04-CCT-D9.5-SH	165 004 720 2500
	9-12mm	M17-FC04-CCT-D12-SH	165 004 720 2501



## Crimp contacts

## Crimp contacts 20A

Wire gauge(mm <sup>2</sup> )	Male	Order No.
0.35-2.5	M17-MC20G-2.5	101 020 210 1002
Wire gauge(mm <sup>2</sup> )	Female	Order No.
0.35-2.5	M17-FC20G-2.5	101 020 220 1002



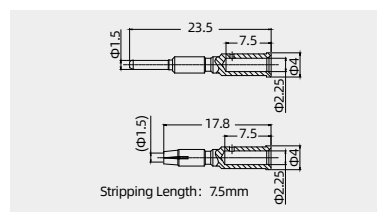
## Tools

## Crimping tool

Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039



Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.



## M17 Circular connector

630V- 20A

## Technical characteristics

Specifications			
Specifications	DIN EN 60 664 DIN EN 61 984		
Approvals			
Electrical data	Mechanical data		
Number of contacts	4(3+PE)	Housing material	copper alloy,zinc alloy
Rated current	20A	Housing surface	Nickel-plated
mm <sup>2</sup> / AWG	(0.35-2.5 mm <sup>2</sup> / AWG 22-14)	Contact resistance	≤ 5 mΩ
Rated voltage	630V	Insulating bodies	PBT
Rated impulse voltage	6kV	Contact material	copper alloy
Pollution degree	3	Contact surface	gold plated
Flammability acc. to UL 94	V0 (UL94)	Mechanical working life	>500
Overvoltage categorie	III	Degree of protection	IP67
		Temperature range	-40°C ...+130°C

## Male, Crimp terminal

order crimp contacts separately

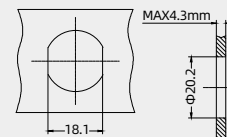
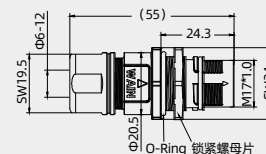
Contacts	Cable outlet	Designation	Order No.
4(3+PE)	6-9mm	M17-MC04-CCT/R-D9.5-SH	165 004 710 0500
	9-12mm	M17-MC04-CCT/R-D12-SH	165 004 710 2502



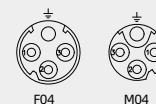
## Female, Crimp terminal

order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
4(3+PE)	6-9mm	M17-FC04-CCT/R-D9.5-SH	165 004 720 2502
	9-12mm	M17-FC04-CCT/R-D12-SH	165 004 720 2503



Panel Cut-out

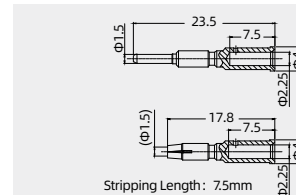


## Crimp contacts

## Crimp contacts 20A

Wire gauge(mm <sup>2</sup> )	Male	Order No.
0.35-2.5	M17-MC20G-2.5	101 020 210 1002

Wire gauge(mm <sup>2</sup> )	Female	Order No.
0.35-2.5	M17-FC20G-2.5	101 020 220 1002



## Tools

Crimping tool

Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039



Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.



## M17 Circular connector

630V- 20A

## Technical characteristics

Specifications			
Specifications	DIN EN 60 664 DIN EN 61 984		
Approvals			
Electrical data	Mechanical data		
Number of contacts	4(3+PE)	Housing material	copper alloy,zinc alloy
Rated current	20A	Housing surface	Nickel-plated
mm <sup>2</sup> / AWG	(0.35-2.5 mm <sup>2</sup> / AWG 22-14)	Contact resistance	≤ 5 mΩ
Rated voltage	630V	Insulating bodies	PBT
Rated impulse voltage	6kV	Contact material	copper alloy
Pollution degree	3	Contact surface	gold plated
Flammability acc. to UL 94	V0 (UL94)	Mechanical working life	>500
Overvoltage categorie	III	Degree of protection	IP67
		Temperature range	-40°C ...+130°C

## Male, Crimp terminal

order crimp contacts separately



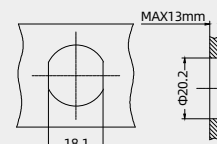
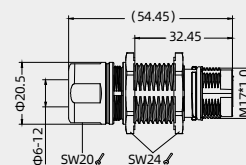
Contacts	Cable outlet	Designation	Order No.
4(3+PE)	6-9mm	M17-MC04-CCT/RA-D9.5-SH	165 004 710 2503
	9-12mm	M17-MC04-CCT/RA-D12-SH	165 004 710 2504

## Female, Crimp terminal

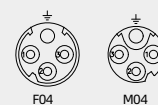
order crimp contacts separately



Contacts	Cable outlet	Designation	Order No.
4(3+PE)	6-9mm	M17-FC04-CCT/RA-D9.5-SH	165 004 720 2504
	9-12mm	M17-FC04-CCT/RA-D12-SH	165 004 720 2505



Panel Cut-out



## Crimp contacts

## Crimp contacts 20A

20A	Wire gauge(mm <sup>2</sup> )	Male	Order No.
	0.35-2.5	M17-MC20G-2.5	101 020 210 1002



Wire gauge(mm <sup>2</sup> )	Female	Order No.
0.35-2.5	M17-FC20G-2.5	101 020 220 1002

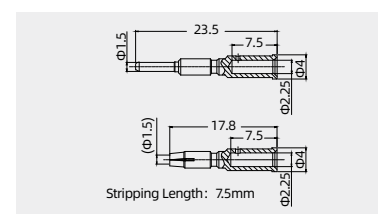
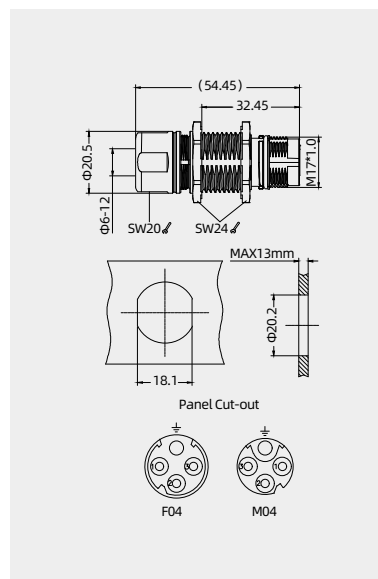
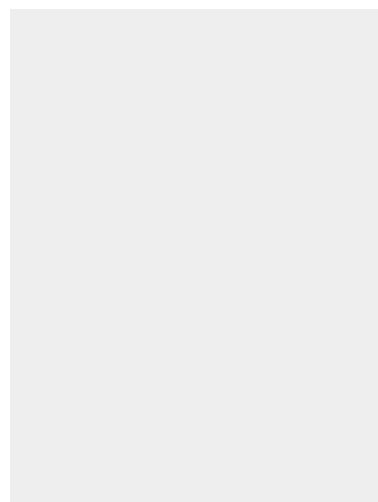
## Tools

Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.



## M17 Circular connector

630V- 14A

## Technical characteristics

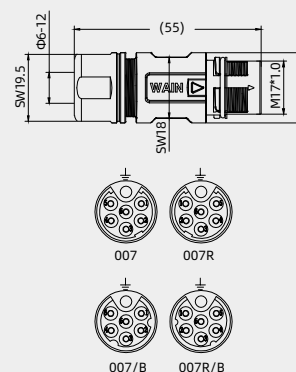
Specifications			
Specifications	DIN EN 60 664 DIN EN 61 984		
Approvals			
Electrical data	Mechanical data		
Number of contacts	7(6+PE)	Housing material	copper alloy,zinc alloy
Rated current	14A	Housing surface	Nickel-plated
mm <sup>2</sup> / AWG	(0.03-1.5mm <sup>2</sup> /AWG32-16)	Contact resistance	≤ 5 mΩ
Rated voltage	630 V	Insulating bodies	PBT
Rated impulse voltage	6kV	Contact material	copper alloy
Pollution degree	3	Contact surface	gold plated
Flammability acc. to UL 94	V0 (UL94)	Mechanical working life	>500
Overvoltage categorie	III	Degree of protection	IP67
		Temperature range	-40°C ...+130°C

## Crimp terminal

order crimp contacts separately



Contacts	Cable outlet	Designation	Order No.
7(6+PE)	6-9mm	M17-007-CCT-D9.5-SH	165 007 700 2503
	9-12mm	M17-007-CCT-D12-SH	165 007 700 2504
	6-9mm	M17-007R-CCT-D9.5-SH	165 007 700 2505
	9-12mm	M17-007R-CCT-D12-SH	165 007 700 2506
	6-9mm	M17-007/B-CCT-D9.5-SH	165 007 400 2010
	9-12mm	M17-007/B-CCT-D12-SH	165 007 400 2011
	6-9mm	M17-007R/B-CCT-D9.5-SH	165 007 700 2507
	9-12mm	M17-007R/B-CCT-D12-SH	165 007 700 2508



## Crimp contacts

## Crimp contacts



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.03-0.34	M23-MC9G-0.34	101 031 210 2501
②	0.14-1.0	M23-MC9G-1.0	101 031 210 0801
③	0.5-1.5	M23-MC9G-1.5	101 031 210 0901
NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.03-0.34	M23-FC9G-0.34	101 031 220 2501
②	0.14-1.0	M23-FC9G-1.0	101 031 220 0801
③	0.5-1.5	M23-FC9G-1.5	101 031 220 0901

NO.	Φa	Φb	Stripping Length
①	1.7	0.9	4mm
②	2.1	1.45	4mm

NO.	Φa	Φb	c	Stripping Length
①	1.7	0.9	14	4mm
②	2.1	1.45	14	4mm
③	1.75	-	16.7	4.9mm

## Tools

## Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## M17 Circular connector

630V- 14A

## Technical characteristics

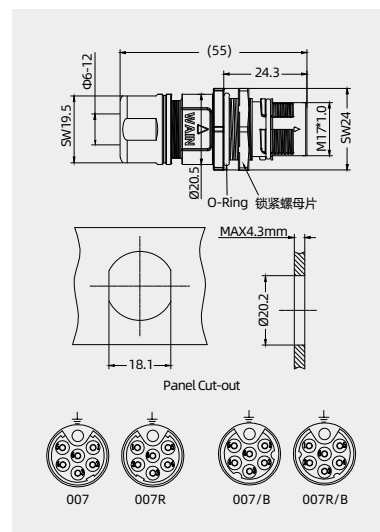
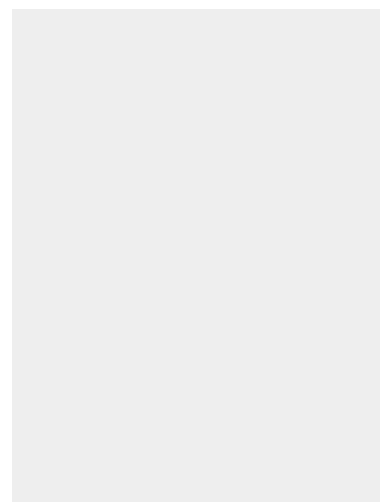
Specifications			
Specifications	DIN EN 60 664 DIN EN 61 984		
Approvals			
Electrical data	Mechanical data		
Number of contacts	7(6+PE)	Housing material	copper alloy,zinc alloy
Rated current	14A	Housing surface	Nickel-plated
mm <sup>2</sup> / AWG	(0.03-1.5mm <sup>2</sup> /AWG32-16)	Contact resistance	≤ 5 mΩ
Rated voltage	630 V	Insulating bodies	PBT
Rated impulse voltage	6kV	Contact material	copper alloy
Pollution degree	3	Contact surface	gold plated
Flammability acc. to UL 94	V0 (UL94)	Mechanical working life	>500
Overtoltage categorie	III	Degree of protection	IP67
		Temperature range	-40°C ...+130°C

## Crimp terminal

order crimp contacts separately



Contacts	Cable outlet	Designation	Order No.
7(6+PE)	6-9mm	M17-007-CCT/R-D9.5-SH	165 007 700 2500
	9-12mm	M17-007-CCT/R-D12-SH	165 007 700 2502
	6-9mm	M17-007R-CCT/R-D9.5-SH	165 007 700 2509
	9-12mm	M17-007R-CCT/R-D12-SH	165 007 700 2510
	6-9mm	M17-007/B-CCT/R-D9.5-SH	165 007 700 2511
	9-12mm	M17-007/B-CCT/R-D12-SH	165 007 700 2512
	6-9mm	M17-007R/B-CCT/R-D9.5-SH	165 007 700 2513
	9-12mm	M17-007R/B-CCT/R-D12-SH	165 007 700 2514



## Crimp contacts

Crimp contacts



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.03-0.34	M23-MC9G-0.34	101 031 210 2501
②	0.14-1.0	M23-MC9G-1.0	101 031 210 0801
③	0.5-1.5	M23-MC9G-1.5	101 031 210 0901
NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.03-0.34	M23-FC9G-0.34	101 031 220 2501
②	0.14-1.0	M23-FC9G-1.0	101 031 220 0801
③	0.5-1.5	M23-FC9G-1.5	101 031 220 0901

NO.	Φa	Φb	Stripping Length
①	1.7	0.9	4mm
②	2.1	1.45	4mm

NO.	Φa	Φb	c	Stripping Length
①	1.7	0.9	14	4mm
②	2.1	1.45	14	4mm
③	1.75	-	16.7	4.9mm

Tools

Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## M17 Circular connector

630V- 14A

## Technical characteristics

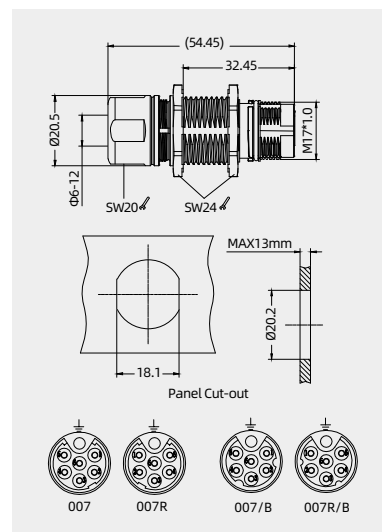
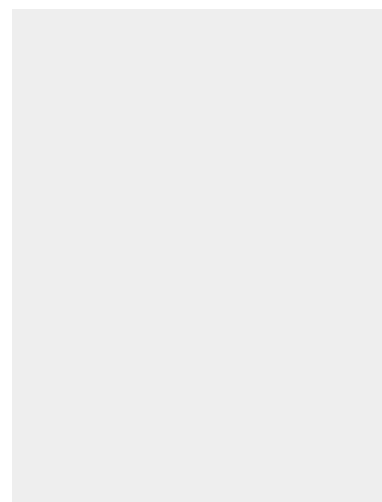
Specifications			
Specifications	DIN EN 60 664 DIN EN 61 984		
Approvals			
Electrical data	Mechanical data		
Number of contacts	7(6+PE)	Housing material	copper alloy,zinc alloy
Rated current	14A	Housing surface	Nickel-plated
mm <sup>2</sup> / AWG	(0.03-1.5mm <sup>2</sup> /AWG32-16)	Contact resistance	≤ 5 mΩ
Rated voltage	630 V	Insulating bodies	PBT
Rated impulse voltage	6kV	Contact material	copper alloy
Pollution degree	3	Contact surface	gold plated
Flammability acc. to UL 94	V0 (UL94)	Mechanical working life	>500
Overvoltage categorie	III	Degree of protection	IP67
		Temperature range	-40°C ...+130°C

## Crimp terminal

order crimp contacts separately



Contacts	Cable outlet	Designation	Order No.
7(6+PE)	6-9mm	M17-007-CCT/RA-D9.5-SH	165 007 700 2515
	9-12mm	M17-007-CCT/RA-D12-SH	165 007 700 2516
	6-9mm	M17-007R-CCT/RA-D9.5-SH	165 007 700 2517
	9-12mm	M17-007R-CCT/RA-D12-SH	165 007 700 2518
	6-9mm	M17-007/B-CCT/RA-D9.5-SH	165 007 700 2519
	9-12mm	M17-007/B-CCT/RA-D12-SH	165 007 700 2520
	6-9mm	M17-007R/B-CCT/RA-D9.5-SH	165 007 700 2521
	9-12mm	M17-007R/B-CCT/RA-D12-SH	165 007 700 2522



## Crimp contacts

## Crimp contacts



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.03-0.34	M23-MC9G-0.34	101 031 210 2501
②	0.14-1.0	M23-MC9G-1.0	101 031 210 0801
③	0.5-1.5	M23-MC9G-1.5	101 031 210 0901
NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.03-0.34	M23-FC9G-0.34	101 031 220 2501
②	0.14-1.0	M23-FC9G-1.0	101 031 220 0801
③	0.5-1.5	M23-FC9G-1.5	101 031 220 0901

NO.	Φa	Φb	Stripping Length
①	1.7	0.9	4mm
②	2.1	1.45	4mm

NO.	Φa	Φb	c	Stripping Length
①	1.7	0.9	14	4mm
②	2.1	1.45	14	4mm
③	1.75	-	16.7	4.9mm

## Tools

## Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## M17 Circular connector

630/63V - 14/0.6A

## Technical characteristics

Specifications			
Specifications	DIN EN 60 664 DIN EN 61 984		
Approvals			
Electrical data		Mechanical data	
Number of contacts	5	3+PE	Housing material
Rated current	0.6	14A	Housing surface
mm <sup>2</sup> / AWG	0.14-0.5/26-20	0.03-1.5/32-16	Contact resistance
Rated voltage	63V	630V	Insulating bodies
Rated impulse voltage	1.5kV	6kV	Contact material
Pollution degree	3	3	Contact surface
Flammability acc. to UL 94	V0 (UL94)	V0 (UL94)	Mechanical working life
Overvoltage categorie	III	III	Degree of protection
			Temperature range

## Male, Crimp terminal

order crimp contacts separately



Contacts	Cable outlet	Designation	Order No.
9(5+4(3+PE))	6-9mm	M17-MC04/5-CCT-D9.5-SH	165 009 710 2500
	9-12mm	M17-MC04/5-CCT-D12-SH	165 009 710 2501

## Female, Crimp terminal

order crimp contacts separately



Contacts	Cable outlet	Designation	Order No.
9(5+4(3+PE))	6-9mm	M17-FC04/5-CCT-D9.5-SH	165 009 720 2500
	9-12mm	M17-FC04/5-CCT-D12-SH	165 009 720 2501

## Crimp contacts

## Crimp contacts 3.6A

3.6A(signal)



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.14-0.5	M17-MC3.6G-0.5	101 039 210 0401

NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.14-0.5	M17-FC3.6G-0.5	101 039 220 0401

## Crimp contacts

power



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.03-0.34	M23-MC9G-0.34	101 031 210 2501
②	0.14-1.0	M23-MC9G-1.0	101 031 210 0801
③	0.5-1.5	M23-MC9G-1.5	101 031 210 0901

NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.03-0.34	M23-FC9G-0.34	101 031 220 2501
②	0.14-1.0	M23-FC9G-1.0	101 031 220 0801
③	0.5-1.5	M23-FC9G-1.5	101 031 220 0901

## Tools

Crimping tool



Wire gauge	Designation	Order No.
0.09-0.82 mm <sup>2</sup>	TL03	198 001 001 0002

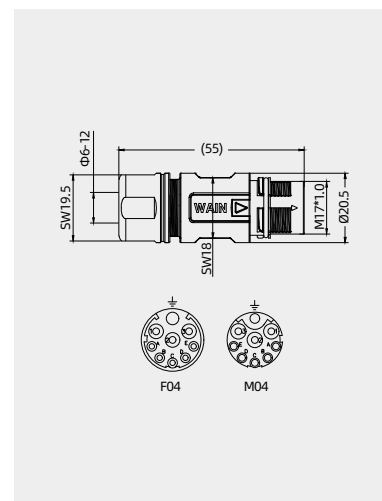
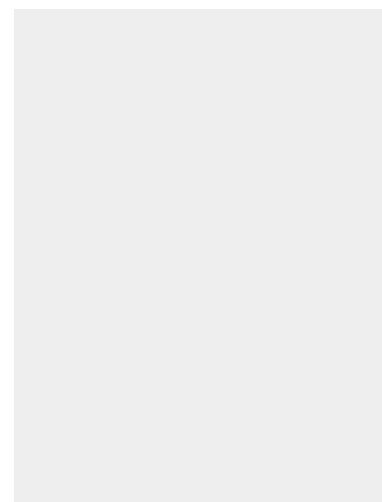
## Tools

Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.



## M17 Circular connector

630/63V - 14/0.6A

## Technical characteristics

Specifications				
Specifications	DIN EN 60 664 DIN EN 61 984			
Approvals				
Electrical data	Mechanical data			
Number of contacts	5	3+PE	Housing material	copper alloy,zinc alloy
Rated current	0.6	14A	Housing surface	Nickel-plated
mm <sup>2</sup> / AWG	0.14-0.5/26-20	0.03-1.5/32-16	Contact resistance	≤ 5 mΩ
Rated voltage	63V	630V	Insulating bodies	PBT
Rated impulse voltage	1.5kV	6kV	Contact material	copper alloy
Pollution degree	3	3	Contact surface	gold plated
Flammability acc. to UL 94	V0 (UL94)	V0 (UL94)	Mechanical working life	>500
Overvoltage categorie	III	III	Degree of protection	IP67
			Temperature range	-40°C ...+130°C

## Male, Crimp terminal

order crimp contacts separately



Contacts	Cable outlet	Designation	Order No.
9(5+4(3+PE))	6-9mm	M17-MC04/5-CCT/R-D9.5-SH	165 009 710 2502
	9-12mm	M17-MC04/5-CCT/R-D12-SH	165 009 710 2503

## Female, Crimp terminal

order crimp contacts separately



Contacts	Cable outlet	Designation	Order No.
9(5+4(3+PE))	6-9mm	M17-FC04/5-CCT/R-D9.5-SH	165 009 720 2502
	9-12mm	M17-FC04/5-CCT/R-D12-SH	165 009 720 2503

## Crimp contacts

## Crimp contacts 3.6A

3.6A(signal)



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.14-0.5	M17-MC3.6G-0.5	101 039 210 0401

NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.14-0.5	M17-FC3.6G-0.5	101 039 220 0401

## Crimp contacts

power



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.03-0.34	M23-MC9G-0.34	101 031 210 2501
②	0.14-1.0	M23-MC9G-1.0	101 031 210 0801
③	0.5-1.5	M23-MC9G-1.5	101 031 210 0901

NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.03-0.34	M23-FC9G-0.34	101 031 220 2501
②	0.14-1.0	M23-FC9G-1.0	101 031 220 0801
③	0.5-1.5	M23-FC9G-1.5	101 031 220 0901

## Tools

Crimping tool



Wire gauge	Designation	Order No.
0.09-0.82 mm <sup>2</sup>	TL03	198 001 001 0002

## Tools

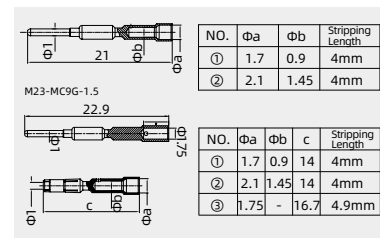
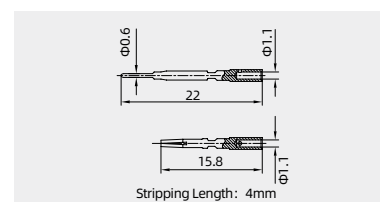
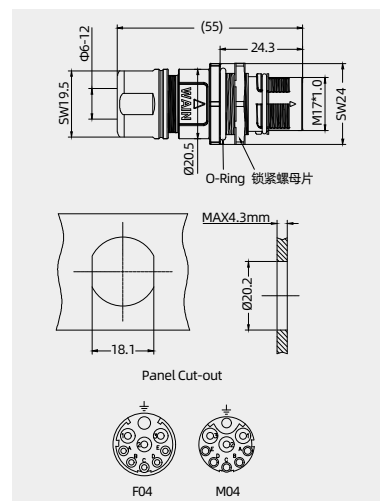
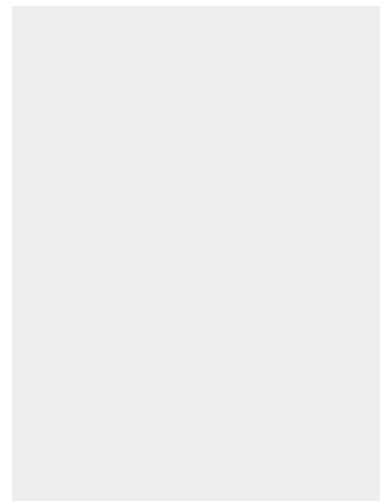
Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

21S-01.8 WAIN ELECTRICAL



## M17 Circular connector

630/63V - 14/0.6A

## Technical characteristics

Specifications			
Specifications	DIN EN 60 664 DIN EN 61 984		
Approvals			
Electrical data		Mechanical data	
Number of contacts	5	3+PE	Housing material
Rated current	0.6	14A	Housing surface
mm <sup>2</sup> / AWG	0.14-0.5/26-20	0.03-1.5/32-16	Contact resistance
Rated voltage	63V	630V	Insulating bodies
Rated impulse voltage	1.5kV	6kV	Contact material
Pollution degree	3	3	Contact surface
Flammability acc. to UL 94	V0 (UL94)	V0 (UL94)	Mechanical working life
Overvoltage categorie	III	III	Degree of protection
			Temperature range

## Male, Crimp terminal

order crimp contacts separately



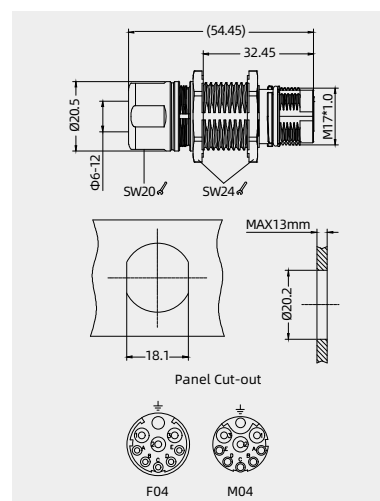
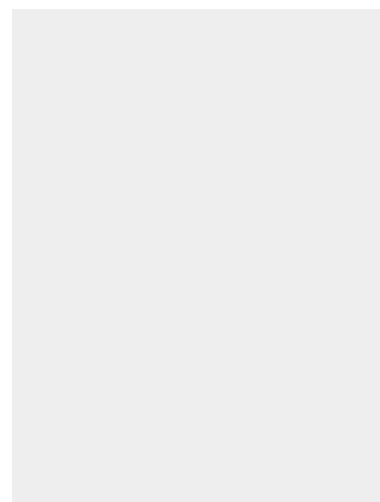
Contacts	Cable outlet	Designation	Order No.
9(5+4(3+PE))	6-9mm	M17-MC04/5-CCT/RA-D9.5-SH	165 009 710 2504
	9-12mm	M17-MC04/5-CCT/RA-D12-SH	165 009 710 2505

## Female, Crimp terminal

order crimp contacts separately



Contacts	Cable outlet	Designation	Order No.
9(5+4(3+PE))	6-9mm	M17-FC04/5-CCT/RA-D9.5-SH	165 009 720 2504
	9-12mm	M17-FC04/5-CCT/RA-D12-SH	165 009 720 2505



## Crimp contacts

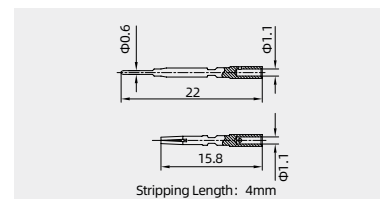
## Crimp contacts 3.6A

3.6A



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.14-0.5	M17-MC3.6G-0.5	101 039 210 0401

NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.14-0.5	M17-FC3.6G-0.5	101 039 220 0401



## Crimp contacts

power



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.03-0.34	M23-MC9G-0.34	101 031 210 2501
②	0.14-1.0	M23-MC9G-1.0	101 031 210 0801
③	0.5-1.5	M23-MC9G-1.5	101 031 210 0901

NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.03-0.34	M23-FC9G-0.34	101 031 220 2501
②	0.14-1.0	M23-FC9G-1.0	101 031 220 0801
③	0.5-1.5	M23-FC9G-1.5	101 031 220 0901

NO.	Φa	Φb	Stripping Length
①	1.7	0.9	4mm
②	2.1	1.45	4mm

NO.	Φa	Φb	c	Stripping Length
①	1.7	0.9	14	4mm
②	2.1	1.45	14	4mm
③	1.75	-	16.7	4.9mm

## Tools

Crimping tool



Wire gauge	Designation	Order No.
0.09-0.82 mm <sup>2</sup>	TL03	198 001 001 0002

## Tools

Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## M17 Circular connector

48V- 7.5A

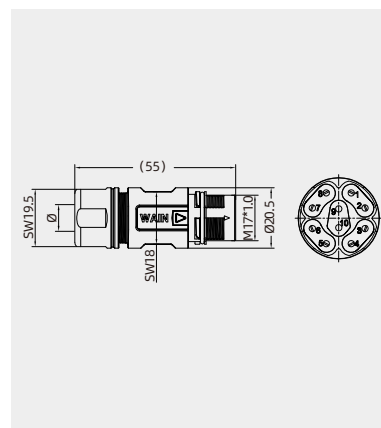
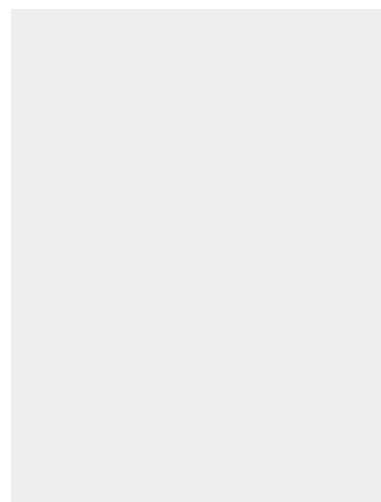
## Technical characteristics

Specifications			
Specifications	DIN EN 60 664 DIN EN 61 984		
Approvals			
Electrical data	Mechanical data		
Number of contacts	10	Housing material	copper alloy,zinc alloy
Rated current	7.5A	Housing surface	Nickel-plated
mm <sup>2</sup> / AWG	(0.09-0.82mm <sup>2</sup> / AWG 28-18)	Contact resistance	≤ 10 mΩ
Rated voltage	48 V	Insulating bodies	PBT
Rated impulse voltage	1.5kV	Contact material	copper alloy
Pollution degree	3	Contact surface	gold plated
Flammability acc. to UL 94	V0 (UL94)	Mechanical working life	>500
Overvoltage categorie	III	Degree of protection	IP67
		Temperature range	-40°C ...+130°C

## Crimp terminal

order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
10	6-9.5mm	M17-MC010-CCT-D9.5-SH	165 010 710 2500
	9-12mm	M17-MC010-CCT-D12-SH	165 010 710 2501

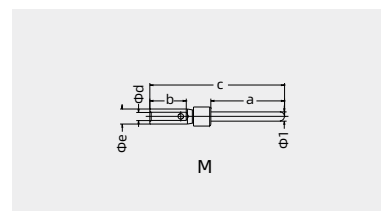


## Accessories

## Crimp contacts 5A

gold plated

Wire gauge(mm <sup>2</sup> )	Male	Order No.
0.09-0.25	CSGM-0.25	101 014 210 0101
0.13-0.33	CSGM-0.33	101 014 210 0201
0.33-0.52	CSGM-0.52	101 014 210 0501
0.33-0.82	CSGM-0.82	101 014 210 0701



## Tools

Crimping tool

Wire gauge	Designation	Order No.
0.09-0.82mm <sup>2</sup>	TL03	198 001 001 0002



Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.



## M17 Circular connector

48V- 7.5A

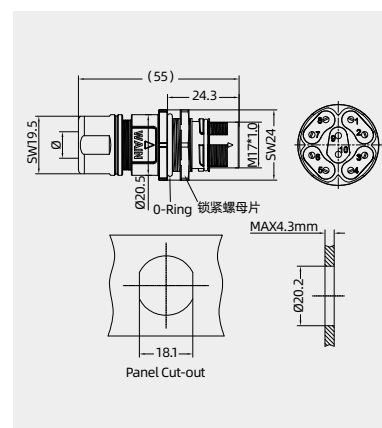
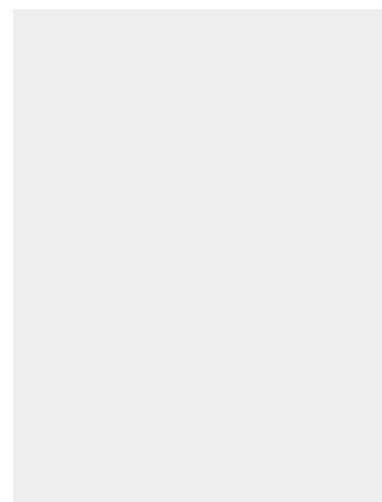
## Technical characteristics

Specifications			
Specifications	DIN EN 60 664 DIN EN 61 984		
Approvals			
Electrical data	Mechanical data		
Number of contacts	10	Housing material	copper alloy,zinc alloy
Rated current	7.5A	Housing surface	Nickel-plated
mm <sup>2</sup> / AWG	(0.09-0.82mm <sup>2</sup> /AWG28-18)	Contact resistance	≤ 10 mΩ
Rated voltage	48 V	Insulating bodies	PBT
Rated impulse voltage	1.5kV	Contact material	copper alloy
Pollution degree	3	Contact surface	gold plated
Flammability acc. to UL 94	V0 (UL94)	Mechanical working life	>500
Overtoltage categorie	III	Degree of protection	IP67
		Temperature range	-40°C ...+130°C

## Crimp terminal

order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
10	6-9.5mm	M17-MC010-CCT/R-D9.5-SH	165 010 710 2504
	9-12mm	M17-MC010-CCT/R-D12-SH	165 010 710 2505



## Accessories

## Crimp contacts 5A

gold plated



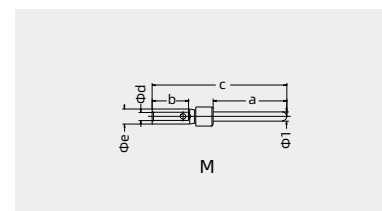
Wire gauge(mm <sup>2</sup> )	Male	Order No.
0.09-0.25	CSGM-0.25	101 014 210 0101
0.13-0.33	CSGM-0.33	101 014 210 0201
0.33-0.52	CSGM-0.52	101 014 210 0501
0.33-0.82	CSGM-0.82	101 014 210 0701

## Tools

Crimping tool



Wire gauge	Designation	Order No.
0.09-0.82mm <sup>2</sup>	TL03	198 001 001 0002



Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## M17 Circular connector

48V- 7.5A

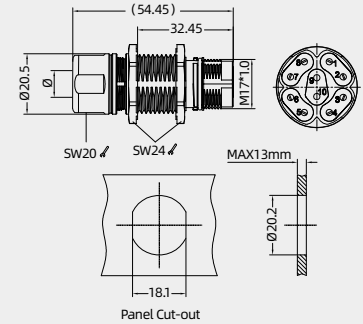
## Technical characteristics

Specifications			
Specifications	DIN EN 60 664 DIN EN 61 984		
Approvals			
Electrical data	Mechanical data		
Number of contacts	10	Housing material	copper alloy,zinc alloy
Rated current	7.5A	Housing surface	Nickel-plated
mm <sup>2</sup> / AWG	(0.09-0.82mm <sup>2</sup> / AWG 28-18)	Contact resistance	≤ 10 mΩ
Rated voltage	48 V	Insulating bodies	PBT
Rated impulse voltage	1.5kV	Contact material	copper alloy
Pollution degree	3	Contact surface	gold plated
Flammability acc. to UL 94	V0 (UL94)	Mechanical working life	>500
Overvoltage categorie	III	Degree of protection	IP67
		Temperature range	-40°C ...+130°C

## Crimp terminal

order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
10	6-9.5mm	M17-MC010-CCT/RA-D9.5-SH	165 010 710 2506
	9-12mm	M17-MC010-CCT/RA-D12-SH	165 010 710 2507



## Accessories

## Crimp contacts 5A

gold plated

Wire gauge(mm <sup>2</sup> )	Male	Order No.
0.09-0.25	CSGM-0.25	101 014 210 0101
0.13-0.33	CSGM-0.33	101 014 210 0201
0.33-0.52	CSGM-0.52	101 014 210 0501
0.33-0.82	CSGM-0.82	101 014 210 0701



## Tools

Crimping tool

Wire gauge	Designation	Order No.
0.09-0.82mm <sup>2</sup>	TL03	198 001 001 0002



Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## M17 Circular connector

32V- 7A

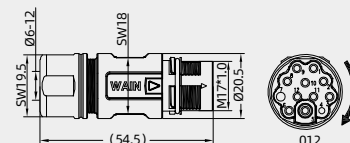
### Technical characteristics

Specifications			
Specifications	DIN EN 60 664 DIN EN 61 984		
Approvals			
Electrical data	Mechanical data		
Number of contacts	12	Housing material	copper alloy,zinc alloy
Rated current	7A	Housing surface	Nickel-plated
mm <sup>2</sup> / AWG	(0.03-1.0mm <sup>2</sup> /AWG32-18)	Contact resistance	≤ 5 mΩ
Rated voltage	32 V	Insulating bodies	PBT
Rated impulse voltage	1.5kV	Contact material	copper alloy
Pollution degree	3	Contact surface	gold plated
Flammability acc. to UL 94	V0 (UL94)	Mechanical working life	>500
Overvoltage categorie	III	Degree of protection	IP67
		Temperature range	-40°C ...+130°C

### Crimp terminal

order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
12	6-9.5mm	M17-012-CCT-D9.5-SH	165 012 700 2501
	9-12mm	M17-012-CCT-D12-SH	165 012 700 2503

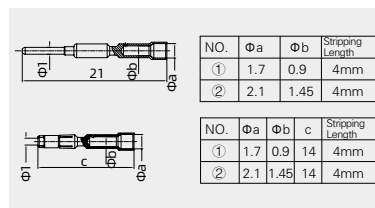


### Crimp contacts

Crimp contacts



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.03-0.34	M23-MC9G-0.34	101 031 210 2501
②	0.14-1.0	M23-MC9G-1.0	101 031 210 0801
NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.03-0.34	M23-FC9G-0.34	101 031 220 2501
②	0.14-1.0	M23-FC9G-1.0	101 031 220 0801



Tools

Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## M17 Circular connector

32V- 7A

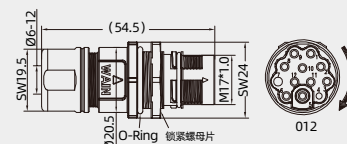
## Technical characteristics

Specifications			
Specifications	DIN EN 60 664 DIN EN 61 984		
Approvals			
Electrical data	Mechanical data		
Number of contacts	12	Housing material	copper alloy,zinc alloy
Rated current	7A	Housing surface	Nickel-plated
mm <sup>2</sup> / AWG	(0.03-1.0mm <sup>2</sup> /AWG32-18)	Contact resistance	≤ 5 mΩ
Rated voltage	32 V	Insulating bodies	PBT
Rated impulse voltage	1.5kV	Contact material	copper alloy
Pollution degree	3	Contact surface	gold plated
Flammability acc. to UL 94	V0 (UL94)	Mechanical working life	>500
Overvoltage categorie	III	Degree of protection	IP67
		Temperature range	-40°C ...+130°C

## Crimp terminal

order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
12	6-9.5mm	M17-012-CCT/R-D9.5-SH	165 012 700 2500
	9-12mm	M17-012-CCT/R-D12-SH	165 012 400 2500



## Crimp contacts

## Crimp contacts

NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.03-0.34	M23-MC9G-0.34	101 031 210 2501
②	0.14-1.0	M23-MC9G-1.0	101 031 210 0801
NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.03-0.34	M23-FC9G-0.34	101 031 220 2501
②	0.14-1.0	M23-FC9G-1.0	101 031 220 0801

NO.	Φa	Φb	Stripping Length
①	1.7	0.9	4mm
②	2.1	1.45	4mm

NO.	Φa	Φb	c	Stripping Length
①	1.7	0.9	14	4mm
②	2.1	1.45	14	4mm

## Tools

## Crimping tool

Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039



Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## M17 Circular connector

32V- 7A

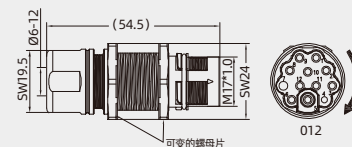
## Technical characteristics

Specifications			
Specifications	DIN EN 60 664		
	DIN EN 61 984		
Approvals			
Electrical data		Mechanical data	
Number of contacts	12	Housing material	copper alloy,zinc alloy
Rated current	7A	Housing surface	Nickel-plated
mm <sup>2</sup> / AWG	(0.03-1.0mm <sup>2</sup> /AWG32-18)	Contact resistance	≤ 5 mΩ
Rated voltage	32 V	Insulating bodies	PBT
Rated impulse voltage	1.5kV	Contact material	copper alloy
Pollution degree	3	Contact surface	gold plated
Flammability acc. to UL 94	V0 (UL94)	Mechanical working life	>500
Overvoltage categorie	III	Degree of protection	IP67
		Temperature range	-40°C ...+130°C

## Crimp terminal

order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
12	6-9.5mm	M17-012-CCT/RA-D9.5-SH	165 012 400 2501
	9-12mm	M17-012-CCT/RA-D12-SH	165 012 400 2502

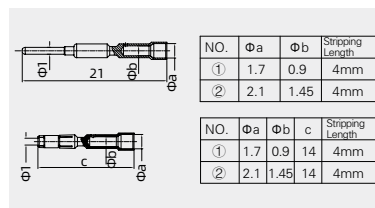


## Crimp contacts

Crimp contacts



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.03-0.34	M23-MC9G-0.34	101 031 210 2501
②	0.14-1.0	M23-MC9G-1.0	101 031 210 0801
NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.03-0.34	M23-FC9G-0.34	101 031 220 2501
②	0.14-1.0	M23-FC9G-1.0	101 031 220 0801



Tools

Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## M17 Circular connector

63V- 3.6A

## Technical characteristics

Specifications			
Specifications	DIN EN 60 664 DIN EN 61 984		
Approvals			
Electrical data	Mechanical data		
Number of contacts	17	Housing material	copper alloy,zinc alloy
Rated current	3.6A	Housing surface	Nickel-plated
mm <sup>2</sup> / AWG	(0.14-0.5 mm <sup>2</sup> / AWG 26-20)	Contact resistance	≤ 5 mΩ
Rated voltage	63 V	Insulating bodies	PBT
Rated impulse voltage	1.5kV	Contact material	copper alloy
Pollution degree	3	Contact surface	gold plated
Flammability acc. to UL 94 V0 (UL94)		Mechanical working life	>500
Overvoltage categorie	III	Degree of protection	IP67
		Temperature range	-40°C ...+130°C

## Male, Crimp terminal

order crimp contacts separately

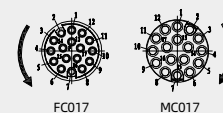
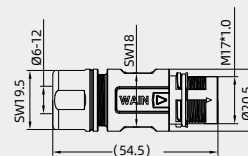
Contacts	Cable outlet	Designation	Order No.
17	6-9.5mm	M17-MC017-CCT-D9.5-SH	165 017 710 2502
	9-12mm	M17-MC017-CCT-D12-SH	165 017 710 2503



## Female, Crimp terminal

order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
17	6-9.5mm	M17-FC017-CCT-D9.5-SH	165 017 420 2502
	9-12mm	M17-FC017-CCT-D12-SH	165 017 420 2503



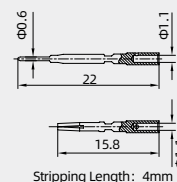
## Crimp contacts

## Crimp contacts 3.6A

NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.14-0.5	M17-MC3.6G-0.5	101 039 210 0401



NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.14-0.5	M17-FC3.6G-0.5	101 039 220 0401



## Tools

## Crimping tool



Wire gauge	Designation	Order No.
0.09-0.82 mm <sup>2</sup>	TL03	198 001 001 0002

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## M17 Circular connector

63V- 3.6A

## Technical characteristics

Specifications			
Specifications	DIN EN 60 664 DIN EN 61 984		
Approvals			
Electrical data	Mechanical data		
Number of contacts	17	Housing material	copper alloy,zinc alloy
Rated current	3.6A	Housing surface	Nickel-plated
mm <sup>2</sup> / AWG	(0.14-0.5 mm <sup>2</sup> / AWG 26-20)	Contact resistance	≤ 5 mΩ
Rated voltage	63 V	Insulating bodies	PBT
Rated impulse voltage	1.5kV	Contact material	copper alloy
Pollution degree	3	Contact surface	gold plated
Flammability acc. to UL 94 V0 (UL94)		Mechanical working life	>500
Overvoltage categorie	III	Degree of protection	IP67
		Temperature range	-40°C ...+130°C

## Male, Crimp terminal

order crimp contacts separately



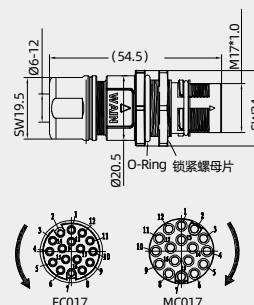
Contacts	Cable outlet	Designation	Order No.
17	6-9.5mm	M17-MC017-CCT/R-D9.5-SH	165 017 410 2501
	9-12mm	M17-MC017-CCT/R-D12-SH	165 017 410 2502

## Female, Crimp terminal

order crimp contacts separately



Contacts	Cable outlet	Designation	Order No.
17	6-9.5mm	M17-FC017-CCT/R-D9.5-SH	165 017 420 2504
	9-12mm	M17-FC017-CCT/R-D12-SH	165 017 420 2505



## Crimp contacts

## Crimp contacts 3.6A

3.6A



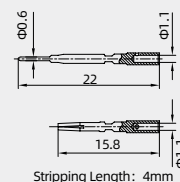
NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.14-0.5	M17-MC3.6G-0.5	101 039 210 0401
NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.14-0.5	M17-FC3.6G-0.5	101 039 220 0401

## Tools

Crimping tool



Wire gauge	Designation	Order No.
0.09-0.82 mm <sup>2</sup>	TL03	198 001 001 0002



Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## M17 Circular connector

63V- 3.6A

## Technical characteristics

Specifications			
Specifications	DIN EN 60 664 DIN EN 61 984		
Approvals			
Electrical data	Mechanical data		
Number of contacts	17	Housing material	copper alloy,zinc alloy
Rated current	3.6A	Housing surface	Nickel-plated
mm <sup>2</sup> / AWG	(0.14-0.5 mm <sup>2</sup> / AWG 26-20)	Contact resistance	≤ 5 mΩ
Rated voltage	63 V	Insulating bodies	PBT
Rated impulse voltage	1.5kV	Contact material	copper alloy
Pollution degree	3	Contact surface	gold plated
Flammability acc. to UL 94 V0 (UL94)		Mechanical working life	>500
Overvoltage categorie	III	Degree of protection	IP67
		Temperature range	-40°C ...+130°C

## Male, Crimp terminal

order crimp contacts separately



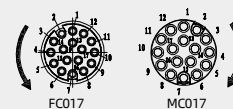
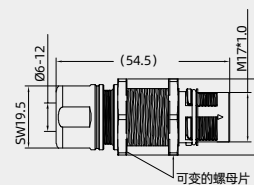
Contacts	Cable outlet	Designation	Order No.
17	6-9.5mm	M17-MC017-CCT/RA-D9.5-SH	165 017 410 2503
	9-12mm	M17-MC017-CCT/RA-D12-SH	165 017 410 2504

## Female, Crimp terminal

order crimp contacts separately



Contacts	Cable outlet	Designation	Order No.
17	6-9.5mm	M17-FC017-CCT/RA-D9.5-SH	165 017 420 2506
	9-12mm	M17-FC017-CCT/RA-D12-SH	165 017 420 2507



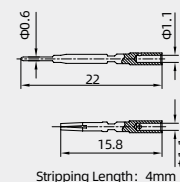
## Crimp contacts

## Crimp contacts 3.6A

3.6A



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.14-0.5	M17-MC3.6G-0.5	101 039 210 0401
NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.14-0.5	M17-FC3.6G-0.5	101 039 220 0401



## Tools

## Crimping tool



Wire gauge	Designation	Order No.
0.09-0.82 mm <sup>2</sup>	TL03	198 001 001 0002

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.



## M17 Circular connector

630V- 20A

## Technical characteristics

Specifications			
Specifications	DIN EN 60 664 DIN EN 61 984		
Approvals			
Electrical data	Mechanical data		
Number of contacts	4(3+PE)	Housing material	copper alloy,zinc alloy
Rated current	20A	Housing surface	Nickel-plated
mm <sup>2</sup> / AWG	(0.35-2.5 mm <sup>2</sup> / AWG 22-14)	Contact resistance	≤ 5 mΩ
Rated voltage	630V	Insulating bodies	PBT
Rated impulse voltage	6kV	Contact material	copper alloy
Pollution degree	3	Contact surface	gold plated
Flammability acc. to UL 94	V0 (UL94)	Mechanical working life	>500
Overvoltage categorie	III	Degree of protection	IP67
		Temperature range	-40°C ...+130°C

## Male, Crimp terminal

order crimp contacts separately



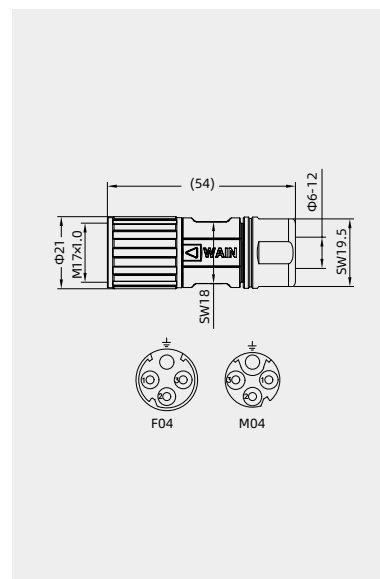
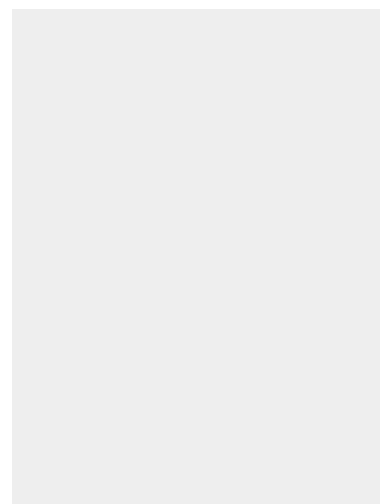
Contacts	Cable outlet	Designation	Order No.
4(3+PE)	6-9mm	M17-MC04-T-D9.5-SH	165 004 410 2500
	9-12mm	M17-MC04-T-D12-SH	165 004 410 2501

## Female, Crimp terminal

order crimp contacts separately



Contacts	Cable outlet	Designation	Order No.
4(3+PE)	6-9mm	M17-FC04-T-D9.5-SH	165 004 420 2500
	9-12mm	M17-FC04-T-D12-SH	165 004 420 2001



## Crimp contacts

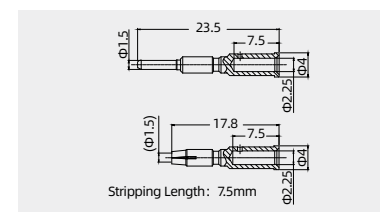
## Crimp contacts 20A

20A



Wire gauge(mm <sup>2</sup> )	Male	Order No.
0.35-2.5	M17-MC20G-2.5	101 020 210 1002

Wire gauge(mm <sup>2</sup> )	Female	Order No.
0.35-2.5	M17-FC20G-2.5	101 020 220 1002



## Tools

Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## M17 Circular connector

630V- 14A

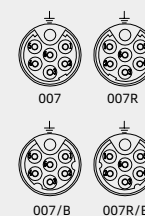
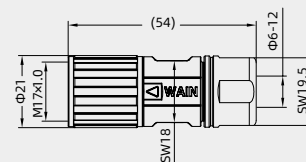
## Technical characteristics

Specifications			
Specifications	DIN EN 60 664		
	DIN EN 61 984		
Approvals			
Electrical data		Mechanical data	
Number of contacts	7(6+PE)	Housing material	copper alloy,zinc alloy
Rated current	14A	Housing surface	Nickel-plated
mm <sup>2</sup> / AWG	(0.03-1.5mm <sup>2</sup> /AWG32-16)	Contact resistance	≤ 5 mΩ
Rated voltage	630 V	Insulating bodies	PBT
Rated impulse voltage	6kV	Contact material	copper alloy
Pollution degree	3	Contact surface	gold plated
Flammability acc. to UL 94	V0 (UL94)	Mechanical working life	>500
Overvoltage categorie	III	Degree of protection	IP67
		Temperature range	-40°C ...+130°C

## Crimp terminal

order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
7	6-9mm	M17-007-T-D9.5-SH	165 007 400 2007
	9-12mm	M17-007-T-D12-SH	165 007 400 2008
	6-9mm	M17-007R-T-D9.5-SH	165 007 400 2009
	9-12mm	M17-007R-T-D12-SH	165 007 400 2002
	6-9mm	M17-007/B-T-D9.5-SH	165 007 400 2005
	9-12mm	M17-007/B-T-D12-SH	165 007 400 2006
	6-9mm	M17-007R/B-T-D9.5-SH	165 007 400 2001
	9-12mm	M17-007R/B-T-D12-SH	165 007 400 2004



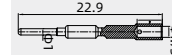
## Crimp contacts

## Crimp contacts

NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.03-0.34	M23-MC9G-0.34	101 031 210 2501
②	0.14-1.0	M23-MC9G-1.0	101 031 210 0801
③	0.5-1.5	M23-MC9G-1.5	101 031 210 0901
NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.03-0.34	M23-FC9G-0.34	101 031 220 2501
②	0.14-1.0	M23-FC9G-1.0	101 031 220 0801
③	0.5-1.5	M23-FC9G-1.5	101 031 220 0901

NO.	Φa	Φb	Stripping Length
①	1.7	0.9	4mm
②	2.1	1.45	4mm

M23-MC9G-1.5



NO.	Φa	Φb	c	Stripping Length
①	1.7	0.9	14	4mm
②	2.1	1.45	14	4mm
③	1.75	-	16.7	4.9mm

## Tools

## Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

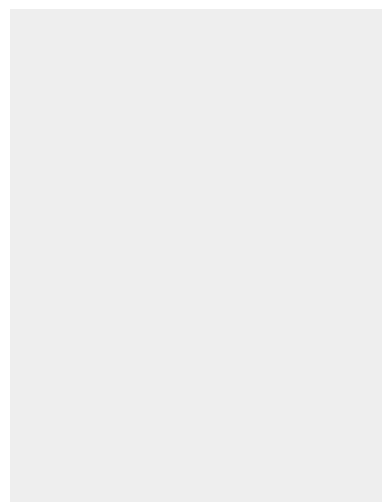
Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

# M17 Circular connector

630/63V - 14/0.6A

## Technical characteristics

Specifications			
Specifications	DIN EN 60 664 DIN EN 61 984		
Approvals			
Electrical data		Mechanical data	
Number of contacts	5	3+PE	Housing material
Rated current	0.6	14A	Housing surface
mm <sup>2</sup> / AWG	0.14-0.5/26-20	0.03-1.5/32-16	Contact resistance
Rated voltage	63V	630V	Insulating bodies
Rated impulse voltage	1.5kV	6kV	Contact material
Pollution degree	3	3	Contact surface
Flammability acc. to UL 94	V0 (UL94)	V0 (UL94)	Mechanical working life
Overvoltage categorie	III	III	Degree of protection
			Temperature range



### Male, Crimp terminal order crimp contacts separately

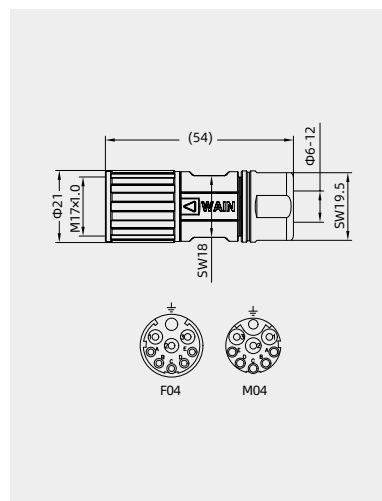


Contacts	Cable outlet	Designation	Order No.
9(5+4(3+PE))	6-9mm	M17-MC04/5-T-D9.5-SH	165 009 410 2500
	9-12mm	M17-MC04/5-T-D12-SH	165 009 410 2501

### Female, Crimp terminal order crimp contacts separately



Contacts	Cable outlet	Designation	Order No.
9(5+4(3+PE))	6-9mm	M17-FC04/5-T-D9.5-SH	165 009 420 2502
	9-12mm	M17-FC04/5-T-D12-SH	165 009 420 2500



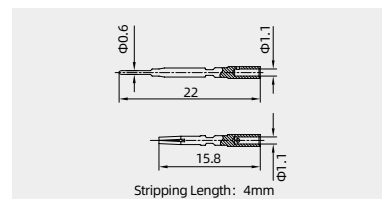
## Crimp contacts

### Crimp contacts 3.6A

3.6A(signal)



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.14-0.5	M17-MC3.6G-0.5	101 039 210 0401
NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.14-0.5	M17-FC3.6G-0.5	101 039 220 0401

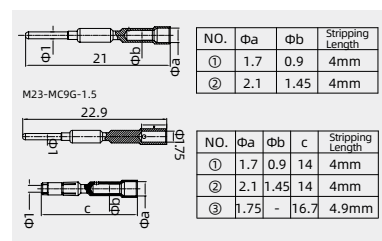


### Crimp contacts

power



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.03-0.34	M23-MC9G-0.34	101 031 210 2501
②	0.14-1.0	M23-MC9G-1.0	101 031 210 0801
③	0.5-1.5	M23-MC9G-1.5	101 031 210 0901
NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.03-0.34	M23-FC9G-0.34	101 031 220 2501
②	0.14-1.0	M23-FC9G-1.0	101 031 220 0801
③	0.5-1.5	M23-FC9G-1.5	101 031 220 0901



### Tools

Crimping tool	Wire gauge	Designation	Order No.
	0.09-0.82 mm <sup>2</sup>	TL03	198 001 001 0002

### Tools

Crimping tool	Wire gauge	Designation	Order No.
	0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

## M17 Circular connector

48V- 7.5A

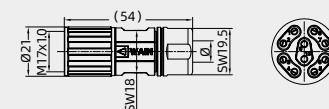
## Technical characteristics

Specifications			
Specifications	DIN EN 60 664 DIN EN 61 984		
Approvals			
Electrical data	Mechanical data		
Number of contacts	10	Housing material	copper alloy,zinc alloy
Rated current	7.5A	Housing surface	Nickel-plated
mm <sup>2</sup> / AWG	(0.09-0.82mm <sup>2</sup> / AWG 28-18)	Contact resistance	≤ 10 mΩ
Rated voltage	48 V	Insulating bodies	PBT
Rated impulse voltage	1.5kV	Contact material	copper alloy
Pollution degree	3	Contact surface	gold plated
Flammability acc. to UL 94	V0 (UL94)	Mechanical working life	>500
Overvoltage categorie	III	Degree of protection	IP67
		Temperature range	-40°C ...+130°C

## Crimp terminal

order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
10	6-9.5mm	M17-FC010-T-D9.5-SH	165 010 420 2001
	9-12mm	M17-FC010-T-D12-SH	165 010 420 2500

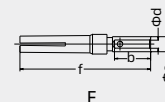


## Accessories

## Crimp contacts 5A

gold plated

Wire gauge(mm <sup>2</sup> )	Female	Order No.
0.09-0.25	CSGF-0.25	101 014 220 0101
0.13-0.33	CSGF-0.33	101 014 220 0201
0.33-0.52	CSGF-0.52	101 014 220 0501
0.33-0.82	CSGF-0.82	101 014 220 0701



## Tools

Crimping tool

Wire gauge	Designation	Order No.
0.09-0.82mm <sup>2</sup>	TL03	198 001 001 0002



Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## M17 Circular connector

32V- 7A

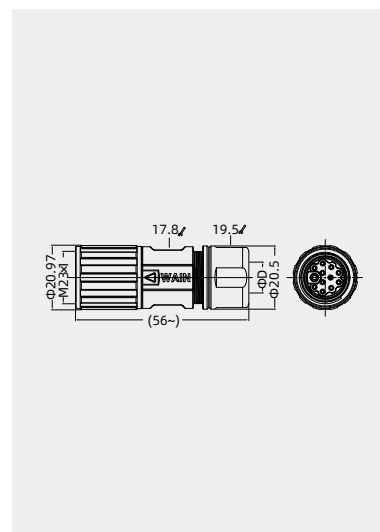
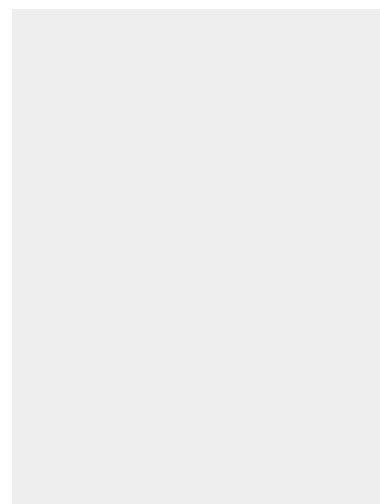
## Technical characteristics

Specifications			
Specifications	DIN EN 60 664		
	DIN EN 61 984		
Approvals			
Electrical data		Mechanical data	
Number of contacts	12	Housing material	copper alloy,zinc alloy
Rated current	7A	Housing surface	Nickel-plated
mm <sup>2</sup> / AWG	(0.03-1.0mm <sup>2</sup> /AWG32-18)	Contact resistance	≤ 5 mΩ
Rated voltage	32 V	Insulating bodies	PBT
Rated impulse voltage	1.5kV	Contact material	copper alloy
Pollution degree	3	Contact surface	gold plated
Flammability acc. to UL 94	V0 (UL94)	Mechanical working life	>500
Overvoltage categorie	III	Degree of protection	IP67
		Temperature range	-40°C ...+130°C

## Crimp terminal

order crimp contacts separately

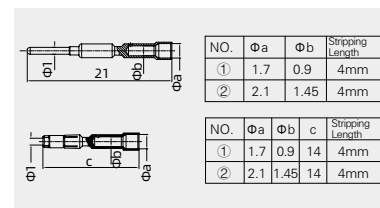
Contacts	Cable outlet	Designation	Order No.
12	6-9mm	M17-012R-T-D9.5-SH	165 012 400 2003
	9-12mm	M17-012R-T-D12-SH	165 012 400 2001



## Crimp contacts

Crimp contacts

NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.03-0.34	M23-MC9G-0.34	101 031 210 2501
②	0.14-1.0	M23-MC9G-1.0	101 031 210 0801
NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.03-0.34	M23-FC9G-0.34	101 031 220 2501
②	0.14-1.0	M23-FC9G-1.0	101 031 220 0801



Tools

Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## M17 Circular connector

63V- 3.6A

## Technical characteristics

Specifications			
Specifications	DIN EN 60 664		
	DIN EN 61 984		
Approvals			
Electrical data		Mechanical data	
Number of contacts	17	Housing material	copper alloy,zinc alloy
Rated current	3.6A	Housing surface	Nickel-plated
mm <sup>2</sup> / AWG	(0.14-0.5 mm <sup>2</sup> / AWG 26-20)	Contact resistance	≤ 5 mΩ
Rated voltage	63 V	Insulating bodies	PBT
Rated impulse voltage	1.5kV	Contact material	copper alloy
Pollution degree	3	Contact surface	gold plated
Flammability acc. to UL 94 V0 (UL94)		Mechanical working life	>500
Overvoltage categorie	III	Degree of protection	IP67
		Temperature range	-40°C ...+130°C

## Male, Crimp terminal

order crimp contacts separately



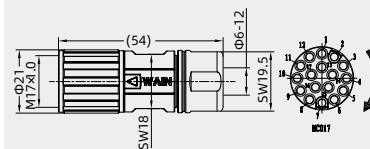
Contacts	Cable outlet	Designation	Order No.
17	6-9mm	M17-MC017-T-D9.5-SH	165 017 410 2001
	9-12mm	M17-MC017-T-D12-SH	165 017 410 2002

## Female, Crimp terminal

order crimp contacts separately



Contacts	Cable outlet	Designation	Order No.
17	6-9mm	M17-FC017-T-D9.5-SH	165 017 420 2002
	9-12mm	M17-FC017-T-D12-SH	165 017 420 2001



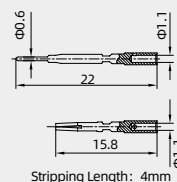
## Crimp contacts

## Crimp contacts 3.6A

3.6A



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.14-0.5	M17-MC3.6G-0.5	101 039 210 0401
NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.14-0.5	M17-FC3.6G-0.5	101 039 220 0401



## Tools

Crimping tool



Wire gauge	Designation	Order No.
0.09-0.82 mm <sup>2</sup>	TL03	198 001 001 0002

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## M17 Circular connector

630V- 20A

## Technical characteristics

Specifications			
Specifications	DIN EN 60 664		
	DIN EN 61 984		
Approvals			
Electrical data		Mechanical data	
Number of contacts	4(3+PE)	Housing material	copper alloy,zinc alloy
Rated current	20A	Housing surface	Nickel-plated
mm <sup>2</sup> / AWG	(0.35-2.5 mm <sup>2</sup> / AWG 22-14)	Contact resistance	≤ 5 mΩ
Rated voltage	630V	Insulating bodies	PBT
Rated impulse voltage	6kV	Contact material	copper alloy
Pollution degree	3	Contact surface	gold plated
Flammability acc. to UL 94	V0 (UL94)	Mechanical working life	>500
Overvoltage categorie	III	Degree of protection	IP67
		Temperature range	-40°C ...+130°C

## Male, Crimp terminal

order crimp contacts separately



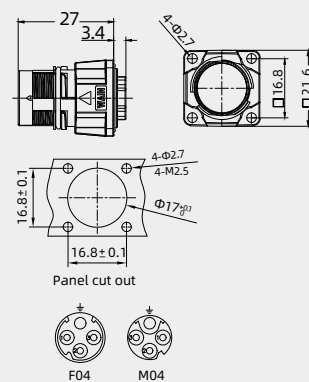
Contacts	Designation	Order No.
4(3+PE)	M17-MC04-BK21.6-OD2.7	165 004 310 1001

## Female, Crimp terminal

order crimp contacts separately



Contacts	Designation	Order No.
4(3+PE)	M17-FC04-BK21.6-OD2.7	165 004 320 2500



## Crimp contacts

## Crimp contacts 20A

Wire gauge(mm <sup>2</sup> )	Male	Order No.
0.35-2.5	M17-MC20G-2.5	101 020 210 1002



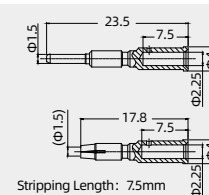
Wire gauge(mm <sup>2</sup> )	Female	Order No.
0.35-2.5	M17-FC20G-2.5	101 020 220 1002

## Tools

## Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039



Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## M17 Circular connector

630V- 14A

## Technical characteristics

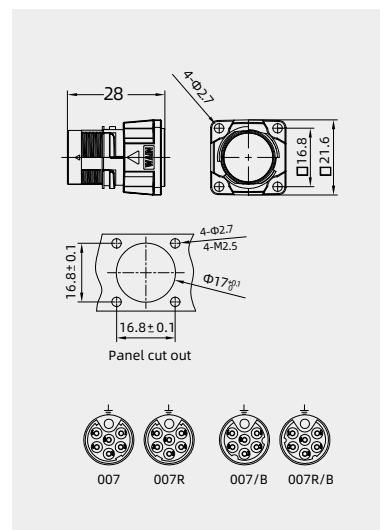
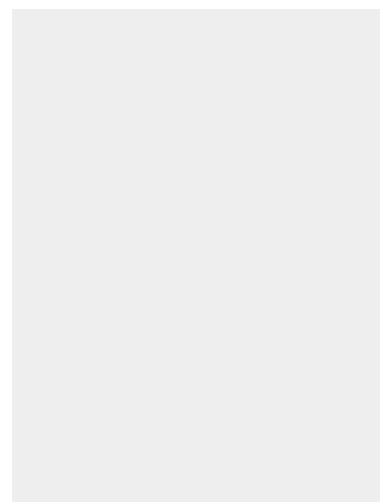
Specifications		Mechanical data	
Specifications	DIN EN 60 664 DIN EN 61 984	Housing material	copper alloy,zinc alloy
Approvals		Housing surface	Nickel-plated
Electrical data		Contact resistance	≤ 5 mΩ
Number of contacts	7(6+PE)	Insulating bodies	PBT
Rated current	14A	Contact material	copper alloy
mm <sup>2</sup> / AWG	(0.03-1.5 mm <sup>2</sup> / AWG 32-16)	Contact surface	gold plated
Rated voltage	630 V	Mechanical working life	>500
Rated impulse voltage	6kV	Degree of protection	IP67
Pollution degree	3	Temperature range	-40°C ...+130°C
Flammability acc. to UL 94	V0 (UL94)		
Overvoltage categorie	III		

## Crimp terminal

order crimp contacts separately



Contacts	Designation	Order No.
7	M17-007-BK21.6-OD2.7	165 007 300 4003
	M17-007R-BK21.6-OD2.7	165 007 300 4015
	M17-007/B-BK21.6-OD2.7	165 007 300 4016
	M17-007R/B-BK21.6-OD2.7	165 007 300 4017



## Crimp contacts

Crimp contacts



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.03-0.34	M23-MC9G-0.34	101 031 210 2501
②	0.14-1.0	M23-MC9G-1.0	101 031 210 0801
③	0.5-1.5	M23-MC9G-1.5	101 031 210 0901
NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.03-0.34	M23-FC9G-0.34	101 031 220 2501
②	0.14-1.0	M23-FC9G-1.0	101 031 220 0801
③	0.5-1.5	M23-FC9G-1.5	101 031 220 0901

NO.	Φa	Φb	Stripping Length
①	1.7	0.9	4mm
②	2.1	1.45	4mm

NO.	Φa	Φb	c	Stripping Length
①	1.7	0.9	14	4mm
②	2.1	1.45	14	4mm
③	1.75	-	16.7	4.9mm

Tools

Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.



## M17 Circular connector

630/63V - 14/0.6A

## Technical characteristics

Specifications			
Specifications	DIN EN 60 664 DIN EN 61 984		
Approvals			
Electrical data		Mechanical data	
Number of contacts	5	3+PE	Housing material
Rated current	0.6	14A	Housing surface
mm <sup>2</sup> / AWG	0.14-0.5/26-20	0.03-1.5/32-16	Contact resistance
Rated voltage	63V	630V	Insulating bodies
Rated impulse voltage	1.5kV	6kV	Contact material
Pollution degree	3	3	Contact surface
Flammability acc. to UL 94	V0 (UL94)	V0 (UL94)	Mechanical working life
Overvoltage categorie	III	III	Degree of protection
			Temperature range

## Male, Crimp terminal

order crimp contacts separately



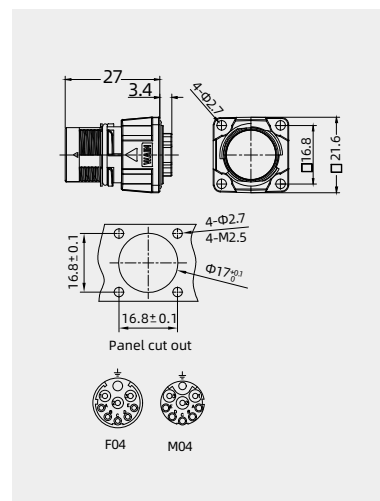
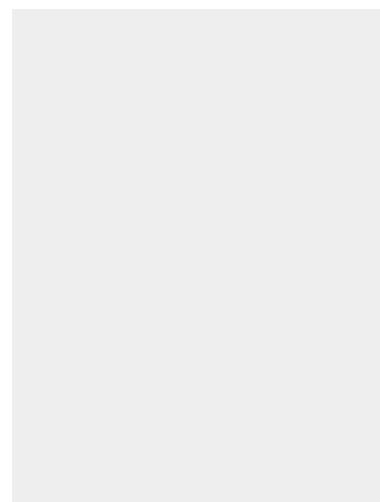
Contacts	Designation	Order No.
9(5+4(3+PE))	M17-MC04/5-BK21.6-OD2.7	165 009 310 2501

## Female, Crimp terminal

order crimp contacts separately



Contacts	Designation	Order No.
9(5+4(3+PE))	M17-FC04/5-BK21.6-OD2.7	165 009 320 2500



## Crimp contacts

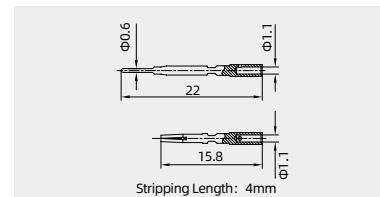
## Crimp contacts 3.6A

3.6A(signal)



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.14-0.5	M17-MC3.6G-0.5	101 039 210 0401

NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.14-0.5	M17-FC3.6G-0.5	101 039 220 0401



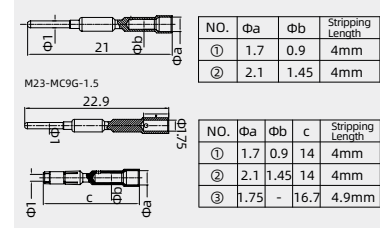
## Crimp contacts

power



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.03-0.34	M23-MC9G-0.34	101 031 210 2501
②	0.14-1.0	M23-MC9G-1.0	101 031 210 0801
③	0.5-1.5	M23-MC9G-1.5	101 031 210 0901

NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.03-0.34	M23-FC9G-0.34	101 031 220 2501
②	0.14-1.0	M23-FC9G-1.0	101 031 220 0801
③	0.5-1.5	M23-FC9G-1.5	101 031 220 0901



## Tools

Crimping tool



Wire gauge	Designation	Order No.
0.09-0.82 mm <sup>2</sup>	TL03	198 001 001 0002

## Tools

Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## M17 Circular connector

48V- 7.5A

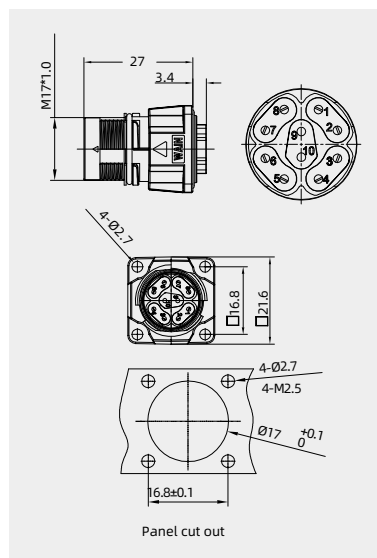
## Technical characteristics

Specifications		Mechanical data	
Specifications	DIN EN 60 664 DIN EN 61 984	Housing material	copper alloy,zinc alloy
Approvals		Housing surface	Nickel-plated
Electrical data		Contact resistance	≤ 10 mΩ
Number of contacts	10	Insulating bodies	PBT
Rated current	7.5A	Contact material	copper alloy
mm <sup>2</sup> / AWG	(0.09-0.82mm <sup>2</sup> / AWG 28-18)	Contact surface	gold plated
Rated voltage	48 V	Mechanical working life	>500
Rated impulse voltage	1.5kV	Degree of protection	IP67
Pollution degree	3	Temperature range	-40°C ...+130°C
Flammability acc. to UL 94	V0 (UL94)		
Overvoltage categorie	III		

## Crimp terminal

order crimp contacts separately

Contacts	Designation	Order No.
10	M17-MC010-BK21.6-OD2.7	165 010 310 1500



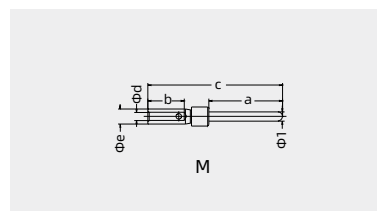
## Accessories

## Crimp contacts 5A

gold plated



Wire gauge(mm <sup>2</sup> )	Male	Order No.
0.09-0.25	CSGM-0.25	101 014 210 0101
0.13-0.33	CSGM-0.33	101 014 210 0201
0.33-0.52	CSGM-0.52	101 014 210 0501
0.33-0.82	CSGM-0.82	101 014 210 0701



## Tools

Crimping tool



Wire gauge	Designation	Order No.
0.09-0.82mm <sup>2</sup>	TL03	198 001 001 0002

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## M17 Circular connector

32V- 7A

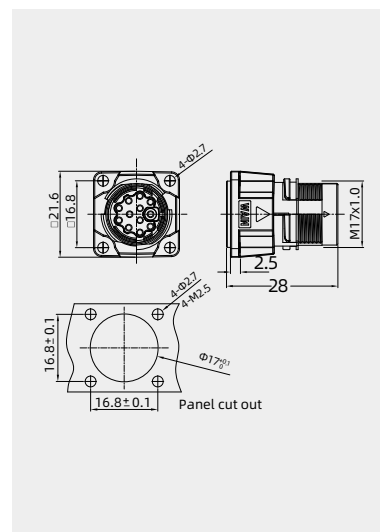
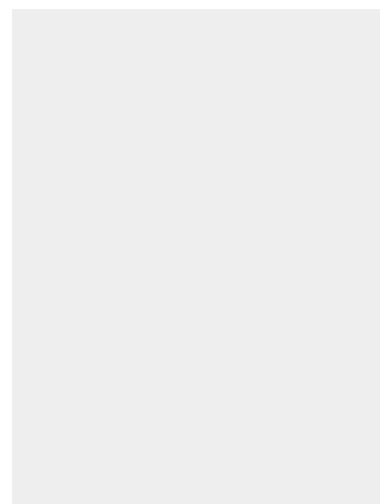
## Technical characteristics

Specifications			
Specifications	DIN EN 60 664		
	DIN EN 61 984		
Approvals			
Electrical data		Mechanical data	
Number of contacts	12	Housing material	copper alloy,zinc alloy
Rated current	7A	Housing surface	Nickel-plated
mm <sup>2</sup> / AWG	(0.03-1.0 mm <sup>2</sup> / AWG 32-18)	Contact resistance	≤ 5 mΩ
Rated voltage	32 V	Insulating bodies	PBT
Rated impulse voltage	1.5kV	Contact material	copper alloy
Pollution degree	3	Contact surface	gold plated
Flammability acc. to UL 94	V0 (UL94)	Mechanical working life	>500
Overvoltage categorie	III	Degree of protection	IP67
		Temperature range	-40°C ...+130°C

## Crimp terminal

order crimp contacts separately

Contacts	Designation	Order No.
12	M17-012-BK21.6-OD2.7	165 012 300 4002

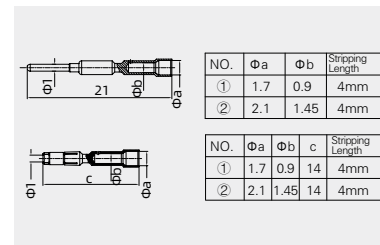


## Crimp contacts

## Crimp contacts



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.03-0.34	M23-MC9G-0.34	101 031 210 2501
②	0.14-1.0	M23-MC9G-1.0	101 031 210 0801
NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.03-0.34	M23-FC9G-0.34	101 031 220 2501
②	0.14-1.0	M23-FC9G-1.0	101 031 220 0801



## Tools

## Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## M17 Circular connector

63V- 3.6A

## Technical characteristics

Specifications			
Specifications	DIN EN 60 664 DIN EN 61 984		
Approvals			
Electrical data	Mechanical data		
Number of contacts	17	Housing material	copper alloy,zinc alloy
Rated current	3.6A	Housing surface	Nickel-plated
mm <sup>2</sup> / AWG	(0.14-0.5 mm <sup>2</sup> / AWG 26-20)	Contact resistance	≤ 5 mΩ
Rated voltage	63 V	Insulating bodies	PBT
Rated impulse voltage	1.5kV	Contact material	copper alloy
Pollution degree	3	Contact surface	gold plated
Flammability acc. to UL 94	V0 (UL94)	Mechanical working life	>500
Overvoltage categorie	III	Degree of protection	IP67
		Temperature range	-40°C ...+130°C

## Male, Crimp terminal

order crimp contacts separately



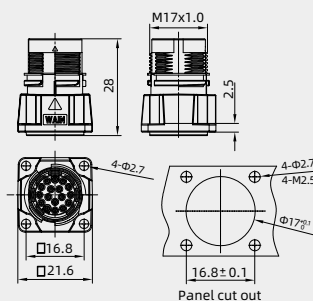
Contacts	Designation	Order No.
17	M17-MC017-BK21.6-OD2.7	165 017 310 4002

## Female, Crimp terminal

order crimp contacts separately



Contacts	Designation	Order No.
17	M17-FC017-BK21.6-OD2.7	165 017 320 1001



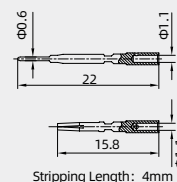
## Crimp contacts

## Crimp contacts 3.6A

3.6A



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.14-0.5	M17-MC3.6G-0.5	101 039 210 0401
NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.14-0.5	M17-FC3.6G-0.5	101 039 220 0401



## Tools

Crimping tool



Wire gauge	Designation	Order No.
0.09-0.82 mm <sup>2</sup>	TL03	198 001 001 0002

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## M17 Circular connector

630V- 20A

## Technical characteristics

Specifications			
Specifications	DIN EN 60 664 DIN EN 61 984		
Approvals			
Electrical data	Mechanical data		
Number of contacts	4(3+PE)	Housing material	copper alloy,zinc alloy
Rated current	20A	Housing surface	Nickel-plated
mm <sup>2</sup> / AWG	(0.35-2.5 mm <sup>2</sup> / AWG 22-14)	Contact resistance	≤ 5 mΩ
Rated voltage	630V	Insulating bodies	PBT
Rated impulse voltage	6kV	Contact material	copper alloy
Pollution degree	3	Contact surface	gold plated
Flammability acc. to UL 94	V0 (UL94)	Mechanical working life	>500
Overvoltage categorie	III	Degree of protection	IP67
		Temperature range	-40°C ...+130°C

## Male, Crimp terminal

order crimp contacts separately



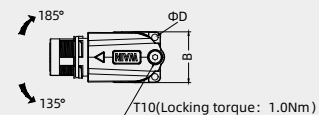
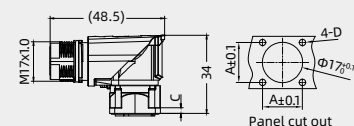
Contacts	Designation	Order No.
4(3+PE)	M17-MC04-BKP21.6-SE-OD2.7	165 004 310 1003
	M17-MC04-BKP26-SE-OD2.7	165 004 610 2500
	M17-MC04-BKP28-SE-OD3.2	165 004 610 2503

## Female, Crimp terminal

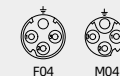
order crimp contacts separately



Contacts	Designation	Order No.
4(3+PE)	M17-FC04-BKP21.6-SE-OD2.7	165 004 620 2500
	M17-FC04-BKP26-SE-OD2.7	165 004 620 2501
	M17-FC04-BKP28-SE-OD3.2	165 004 620 2502



Designation	A	B	C	D
BKP21.6	16.8	21.6	2.5	Φ2.7/M2.5
BKP26	19.8	26.0	2.5	Φ2.7/M2.5
BKP28	22.6	28.0	4.5	Φ3.2/M3



## Crimp contacts

## Crimp contacts 20A

20A



Wire gauge(mm <sup>2</sup> )	Male	Order No.
0.35-2.5	M17-MC20G-2.5	101 020 210 1002

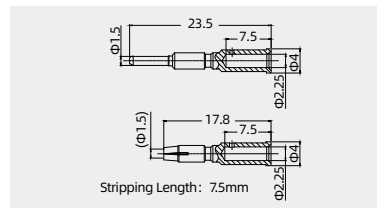
Wire gauge(mm <sup>2</sup> )	Female	Order No.
0.35-2.5	M17-FC20G-2.5	101 020 220 1002

## Tools

Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039



Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## M17 Circular connector

630V- 14A

## Technical characteristics

## Specifications

Specifications	DIN EN 60 664
	DIN EN 61 984

## Approvals

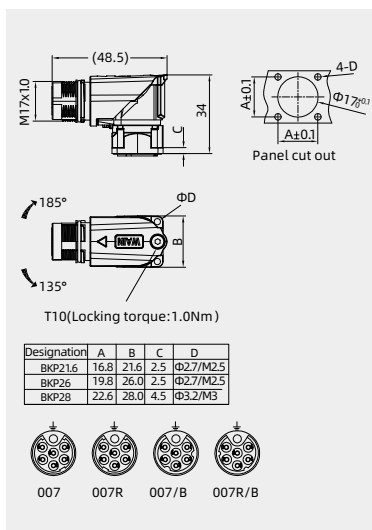
Electrical data		Mechanical data	
Number of contacts	7(6+PE)	Housing material	copper alloy,zinc alloy
Rated current	14A	Housing surface	Nickel-plated
mm <sup>2</sup> / AWG	(0.03-1.5 mm <sup>2</sup> / AWG 32-16)	Contact resistance	≤ 5 mΩ
Rated voltage	630 V	Insulating bodies	PBT
Rated impulse voltage	6kV	Contact material	copper alloy
Pollution degree	3	Contact surface	gold plated
Flammability acc. to UL 94	V0 (UL94)	Mechanical working life	>500
Overvoltage categorie	III	Degree of protection	IP67
		Temperature range	-40°C ...+130°C

## Crimp terminal

order crimp contacts separately



Contacts	Designation	Order No.
7	M17-007-BKP21.6-SE-OD2.7	165 007 300 4001
	M17-007-BKP26-SE-OD2.7	165 007 300 4007
	M17-007-BKP28-SE-OD3.2	165 007 300 4011
	M17-007R-BKP21.6-SE-OD2.7	165 007 300 4006
	M17-007R-BKP26-SE-OD2.7	165 007 300 4008
	M17-007R-BKP28-SE-OD3.2	165 007 300 4012
	M17-007/B-BKP21.6-SE-OD2.7	165 007 300 4004
	M17-007/B-BKP26-SE-OD2.7	165 007 300 4009
	M17-007/B-BKP28-SE-OD3.2	165 007 300 4013
	M17-007R/B-BKP21.6-SE-OD2.7	165 007 300 4005
	M17-007R/B-BKP26-SE-OD2.7	165 007 300 4010
	M17-007R/B-BKP28-SE-OD3.2	165 007 300 4014

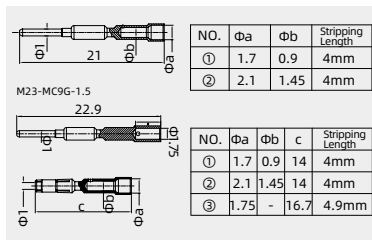


## Crimp contacts

## Crimp contacts



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.03-0.34	M23-MC9G-0.34	101 031 210 2501
②	0.14-1.0	M23-MC9G-1.0	101 031 210 0801
③	0.5-1.5	M23-MC9G-1.5	101 031 210 0901
NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.03-0.34	M23-FC9G-0.34	101 031 220 2501
②	0.14-1.0	M23-FC9G-1.0	101 031 220 0801
③	0.5-1.5	M23-FC9G-1.5	101 031 220 0901



## Tools

## Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## M17 Circular connector

630/63V - 14/0.6A

## Technical characteristics

Specifications			
Specifications	DIN EN 60 664		
	DIN EN 61 984		
Approvals			
Electrical data		Mechanical data	
Number of contacts	5	3+PE	Housing material
Rated current	0.6	14A	Housing surface
mm <sup>2</sup> / AWG	0.14-0.5/26-20	0.03-1.5/32-16	Contact resistance
Rated voltage	63V	630V	Insulating bodies
Rated impulse voltage	1.5kV	6kV	Contact material
Pollution degree	3	3	Contact surface
Flammability acc. to UL 94	V0 (UL94)	V0 (UL94)	Mechanical working life
Overvoltage categorie	III	III	Degree of protection
			Temperature range

## Male, Crimp terminal

order crimp contacts separately



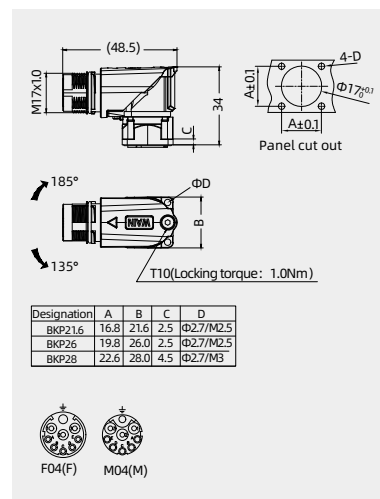
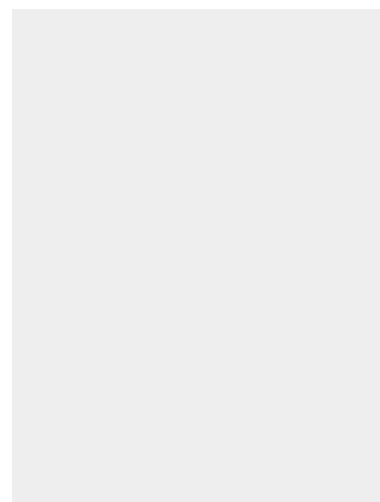
Contacts	Designation	Order No.
9(5+4(3+PE))	M17-MC04/5-BKP21.6-SE-OD2.7	165 009 610 2500
	M17-MC04/5-BKP26-SE-OD2.7	165 009 510 2500
	M17-MC04/5-BKP28-SE-OD3.2	165 009 610 2501

## Female, Crimp terminal

order crimp contacts separately



Contacts	Designation	Order No.
9(5+4(3+PE))	M17-FC04/5-BKP21.6-SE-OD2.7	165 009 620 2500
	M17-FC04/5-BKP26-SE-OD2.7	165 009 620 2501
	M17-FC04/5-BKP28-SE-OD3.2	165 009 620 2502



## Crimp contacts

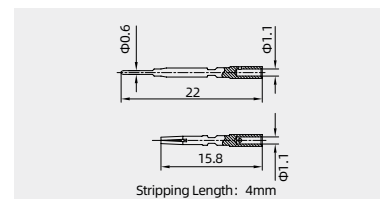
## Crimp contacts 3.6A

3.6A(signal)



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.14-0.5	M17-MC3.6G-0.5	101 039 210 0401

NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.14-0.5	M17-FC3.6G-0.5	101 039 220 0401



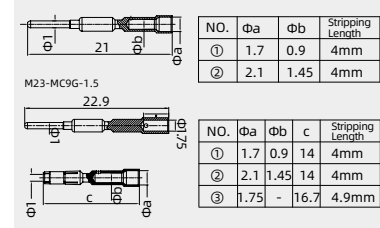
## Crimp contacts

power



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.03-0.34	M23-MC9G-0.34	101 031 210 2501
②	0.14-1.0	M23-MC9G-1.0	101 031 210 0801
③	0.5-1.5	M23-MC9G-1.5	101 031 210 0901

NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.03-0.34	M23-FC9G-0.34	101 031 220 2501
②	0.14-1.0	M23-FC9G-1.0	101 031 220 0801
③	0.5-1.5	M23-FC9G-1.5	101 031 220 0901



## Tools

Crimping tool



Wire gauge	Designation	Order No.
0.09-0.82 mm <sup>2</sup>	TL03	198 001 001 0002

## Tools

Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## M17 Circular connector

48V- 7.5A

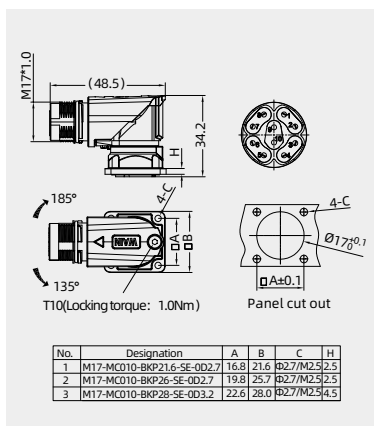
## Technical characteristics

Specifications			
Specifications	DIN EN 60 664 DIN EN 61 984		
Approvals			
Electrical data	Mechanical data		
Number of contacts	10	Housing material	copper alloy,zinc alloy
Rated current	7.5A	Housing surface	Nickel-plated
mm <sup>2</sup> / AWG	(0.09-0.82mm <sup>2</sup> / AWG 28-18)	Contact resistance	≤ 10 mΩ
Rated voltage	48 V	Insulating bodies	PBT
Rated impulse voltage	1.5kV	Contact material	copper alloy
Pollution degree	3	Contact surface	gold plated
Flammability acc. to UL 94	V0 (UL94)	Mechanical working life	>500
Overvoltage categorie	III	Degree of protection	IP67
		Temperature range	-40°C ...+130°C

## Crimp terminal

order crimp contacts separately

Contacts	Designation	Order No.
10	M17-MC010-BKP21.6-SE-OD2.7	165 010 610 1500
	M17-MC010-BKP26-SE-OD2.7	165 010 610 1501
	M17-MC010-BKP28-SE-OD3.2	165 010 610 1502



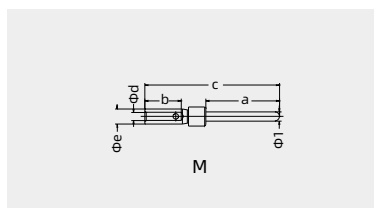
## Accessories

## Crimp contacts 5A

gold plated



Wire gauge(mm <sup>2</sup> )	Male	Order No.
0.09-0.25	CSGM-0.25	101 014 210 0101
0.13-0.33	CSGM-0.33	101 014 210 0201
0.33-0.52	CSGM-0.52	101 014 210 0501
0.33-0.82	CSGM-0.82	101 014 210 0701



## Tools

Crimping tool



Wire gauge	Designation	Order No.
0.09-0.82mm <sup>2</sup>	TL03	198 001 001 0002

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.



## M17 Circular connector

32V- 7A

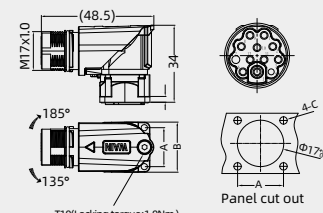
## Technical characteristics

Specifications		Mechanical data	
Specifications	DIN EN 60 664 DIN EN 61 984	Housing material	copper alloy,zinc alloy
Approvals		Housing surface	Nickel-plated
Electrical data		Contact resistance	≤ 5 mΩ
Number of contacts	12	Insulating bodies	PBT
Rated current	7A	Contact material	copper alloy
mm <sup>2</sup> / AWG	(0.03-1.0 mm <sup>2</sup> / AWG 32-18)	Contact surface	gold plated
Rated voltage	32 V	Mechanical working life	>500
Rated impulse voltage	1.5kV	Degree of protection	IP67
Pollution degree	3	Temperature range	-40°C ...+130°C
Flammability acc. to UL 94	V0 (UL94)		
Overvoltage categorie	III		

## Crimp terminal

order crimp contacts separately

Contacts	Designation	Order No.
12	M17-012-BKP21.6-SE-OD2.7	165 012 300 4001
	M17-012-BKP26-SE-OD2.7	165 012 300 2001
	M17-012-BKP28-SE-OD3.2	165 012 300 2002



Designation	A	B	C	H
M17-012-BKP21.6-SE-OD2.7	16.8	21.6	Ø2.7/M2.5	2.5
M17-012-BKP26-SE-OD2.7	19.8	25.7	Ø2.7/M2.5	2.5
M17-012-BKP28-SE-OD3.2	22.6	28.0	Ø3.2/M3	3.5

## Crimp contacts

Crimp contacts



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.03-0.34	M23-MC9G-0.34	101 031 210 2501
②	0.14-1.0	M23-MC9G-1.0	101 031 210 0801
NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.03-0.34	M23-FC9G-0.34	101 031 220 2501
②	0.14-1.0	M23-FC9G-1.0	101 031 220 0801

NO.	Φa	Φb	Stripping Length
①	1.7	0.9	4mm
②	2.1	1.45	4mm

NO.	Φa	Φb	c	Stripping Length
①	1.7	0.9	14	4mm
②	2.1	1.45	14	4mm

Tools

Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## M17 Circular connector

63V- 3.6A

## Technical characteristics

Specifications			
Specifications		DIN EN 60 664	
		DIN EN 61 984	
Approvals			
Electrical data		Mechanical data	
Number of contacts	17	Housing material	copper alloy,zinc alloy
Rated current	3.6A	Housing surface	Nickel-plated
mm <sup>2</sup> / AWG	(0.14-0.5 mm <sup>2</sup> / AWG 26-20)	Contact resistance	≤ 5 mΩ
Rated voltage	63 V	Insulating bodies	PBT
Rated impulse voltage	1.5kV	Contact material	copper alloy
Pollution degree	3	Contact surface	gold plated
Flammability acc. to UL 94	V0 (UL94)	Mechanical working life	>500
Overvoltage categorie	III	Degree of protection	IP67
		Temperature range	-40°C ...+130°C

## Male, Crimp terminal

order crimp contacts separately



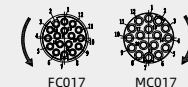
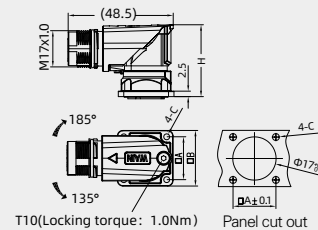
Contacts	Designation	Order No.
17	M17-MC017-BKP21.6-SE-OD2.7	165 017 310 4001
	M17-MC017-BKP26-SE-OD2.7	165 017 310 1001
	M17-MC017-BKP28-SE-OD3.2	165 017 310 1002

## Female, Crimp terminal

order crimp contacts separately



Contacts	Designation	Order No.
17	M17-FC017-BKP21.6-SE-OD2.7	165 017 320 1002
	M17-FC017-BKP26-SE-OD2.7	165 017 320 1003
	M17-FC017-BKP28-SE-OD3.2	165 017 320 1004



Designation	A	B	C	H
M17-MC017-BKP21.6-SE-OD2.7	16.8	21.6	Ø27/M2.5	2.5
M17-MC017-BKP26-SE-OD2.7	16.8	21.6	Ø27/M2.5	2.5
M17-MC017-BKP28-SE-OD3.2	19.8	25.7	Ø27/M2.5	2.5
M17-FC017-BKP21.6-SE-OD2.7	19.8	25.7	Ø27/M2.5	2.5
M17-FC017-BKP26-SE-OD2.7	22.6	28.0	Ø3.2/MB	4.5
M17-FC017-BKP28-SE-OD3.2	22.6	28.0	Ø3.2/MB	4.5

## Crimp contacts

## Crimp contacts 3.6A

3.6A(signal)



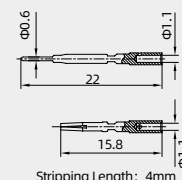
NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.14-0.5	M17-MC3.6G-0.5	101 039 210 0401
NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.14-0.5	M17-FC3.6G-0.5	101 039 220 0401

## Tools

Crimping tool



Wire gauge	Designation	Order No.
0.09-0.82 mm <sup>2</sup>	TL03	198 001 001 0002



Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

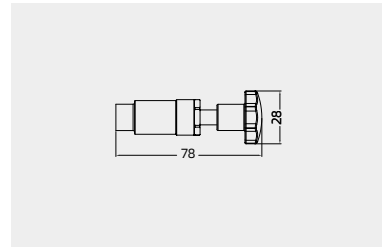
Accessories

Protection covers IP65 

M17 core extractor



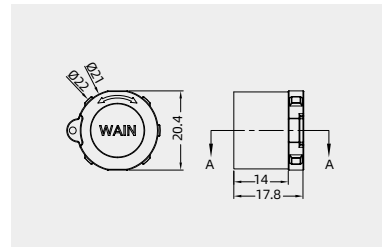
Description	Designation	Order No.
	M17-TL01	198 001 000 0039



M17 Protection cover



Description	Designation	Order No.
	M17-CV-F	165 000 000 9500



## HR23 SERIES

M23 Circular connector-Signal Connection

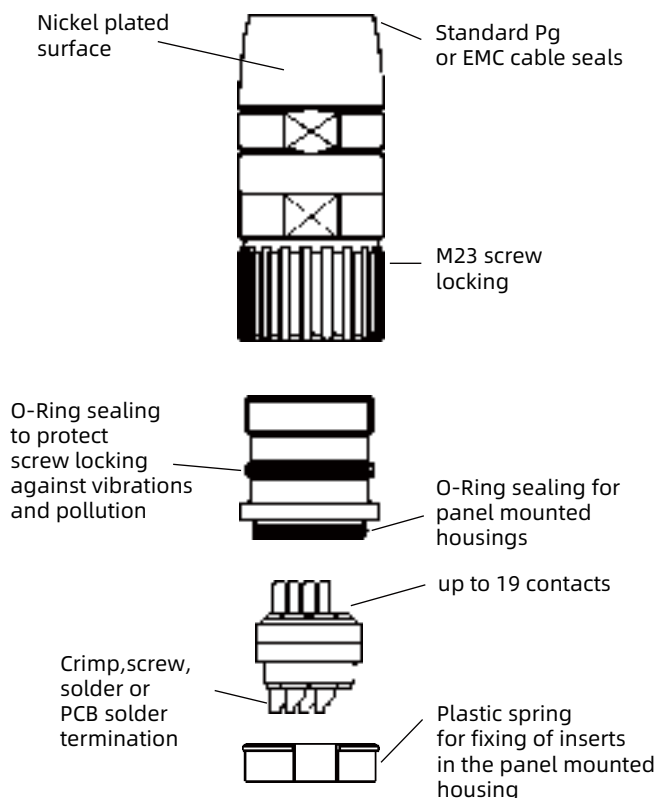


## HR23 Circular connector

## · Features

- Size R 23
- Outer diameter 26 mm
- High contact density
- Very robust hoods and housings
- Corrosion resistant
- Excellent EMC properties  
(with continuous shielding)
- Quick and easy assembly
- Vibration resistant screw locking system
- Up to 19 contacts, 25 V~ / 60 V-
- Ideal for applications such as measurement and automatic control

## · Description



## HR23-006 Circular inserts

25V~/60V- 15A

## Inserts

Hoods/Housings: size HR23 ,detail please find the page22-09~22-11.

## Technical characteristics

Specifications	
Specifications	DIN EN 60 664 DIN EN 61 984
Approvals	
Inserts	Contacts
Number of contacts	6
Electrical data acc. to EN 61 984	Material copper alloy
Rated current	Surface gold plated
-power contact	Contact resistance $\leq 5 \text{ m}\Omega$
Rated voltage	Screw termination
Pollution degree	-power contact $0.14\text{-}1.0 \text{ mm}^2 / \text{AWG } 26\text{-}16$
Rated impulse voltage	Solder termination
Insulation resistance	-power contact $0.14\text{-}2.5 \text{ mm}^2 / \text{AWG } 26\text{-}14$
Material	PCB solder termination
Temperature range	-power contact $\Phi 1.5 \text{ mm}$
Flammability acc. to UL 94	-reference to $3.5 \text{ mm}$
	bulkhead mounted housing



## Screw termination



Inserts	Designation	Order No.
Male	HR23-006-M	181 006 011 0001
Female	HR23-006-F	181 006 021 0001
Reverse coding		
Male	HR23-006R-M	181 006 011 0101
Female	HR23-006R-F	181 006 021 0101

## Solder terminal



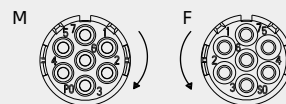
Inserts	Designation	Order No.
Male	HR23-006-MST	181 006 013 0001
Female	HR23-006-FST	181 006 023 0001
Reverse coding		
Male	HR23-006R-MST	181 006 013 0101
Female	HR23-006R-FST	181 006 023 0101

## PCB solder termination

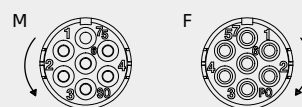


Inserts	Designation	Order No.
Male	HR23-006-MTHT <sup>2)</sup>	181 006 014 0001
Female	HR23-006-FTHT <sup>2)</sup>	181 006 024 0001
Reverse coding		
Male	HR23-006R-MTHT <sup>2)</sup>	181 006 014 0101
Female	HR23-006R-FTHT <sup>2)</sup>	181 006 024 0101

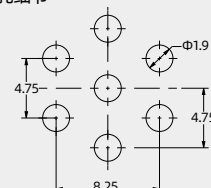
触点排列：配合面



反向编码



PCB 孔细节



2) 仅适用不封底下壳：  
HR23-BK-D2.7,HR23-BK/R-OD2.7  
和HR23-BK/R-OM2.5

## HR23-007 Circular inserts

25V~/60V- 15A

## Inserts

Hoods/Housings: size HR23 ,detail please find the page22-09~22-11.

## Technical characteristics

## Specifications

Specifications	DIN EN 60 664
	DIN EN 61 984

## Approvals

Inserts		Contacts	
Number of contacts	7	Material	copper alloy
Electrical data acc. to EN 61 984		Surface	gold plated
Rated current		Contact resistance	≤ 5 mΩ
-power contact	15A	Screw termination	
Rated voltage	25 V~/60 V-	-power contact	0.14-1.0 mm <sup>2</sup> / AWG 26-16
Pollution degree	3	Solder terminal	
Rated impulse voltage	1.5 kV	-power contact	0.14-2.5 mm <sup>2</sup> / AWG 26-14
Insulation resistance	≥ 10 <sup>12</sup> Ω		
Material	PBT		
Temperature range	-40°C ...+130°C		
Flammability acc. to UL 94	V0		

## Screw termination



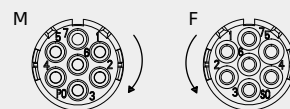
Inserts	Designation	Order No.
Male	HR23-007-M	181 007 011 0001
Female	HR23-007-F	181 007 021 0001
Reverse coding		
Male	HR23-007R-M	181 007 011 0101
Female	HR23-007R-F	181 007 021 0101

## Solder terminal

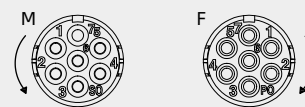


Inserts	Designation	Order No.
Male	HR23-007-MST	181 007 013 0001
Female	HR23-007-FST	181 007 023 0001
Reverse coding		
Male	HR23-007R-MST	181 007 013 0101
Female	HR23-007R-FST	181 007 023 0101

## Contact arrangement: mating side



## Reverse coding



## HR23-009 Circular inserts

25V~/60V- 15/7A

## Inserts

Hoods/Housings: size HR23 ,detail please find the page22-09~22-11.

## Technical characteristics

Specifications	
Specifications	DIN EN 60 664 DIN EN 61 984
Approvals	
Inserts	Contacts
Number of contacts	9
Electrical data acc. to EN 61 984	Material copper alloy
Rated current	Surface gold plated
-power contact	Contact resistance $\leq 5 \text{ m}\Omega$
-signal contact	Screw termination
Rated voltage	-power contact 0.14-1.0 mm <sup>2</sup> / AWG 26-16
Pollution degree	-signal contact 0.14-0.75 mm <sup>2</sup> / AWG 26-18
Rated impulse voltage	Solder terminal
Insulation resistance	-power contact 0.14-2.5 mm <sup>2</sup> / AWG 26-14
Material	-signal contact 0.14-1.0 mm <sup>2</sup> / AWG 26-16
Temperature range	
Flammability acc. to UL 94	V0

## Screw termination



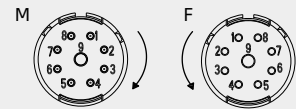
Inserts	Designation	Order No.
Male	HR23-009-M	181 009 011 0001
Female	HR23-009-F	181 009 021 0001

## Solder terminal

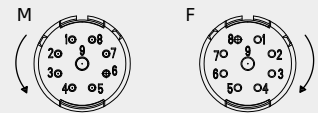


Inserts	Designation	Order No.
Male	HR23-009-MST	181 009 013 0001
Female	HR23-009-FST	181 009 023 0001
	Reverse coding	
Male	HR23-009R-MST	181 009 013 0101
Female	HR23-009R-FST	181 009 023 0101

## Contact arrangement: mating side



## Reverse coding





## HR23-012 Circular inserts

25V~/60V- 7A

## Inserts

Hoods/Housings: size HR23 ,detail please find the page22-09~22-11.

## Technical characteristics

Specifications	
Specifications	DIN EN 60 664 DIN EN 61 984
Approvals	
Inserts	Contacts
Number of contacts	12
Electrical data acc. to EN 61 984	Material copper alloy
Rated current	Surface gold plated
-signal contact	Contact resistance $\leq 5 \text{ m}\Omega$
Rated voltage	Crimp termination
Pollution degree	- D-Sub contact 0.09-0.82 mm <sup>2</sup> / AWG 28-18
Rated impulse voltage	Solder termination
Insulation resistance	- signal contact 0.14-1.0 mm <sup>2</sup> / AWG 26-16
Material	PCB solder termination
Temperature range	- signal contact $\Phi 0.6 \text{ mm}$
Flammability acc. to UL 94	- reference to 3.5 mm
	bulkhead mounted housing



## Crimp terminal for D-Sub contacts



Inserts	Designation	Order No.
Male	HR23-012-MC	181 012 010 0001
Female	HR23-012-FC	181 012 020 0001

## Solder terminal



Inserts	Designation	Order No.
Male	HR23-012-MST	181 012 013 0001
Female	HR23-012-FST	181 012 023 0001
	Reverse coding	
Male	HR23-012R-MST	181 012 013 0101
Female	HR23-012R-FST	181 012 023 0101

PCB solder termination <sup>2)</sup>

Inserts	Designation	Order No.
Male	HR23-012-MTHT <sup>2)</sup>	181 012 014 0001
Female	HR23-012-FTHT <sup>2)</sup>	181 012 024 0001
	Reverse coding	
Male	HR23-012R-MTHT <sup>2)</sup>	181 012 014 0101
Female	HR23-012R-FTHT <sup>2)</sup>	181 012 024 0101

## Accessories

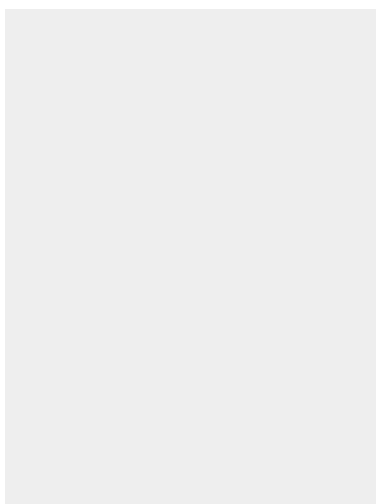
## Crimp contacts 5A

Contact resistance  $\leq 3 \text{ m}\Omega$   
gold plated

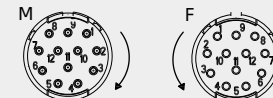
Wire gauge(mm <sup>2</sup> )	Male	Order No.	Female	Order No.
0.09-0.25	CSGM-0.25	101 014 210 0101	CSGF-0.25	101 014 220 0101
0.13-0.33	CSGM-0.33	101 014 210 0201	CSGF-0.33	101 014 220 0201
0.33-0.52	CSGM-0.52	101 014 210 0501	CSGF-0.52	101 014 220 0501
0.33-0.82	CSGM-0.82	101 014 210 0701	CSGF-0.82	101 014 220 0701

\*Please find the details of crimp contact tools on page 29-02~29-05.\*Please find the details of crimp contact tools on page 29-02~29-05.

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.



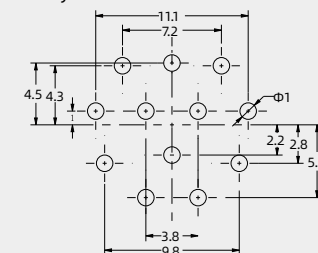
## Contact arrangement: mating side



## Reverse coding



## PCB layout



2) Suitable only for bulkhead mounted housings:HR23-BK-D2.7,HR23-BK/R-OD2.7 and HR23-BK/R-OM2.5

# HR23-017 Circular inserts

25V~/60V- 7A

## Inserts

Hoods/Housings: size HR23 ,detail please find the page22-09~22-11.

### Technical characteristics

Specifications	
Specifications	DIN EN 60 664 DIN EN 61 984
Approvals	
Inserts	Contacts
Number of contacts	17
Electrical data acc. to EN 61 984	Material
Rated current	copper alloy
-signal contact	Surface
Rated voltage	gold plated
Pollution degree	Contact resistance
Rated impulse voltage	≤ 5 mΩ
Insulation resistance	≥ 10 <sup>12</sup> Ω
Material	Crimp termination
Temperature range	- D-Sub contact
Flammability acc. to UL 94	0.09-0.82 mm <sup>2</sup> / AWG 28-18
	Solder termination
	- signal contact
	0.14-1.0 mm <sup>2</sup> / AWG 26-16
	PCB solder termination
	- signal contact
	Φ0.6 mm
	- reference to
	3.5 mm
	bulkhead mounted
	housing



#### Crimp terminal for D-Sub contacts



Inserts	Designation	Order No.
Male	HR23-017-MC	181 017 010 0001
Female	HR23-017-FC	181 017 020 0001

#### Solder terminal



Inserts	Designation	Order No.
Male	HR23-017-MST	181 017 013 0001
Female	HR23-017-FST	181 017 023 0001
	Reverse coding	
Male	HR23-017R-MST	181 017 013 0101
Female	HR23-017R-FST	181 017 023 0101

#### PCB solder termination<sup>2)</sup>



Inserts	Designation	Order No.
Male	HR23-017-MTHT <sup>2)</sup>	181 017 014 0001
Female	HR23-017-FTHT <sup>2)</sup>	181 017 024 0001
	Reverse coding	
Male	HR23-017R-MTHT <sup>2)</sup>	181 017 014 0101
Female	HR23-017R-FTHT <sup>2)</sup>	181 017 024 0101

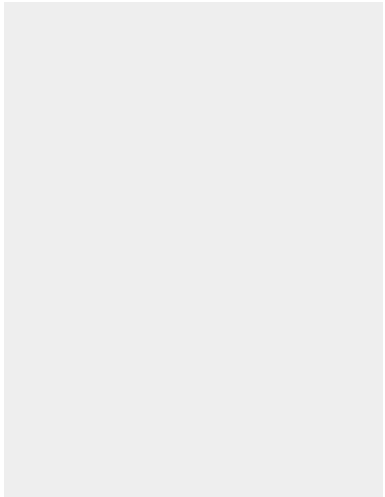
### Accessories

#### Crimp contacts 5A

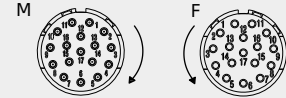
Contact resistance ≤ 3mΩ  
gold plated



Wire gauge(mm <sup>2</sup> )	Male	Order No.	Female	Order No.
0.09-0.25	CSGM-0.25	101 014 210 0101	CSGF-0.25	101 014 220 0101
0.13-0.33	CSGM-0.33	101 014 210 0201	CSGF-0.33	101 014 220 0201
0.33-0.52	CSGM-0.52	101 014 210 0501	CSGF-0.52	101 014 220 0501
0.33-0.82	CSGM-0.82	101 014 210 0701	CSGF-0.82	101 014 220 0701



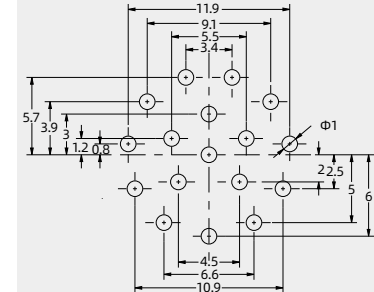
#### Contact arrangement: mating side



#### Reverse coding



#### PCB layout



2) Suitable only for bulkhead mounted housings:HR23-BK-D2.7,HR23-BK/R-OD2.7 and HR23-BK/R-OM2.5

\*Please find the details of crimp contact tools on page 29-02~29-05.\*Please find the details of crimp contact tools on page 29-02~29-05.

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## HR23-019 Circular inserts

25V~/60V- 10/7A

## Inserts

Hoods/Housings: size HR23 ,detail please find the page22-09~22-11.

## Technical characteristics

## Specifications

Specifications	DIN EN 60 664
	DIN EN 61 984

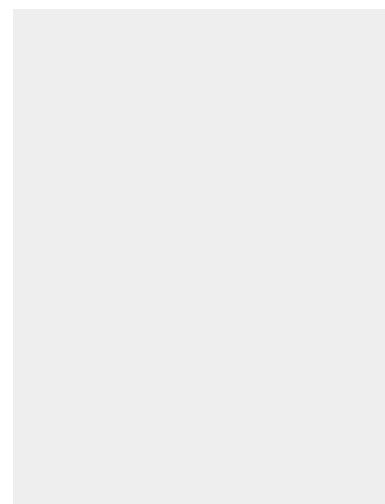
## Approvals

Inserts		Contacts	
Number of contacts	19	Material	copper alloy
Electrical data acc. to EN 61 984		Surface	gold plated
Rated current		Contact resistance	≤ 5 mΩ
-power contact	3x10A	Solder terminal	
-signal contact	16x7A	-power contact	0.14-2.5 mm <sup>2</sup> / AWG 26-14
Rated voltage	25 V~/60 V-	-signal contact	0.14-1.0 mm <sup>2</sup> / AWG 26-16
Pollution degree	3		
Rated impulse voltage	1.5 kV		
Insulation resistance	≥ 10 <sup>12</sup> Ω		
Material	PBT		
Temperature range	-40°C ...+130°C		
Flammability acc. to UL 94	V0		

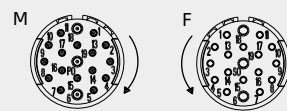
## Solder terminal



Inserts	Designation	Order No.
Male	HR23-019-MST	181 019 013 0001
Female	HR23-019-FST	181 019 023 0001
Reverse coding		
Male	HR23-019R-MST	181 019 013 0101
Female	HR23-019R-FST	181 019 023 0101



## Contact arrangement: mating side



## Reverse coding



## HR23 Housing material

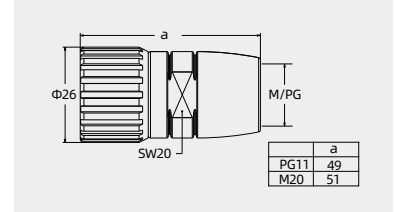
Housing material	
Material	Copper zinc alloy
Surface	Nickel-plated
Sealing	FPM
Temperature range	-40°C ...+130°C
Degree of protection	IP 67

### Hoods, top-entry

Install or remove this kind of product need to use the HR23-TL02/N tools.



screw	Designation	Order No.
PG11	HR23-TE-PG11	181 000 410 1002
M20	HR23-TE-M20	181 000 410 1001

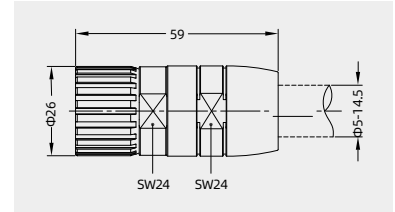


Mounted with cable gland to achieve EMC function.

### Hoods, top-entry, EMC version



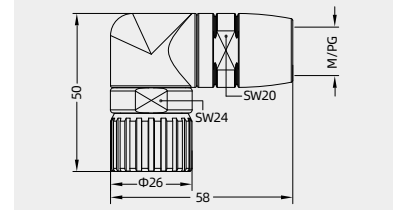
screw	Designation	Order No.
	HR23-TE-EMC	181 000 410 2003



### Hood, entry 90°



screw	Designation	Order No.
PG11	HR23-SE-PG11	181 000 510 1002
M20	HR23-SE-M20	181 000 510 1001

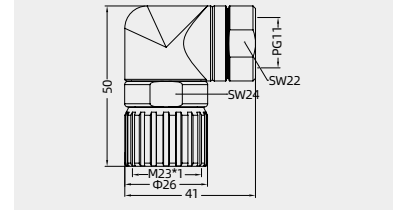


Mounted with cable gland to achieve EMC function.

### Hood, entry 90°



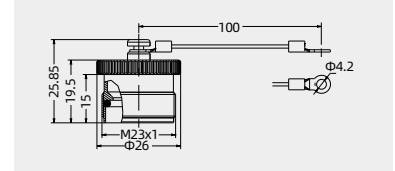
screw	Designation	Order No.
PG11	HR23-SES-PG11	181 000 510 1102



### Screw cover , for hoods with rope



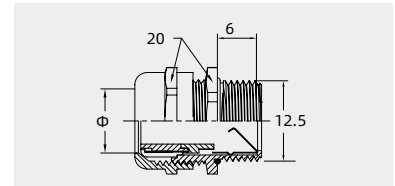
screw	Designation	Order No.
	HR23-MCV-M2	181 000 010 9001



### Cable gland



screw	Designation	Order No.
PG11	WNAC-PG11(D5-10)	102 117 003 1001
M20	WNAC-M20(D6-12)	102 117 015 1001

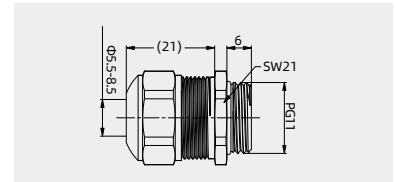


### Cable gland

Recommended use



screw	Designation	Order No.
PG11	WNACP-PG11(D5.5-8.5)	102 117 018 1503
M20	WNACP-M20(D5.5-8.5)	102 117 018 1505



HR23 Housing material

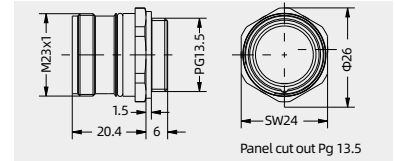
Degree of protection: IP67

Housings, bulkhead mounting

front wall assembly with central locking PG13.5



screw	Designation	Order No.
PG13.5	HR23-BK-PG13.5	181 000 310 1004

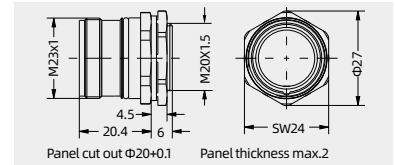


Housings, bulkhead mounting

front wall assembly,with central locking M20



screw	Designation	Order No.
M20	HR23-BK-M20	181 000 310 1003

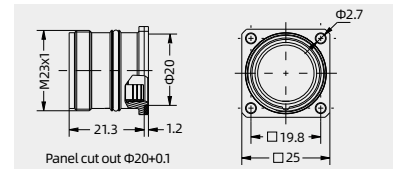


Housings, bulkhead mounting

front wall assembly,with flat sealing and 4 Ø2.7 holes



screw	Designation	Order No.
---	HR23-BK-D2.7	181 000 310 1001

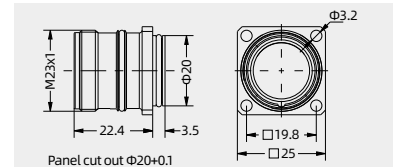


Housings, bulkhead mounting

front wall assembly,with O-ring sealing and 4 Ø3.2 holes



screw	Designation	Order No.
---	HR23-BK-OD3.2	181 000 310 1002



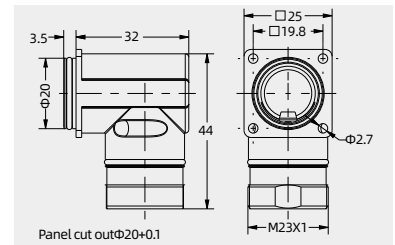
Housings, bulkhead mounting

front wall assembly,with O-ring sealing and 4 Ø2.7 holes

HR23-TL03 tools are needed for installation and removal



screw	Designation	Order No.
---	HR23-BK-SE-OD2.7	181 000 610 1001

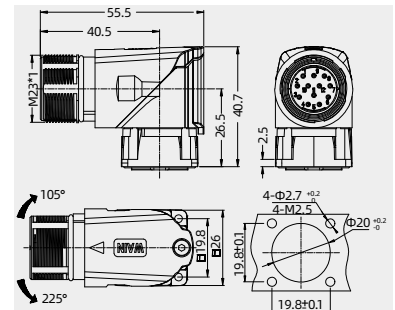


Housings, bulkhead mounting

front wall assembly,with O-ring sealing and 4 Ø2.7 holes. suitable for positioning rotation,can match HR23 series inserts, (except PCB Solder series)



screw	Designation	Order No.
---	HR23-BKP-SE-OD2.7	181 000 610 1101

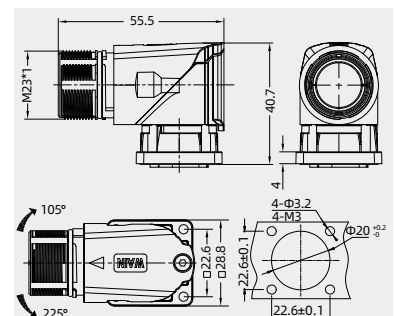


Housings, bulkhead mounting

front wall assembly,with O-ring sealing and 4 Ø3.2 holes. suitable for positioning rotation,can match HR23 series inserts, (except PCB Solder series)



screw	Designation	Order No.
---	HR23-BKP28.8-SE-OD3.2	181 000 610 1102



## HR23 Housing material

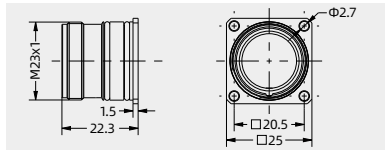
### Degree of protection: IP67

#### Housings, bulkhead mounting

back wall assembly, with O-ring sealing and 4  $\Phi 2.7$  holes



screw	Designation	Order No.
---	HR23-BK/R-OD2.7	181 000 310 1101



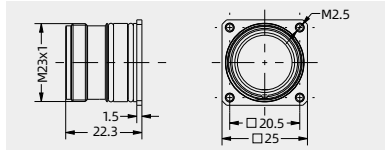
When using counter sunk screws, Panel cut out  $\Phi 23+0.1$ , Panel thickness: 2.7-3.5,

#### Housings, bulkhead mounting

back wall assembly, with O-ring sealing and 4 M2.5 holes



screw	Designation	Order No.
---	HR23-BK/R-OM2.5	181 000 310 1102



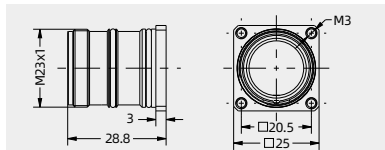
When using counter sunk screws, Panel cut out  $\Phi 23+0.1$ , Panel thickness: 2.7-3.5,

#### Housings, bulkhead mounting

back wall assembly, with O-ring sealing and 4 M3.0 holes



screw	Designation	Order No.
---	HR23-BK/R-OM3.0	181 000 310 1103



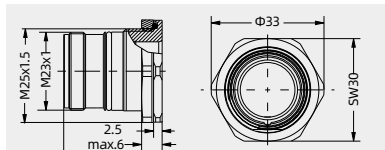
When using counter sunk screws, Panel cut out  $\Phi 23+0.1$ , Panel thickness: 3.5-8.5

#### Housings, bulkhead mounting

back wall assembly, with central locking M25



screw	Designation	Order No.
M25	HR23-BK/R-OM25	181 000 310 1104



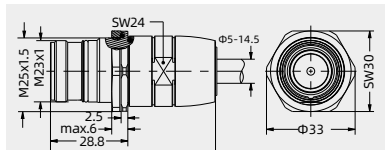
Panel cut out  $\Phi 25+0.1$ , Panel thickness: 6

#### EMC Housings, cable to cable

back wall assembly, with central locking M25



screw	Designation	Order No.
M25	HR23-CCT/R-OM25	181 000 710 1004

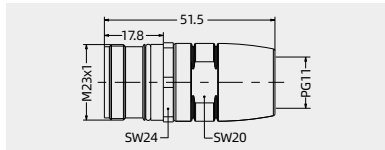


Panel cut out  $\Phi 25+0.1$ , Panel thickness: 6

#### Housings, cable to cable, top entry



screw	Designation	Order No.
M20	HR23-CCT-M20	181 000 710 1001
PG11	HR23-CCT-PG11	181 000 710 1002

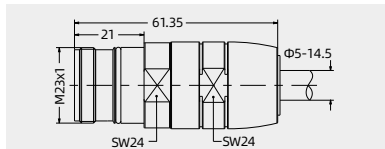


#### Housings, cable to cable, top entry

EMC version



screw	Designation	Order No.
---	HR23-CCT-EMC	181 000 710 2003



Install or remove this kind of product need to use the HR23-TL01 tools.

#### Screw cover

for bulkhead mounted and cable to cable housings



screw	Designation	Order No.
---	HR23-MCV-F	181 000 010 9003

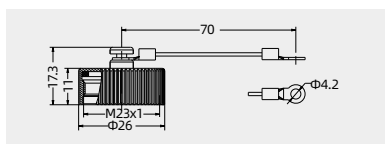


#### Screw cover

for bulkhead mounted and cable to cable housings, with rope



screw	Designation	Order No.
---	HR23-MCV-F2	181 000 010 9002

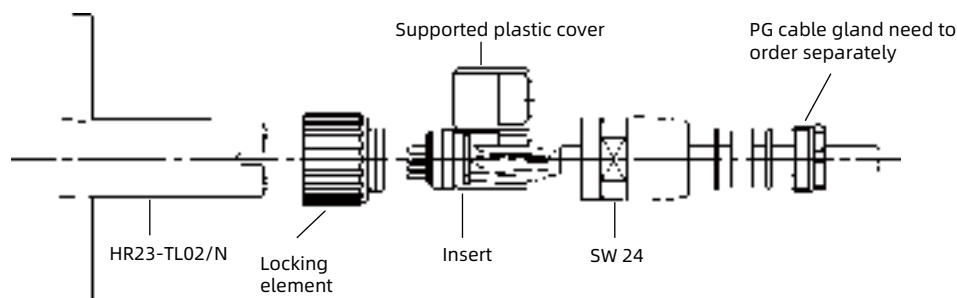


## HR23 Assembly manuals

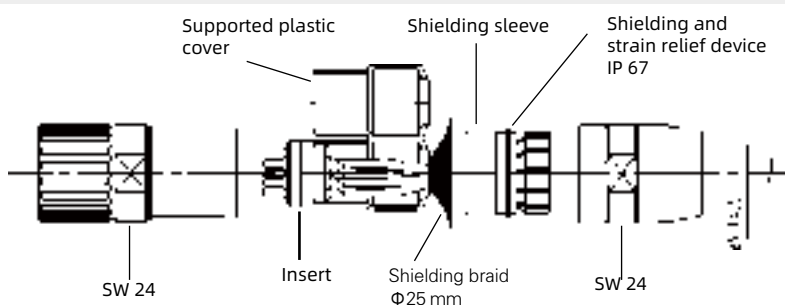
Hood and Housing	Cable stripping length x
HR23-CCT/R-OM25	26 mm
HR23-TE-PG11	20 mm
HR23-TE-EMC	26 mm
HR23-SE-PG11	30 mm
HR23-CCT-PG11	20 mm
HR23-CCT-EMC	26 mm
HR23-BK-SE-OD2.7	30 mm



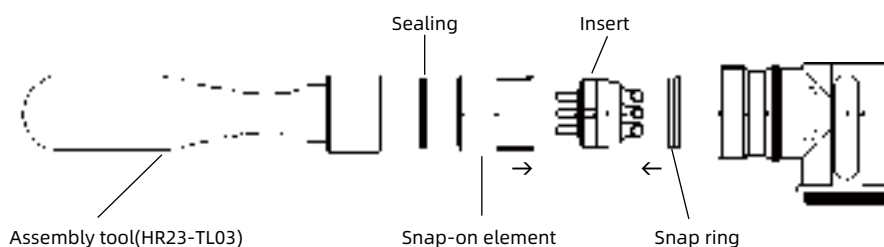
### Standard hood and housing



### EMC hoods

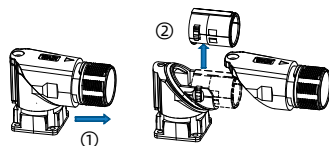


### Right angled bulkhead mounted housing



### Right angled bulkhead mounted housing: HR23-BKP-SE-OD2.7

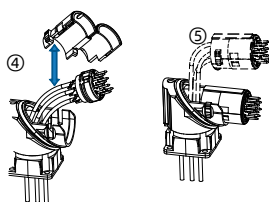
1: Pull out the upper cover horizontally, and then take out the inner insert fixed part.



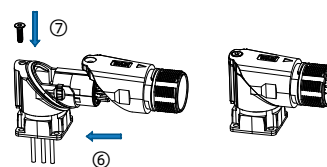
2: insert wiring  
 a. The cable passes through the fixed base.  
 b. Strip the wire insulation husk, and then weld it to the pins of the insert.



3: install the insert fixed part  
 a. Fasten the open fixed part with the insert; the location gap of the insert should align with the location salient point of the fixed part.  
 b. Insert the fixed part which installed the insert to the slot of the base.



4: Lock the upper cover, and the installation is completed.

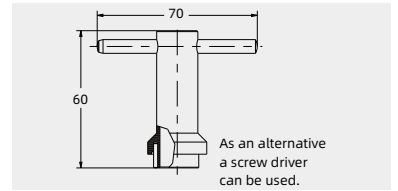


## HR23 Tools

### Tools



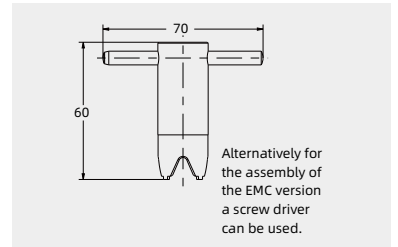
Application	Designation	Order No.
for bulkhead mounted and cable to cable housings and hoods: HR23-CCT-EMC	HR23-TL01/N	198 001 003 0004



### Tools



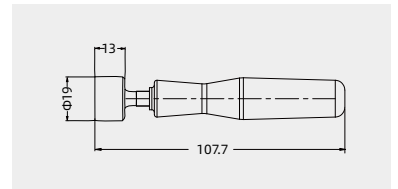
Description	Designation	Order No.
for hoods: HR23-TE-PG11 HR23-TE-M20	HR23-TL02/N	198 001 003 0005



### Tools



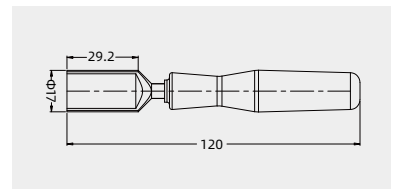
Description	Designation	Order No.
for angled bulkhead mounted housings: HR23-BK-SE-OD2.7	HR23-TL03	198 001 003 0006



### Tools



Description	Designation	Order No.
for housings: (except angled bulkhead mounted and EMC housings)	HR23-TL04	198 001 003 0014







HR23

## MR23 Circular power connectors



## MR23 Circular connector

300V- 20A

## Technical characteristics

Specifications				
Specifications	DIN EN 60 664			
	DIN EN 61 984			
Approvals				
Electrical data		Mechanical data		
Number of contacts	6	7	Housing material	copper alloy,zinc alloy
Rated current	20A	20A	Housing surface	Nickel-plated
mm <sup>2</sup> / AWG	(0.35-2.5 mm <sup>2</sup> / AWG 22-14)		Contact resistance	≤ 5 mΩ
Rated voltage	300 V	300 V	Insulating bodies	PBT
Rated impulse voltage	2.5 kV	2.5 kV	Contact material	copper alloy
Pollution degree	3	3	Contact surface	gold plated
Flammability acc. to UL 94	V0 (UL94)	V0 (UL94)	Mechanical working life	>500
Overvoltage categorie	III	III	Degree of protection	IP67
			Limiting temperature	-40°C ...+130°C

Forward coding, Crimp terminal  
order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
6	4.5-8mm	MR23-006-CCT-D8-SH	181 006 700 2001
	6-10mm	MR23-006-CCT-D10-SH	181 006 700 2002
	9-14.5mm	MR23-006-CCT-D14.5-SH	181 006 700 2003
7	4.5-8mm	MR23-007-CCT-D8-SH	181 007 700 2001
	6-10mm	MR23-007-CCT-D10-SH	181 007 700 2002
	9-14.5mm	MR23-007-CCT-D14.5-SH	181 007 700 2003

Reverse coding, Crimp terminal  
order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
6	4.5-8mm	MR23-006R-CCT-D8-SH	181 006 700 2004
	6-10mm	MR23-006R-CCT-D10-SH	181 006 700 2005
	9-14.5mm	MR23-006R-CCT-D14.5-SH	181 006 700 2006
7	4.5-8mm	MR23-007R-CCT-D8-SH	181 007 700 2004
	6-10mm	MR23-007R-CCT-D10-SH	181 007 700 2005
	9-14.5mm	MR23-007R-CCT-D14.5-SH	181 007 700 2006

## Crimp contacts

## Crimp contacts 20A

20A



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.35-2.5	MR23-MC20G-2.5	101 020 210 1001
NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.35-2.5	MR23-FC20G-2.5	101 020 220 1001

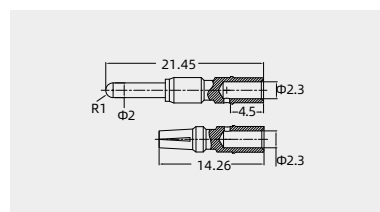
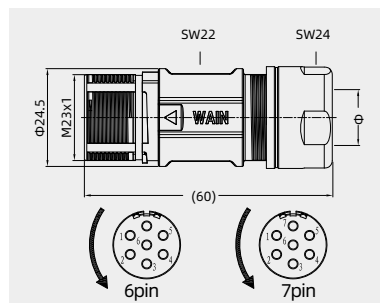
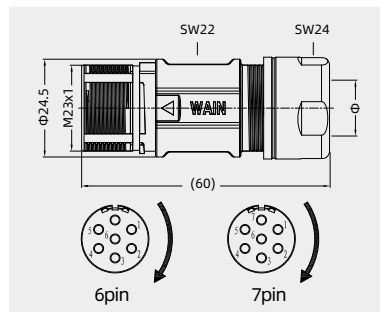
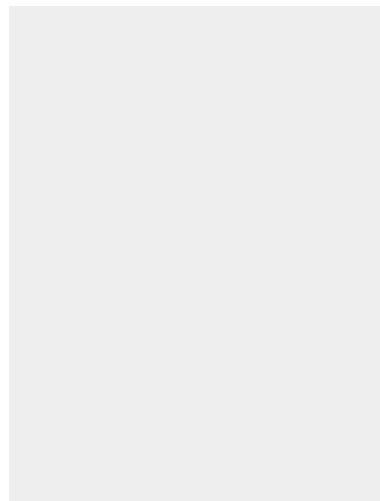
## Tools

## Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.



## MR23 Circular connector

300V- 20A

## Technical characteristics

Specifications				
Specifications	DIN EN 60 664			
	DIN EN 61 984			
Approvals				
Electrical data		Mechanical data		
Number of contacts	6	7	Housing material	copper alloy,zinc alloy
Rated current	20A	20A	Housing surface	Nickel-plated
mm <sup>2</sup> / AWG	(0.35-2.5 mm <sup>2</sup> / AWG 22-14)		Contact resistance	≤ 5 mΩ
Rated voltage	300 V	300 V	Insulating bodies	PBT
Rated impulse voltage	2.5 kV	2.5 kV	Contact material	copper alloy
Pollution degree	3	3	Contact surface	gold plated
Flammability acc. to UL 94	V0 (UL94)	V0 (UL94)	Mechanical working life	>500
Overvoltage categorie	III	III	Degree of protection	IP67
			Limiting temperature	-40°C ...+130°C

Forward coding, Crimp terminal  
order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
6	4.5-8mm	MR23-006-CCT/R-D8-SH	181 006 700 2007
	6-10mm	MR23-006-CCT/R-D10-SH	181 006 700 2008
	9-14.5mm	MR23-006-CCT/R-D14.5-SH	181 006 700 2009
7	4.5-8mm	MR23-007-CCT/R-D8-SH	181 007 700 2007
	6-10mm	MR23-007-CCT/R-D10-SH	181 007 700 2008
	9-14.5mm	MR23-007-CCT/R-D14.5-SH	181 007 700 2009

Reverse coding, Crimp terminal  
order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
6	4.5-8mm	MR23-006R-CCT/R-D8-SH	181 006 700 2010
	6-10mm	MR23-006R-CCT/R-D10-SH	181 006 700 2011
	9-14.5mm	MR23-006R-CCT/R-D14.5-SH	181 006 700 2012
7	4.5-8mm	MR23-007R-CCT/R-D8-SH	181 007 700 2010
	6-10mm	MR23-007R-CCT/R-D10-SH	181 007 700 2011
	9-14.5mm	MR23-007R-CCT/R-D14.5-SH	181 007 700 2012

## Crimp contacts

## Crimp contacts 20A

20A



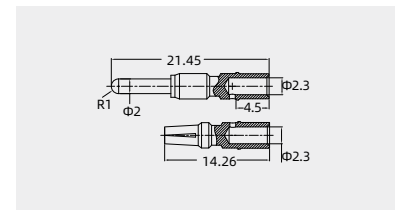
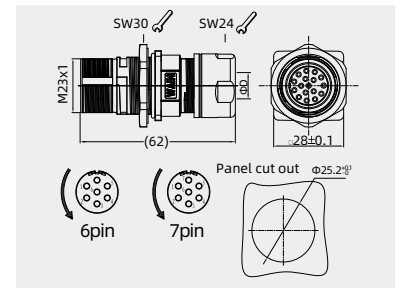
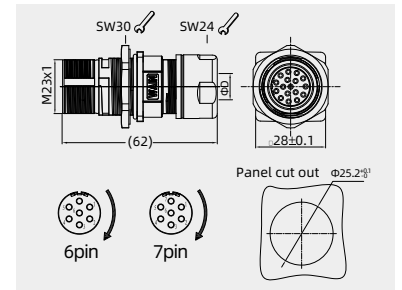
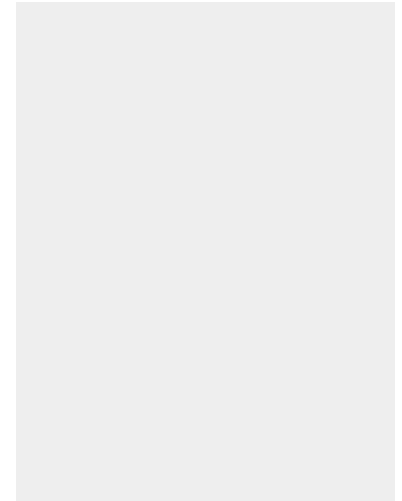
NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.35-2.5	MR23-MC20G-2.5	101 020 210 1001
NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.35-2.5	MR23-FC20G-2.5	101 020 220 1001

## Tools

## Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039



Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## MR23 Circular connector

160V- 10A

## Technical characteristics

Specifications			
Specifications	DIN EN 60 664		
	DIN EN 61 984		
Approvals			
Electrical data		Mechanical data	
Number of contacts	9	Housing material	copper alloy,zinc alloy
Rated current	10A	Housing surface	Nickel-plated
mm <sup>2</sup> / AWG	0.14-1.0 + 0.35-2.5	Contact resistance	≤ 5 mΩ
Rated voltage	160 V	Insulating bodies	PBT
Rated impulse voltage	2.5 kV	Contact material	copper alloy
Pollution degree	3	Contact surface	gold plated
Flammability acc. to UL 94	V0 (UL94)	Mechanical working life	>500
Overvoltage categorie	III	Degree of protection	IP67
		Limiting temperature	-40°C ...+130°C

Forward coding, Crimp terminal  
order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
9	4.5-8mm	MR23-009-CCT-D8-SH	181 009 700 2501
	6-10mm	MR23-009-CCT-D10-SH	181 009 700 2502
	9-14.5mm	MR23-009-CCT-D14.5-SH	181 009 700 2503

Reverse coding, Crimp terminal  
order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
9	4.5-8mm	MR23-009R-CCT-D8-SH	181 009 700 2504
	6-10mm	MR23-009R-CCT-D10-SH	181 009 700 2500
	9-14.5mm	MR23-009R-CCT-D14.5-SH	181 009 700 2505

## Crimp contacts

## Crimp contacts 9A

9A



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.03-0.34	M23-MC9G-0.34	101 031 210 2501
②	0.14-1.0	M23-MC9G-1.0	101 031 210 0801

NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.03-0.34	M23-FC9G-0.34	101 031 220 2501
②	0.14-1.0	M23-FC9G-1.0	101 031 220 0801

## Crimp contacts 20A

20A



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.35-2.5	MR23-MC20G-2.5	101 020 210 1001

NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.35-2.5	MR23-FC20G-2.5	101 020 220 1001

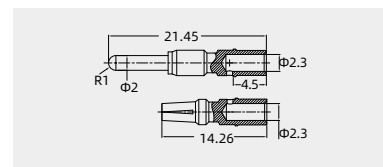
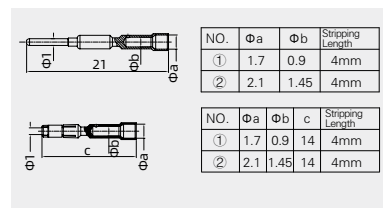
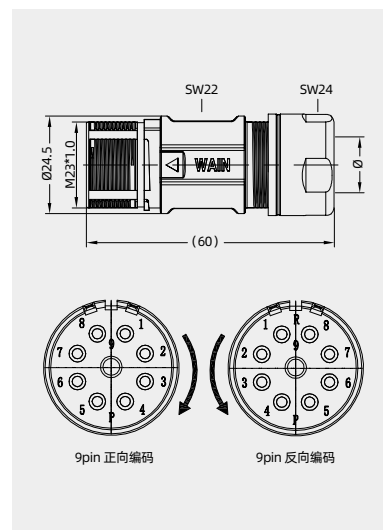
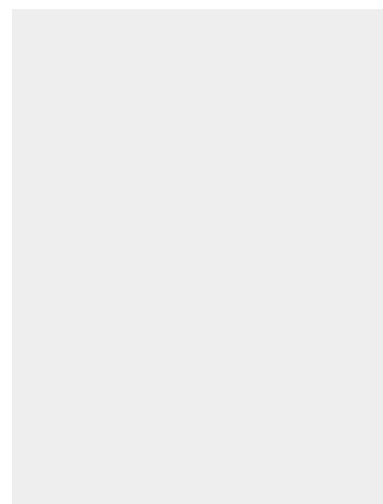
## Tools

## Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.



## MR23 Circular connector

160V- 10A

## Technical characteristics

Specifications			
Specifications	DIN EN 60 664		
	DIN EN 61 984		
Approvals			
Electrical data		Mechanical data	
Number of contacts	9	Housing material	copper alloy,zinc alloy
Rated current	10A	Housing surface	Nickel-plated
mm <sup>2</sup> / AWG	0.14-1.0 + 0.35-2.5	Contact resistance	≤ 5 mΩ
Rated voltage	160 V	Insulating bodies	PBT
Rated impulse voltage	2.5 kV	Contact material	copper alloy
Pollution degree	3	Contact surface	gold plated
Flammability acc. to UL 94	V0 (UL94)	Mechanical working life	>500
Overvoltage categorie	III	Degree of protection	IP67
		Limiting temperature	-40°C ...+130°C

Forward coding, Crimp terminal  
order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
9	4.5-8mm	MR23-009/B-CCT-D8-SH	181 009 700 2506
	6-10mm	MR23-009/B-CCT-D10-SH	181 009 700 2507
	9-14.5mm	MR23-009/B-CCT-D14.5-SH	181 009 700 2508

Reverse coding, Crimp terminal  
order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
9	4.5-8mm	MR23-009R/B-CCT-D8-SH	181 009 700 2509
	6-10mm	MR23-009R/B-CCT-D10-SH	181 009 700 2510
	9-14.5mm	MR23-009R/B-CCT-D14.5-SH	181 009 700 2511

## Crimp contacts

## Crimp contacts 9A

9A



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.03-0.34	M23-MC9G-0.34	101 031 210 2501
②	0.14-1.0	M23-MC9G-1.0	101 031 210 0801

NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.03-0.34	M23-FC9G-0.34	101 031 220 2501
②	0.14-1.0	M23-FC9G-1.0	101 031 220 0801

## Crimp contacts 20A

20A



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.35-2.5	MR23-MC20G-2.5	101 020 210 1001

NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.35-2.5	MR23-FC20G-2.5	101 020 220 1001

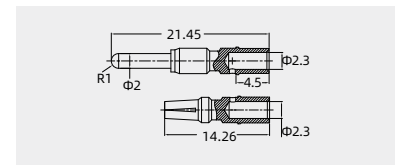
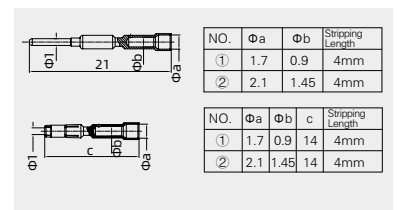
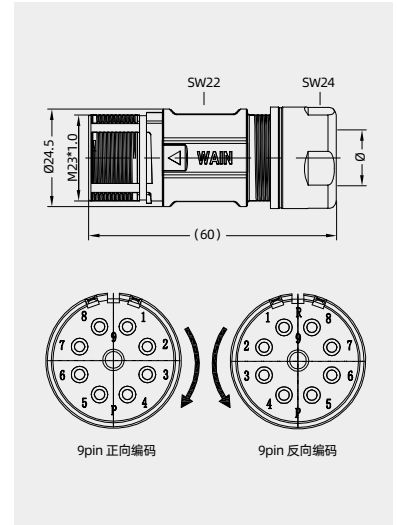
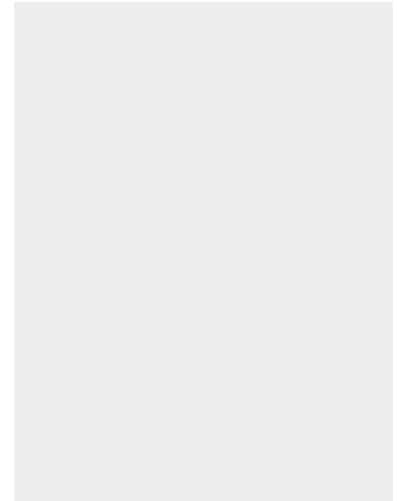
## Tools

## Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.



## MR23 Circular connector

160V- 10A

## Technical characteristics

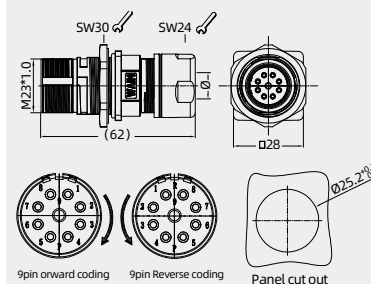
Specifications			
Specifications	DIN EN 60 664		
	DIN EN 61 984		
Approvals			
Electrical data		Mechanical data	
Number of contacts	9	Housing material	copper alloy,zinc alloy
Rated current	10A	Housing surface	Nickel-plated
mm <sup>2</sup> / AWG	0.14-1.0 + 0.35-2.5	Contact resistance	≤ 5 mΩ
Rated voltage	160 V	Insulating bodies	PBT
Rated impulse voltage	2.5 kV	Contact material	copper alloy
Pollution degree	3	Contact surface	gold plated
Flammability acc. to UL 94	V0 (UL94)	Mechanical working life	>500
Overvoltage categorie	III	Degree of protection	IP67
		Limiting temperature	-40°C ...+130°C

Forward coding, Crimp terminal  
order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
9	4.5-8mm	MR23-009-CCT/R-D8-SH	181 009 700 2512
	6-10mm	MR23-009-CCT/R-D10-SH	181 009 700 2513
	9-14.5mm	MR23-009-CCT/R-D14.5-SH	181 009 700 2514

Reverse coding, Crimp terminal  
order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
9	4.5-8mm	MR23-009R-CCT/R-D8-SH	181 009 700 2515
	6-10mm	MR23-009R-CCT/R-D10-SH	181 009 700 2516
	9-14.5mm	MR23-009R-CCT/R-D14.5-SH	181 009 700 2517



## Crimp contacts

## Crimp contacts 9A

9A



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.03-0.34	M23-MC9G-0.34	101 031 210 2501
②	0.14-1.0	M23-MC9G-1.0	101 031 210 0801

NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.03-0.34	M23-FC9G-0.34	101 031 220 2501
②	0.14-1.0	M23-FC9G-1.0	101 031 220 0801

NO.	Φa	Φb	Stripping Length
①	1.7	0.9	4mm
②	2.1	1.45	4mm

NO.	Φa	Φb	c	Stripping Length
①	1.7	0.9	14	4mm
②	2.1	1.45	14	4mm

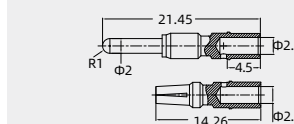
## Crimp contacts 20A

20A



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.35-2.5	MR23-MC20G-2.5	101 020 210 1001

NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.35-2.5	MR23-FC20G-2.5	101 020 220 1001



## Tools

## Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## MR23 Circular connector

160V- 10A

## Technical characteristics

Specifications			
Specifications	DIN EN 60 664		
	DIN EN 61 984		
Approvals			
Electrical data		Mechanical data	
Number of contacts	9	Housing material	copper alloy,zinc alloy
Rated current	10A	Housing surface	Nickel-plated
mm <sup>2</sup> / AWG	0.14-1.0 + 0.35-2.5	Contact resistance	≤ 5 mΩ
Rated voltage	160 V	Insulating bodies	PBT
Rated impulse voltage	2.5 kV	Contact material	copper alloy
Pollution degree	3	Contact surface	gold plated
Flammability acc. to UL 94	V0 (UL94)	Mechanical working life	>500
Overvoltage categorie	III	Degree of protection	IP67
		Limiting temperature	-40°C ...+130°C

Forward coding, Crimp terminal  
order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
9	4.5-8mm	MR23-009/B-CCT/R-D8-SH	181 009 700 2518
	6-10mm	MR23-009/B-CCT/R-D10-SH	181 009 700 2519
	9-14.5mm	MR23-009/B-CCT/R-D14.5-SH	181 009 700 2520

Reverse coding, Crimp terminal  
order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
9	4.5-8mm	MR23-009R/B-CCT/R-D8-SH	181 009 700 2521
	6-10mm	MR23-009R/B-CCT/R-D10-SH	181 009 700 2522
	9-14.5mm	MR23-009R/B-CCT/R-D14.5-SH	181 009 700 2523

## Crimp contacts

## Crimp contacts 9A

9A



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.03-0.34	M23-MC9G-0.34	101 031 210 2501
②	0.14-1.0	M23-MC9G-1.0	101 031 210 0801

NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.03-0.34	M23-FC9G-0.34	101 031 220 2501
②	0.14-1.0	M23-FC9G-1.0	101 031 220 0801

## Crimp contacts 20A

20A



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.35-2.5	MR23-MC20G-2.5	101 020 210 1001

NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.35-2.5	MR23-FC20G-2.5	101 020 220 1001

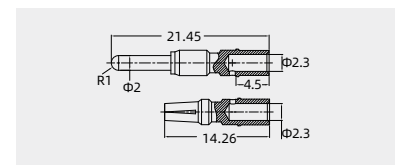
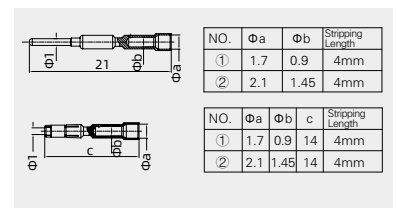
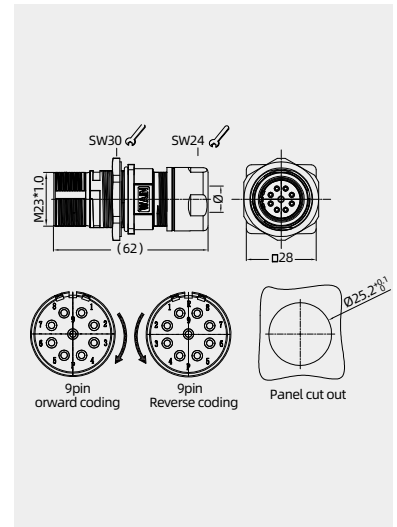
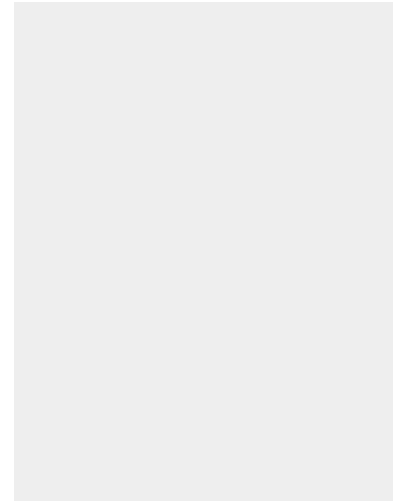
## Tools

## Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.





## MR23 Circular connector

160V- 10A

## Technical characteristics

Specifications			
Specifications	DIN EN 60 664		
	DIN EN 61 984		
Approvals			
Electrical data		Mechanical data	
Number of contacts	9	Housing material	copper alloy,zinc alloy
Rated current	10A	Housing surface	Nickel-plated
mm <sup>2</sup> / AWG	0.14-1.0 + 0.35-2.5	Contact resistance	≤ 5 mΩ
Rated voltage	160 V	Insulating bodies	PBT
Rated impulse voltage	2.5 kV	Contact material	copper alloy
Pollution degree	3	Contact surface	gold plated
Flammability acc. to UL 94	V0 (UL94)	Mechanical working life	>500
Overvoltage categorie	III	Degree of protection	IP67
		Limiting temperature	-40°C ...+130°C

Forward coding, Crimp terminal  
order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
9	4.5-8mm	MR23-009-CCT/R26-D8-SH	181 009 700 2524
	6-10mm	MR23-009-CCT/R26-D10-SH	181 009 700 2525
	9-14.5mm	MR23-009-CCT/R26-D14.5-SH	181 009 700 2526

Reverse coding, Crimp terminal  
order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
9	4.5-8mm	MR23-009R-CCT/R26-D8-SH	181 009 700 2527
	6-10mm	MR23-009R-CCT/R26-D10-SH	181 009 700 2528
	9-14.5mm	MR23-009R-CCT/R26-D14.5-SH	181 009 700 2529

## Crimp contacts

## Crimp contacts 9A

9A



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.03-0.34	M23-MC9G-0.34	101 031 210 2501
②	0.14-1.0	M23-MC9G-1.0	101 031 210 0801

NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.03-0.34	M23-FC9G-0.34	101 031 220 2501
②	0.14-1.0	M23-FC9G-1.0	101 031 220 0801

## Crimp contacts 20A

20A



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.35-2.5	MR23-MC20G-2.5	101 020 210 1001

NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.35-2.5	MR23-FC20G-2.5	101 020 220 1001

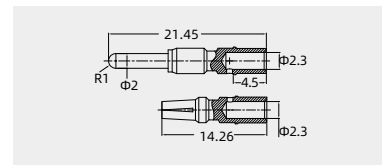
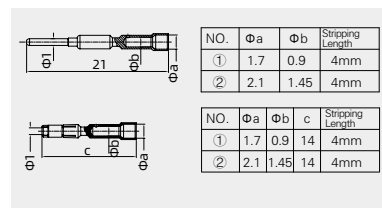
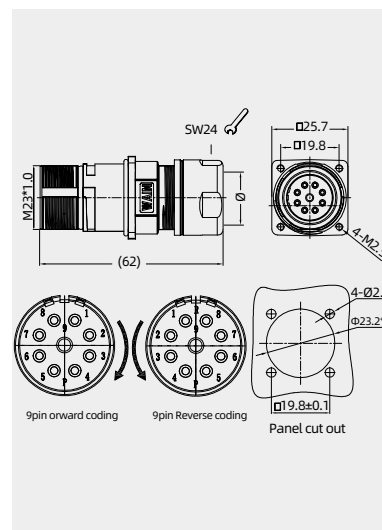
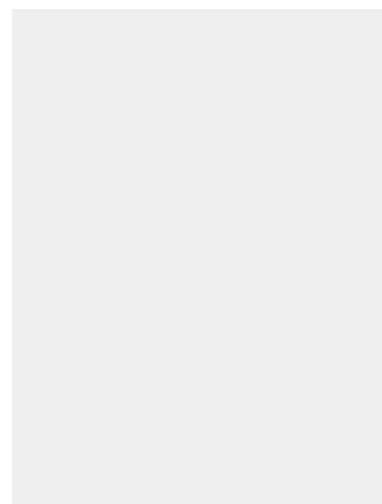
## Tools

## Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.



## MR23 Circular connector

160V- 10A

## Technical characteristics

Specifications			
Specifications	DIN EN 60 664		
	DIN EN 61 984		
Approvals			
Electrical data		Mechanical data	
Number of contacts	9	Housing material	copper alloy,zinc alloy
Rated current	10A	Housing surface	Nickel-plated
mm <sup>2</sup> / AWG	0.14-1.0 + 0.35-2.5	Contact resistance	≤ 5 mΩ
Rated voltage	160 V	Insulating bodies	PBT
Rated impulse voltage	2.5 kV	Contact material	copper alloy
Pollution degree	3	Contact surface	gold plated
Flammability acc. to UL 94	V0 (UL94)	Mechanical working life	>500
Overvoltage categorie	III	Degree of protection	IP67
		Limiting temperature	-40°C ...+130°C

Forward coding, Crimp terminal  
order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
9	4.5-8mm	MR23-009/B-CCT/R26-D8-SH	181 009 700 2530
	6-10mm	MR23-009/B-CCT/R26-D10-SH	181 009 700 2531
	9-14.5mm	MR23-009/B-CCT/R26-D14.5-SH	181 009 700 2532

Reverse coding, Crimp terminal  
order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
9	4.5-8mm	MR23-009R/B-CCT/R26-D8-SH	181 009 700 2533
	6-10mm	MR23-009R/B-CCT/R26-D10-SH	181 009 700 2534
	9-14.5mm	MR23-009R/B-CCT/R26-D14.5-SH	181 009 700 2535

## Crimp contacts

## Crimp contacts 9A

9A



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.03-0.34	M23-MC9G-0.34	101 031 210 2501
②	0.14-1.0	M23-MC9G-1.0	101 031 210 0801

NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.03-0.34	M23-FC9G-0.34	101 031 220 2501
②	0.14-1.0	M23-FC9G-1.0	101 031 220 0801

## Crimp contacts 20A

20A



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.35-2.5	MR23-MC20G-2.5	101 020 210 1001

NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.35-2.5	MR23-FC20G-2.5	101 020 220 1001

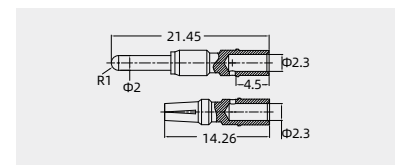
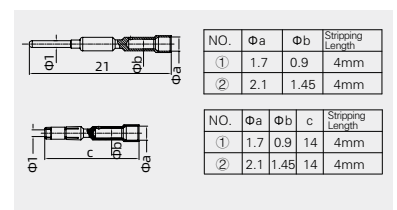
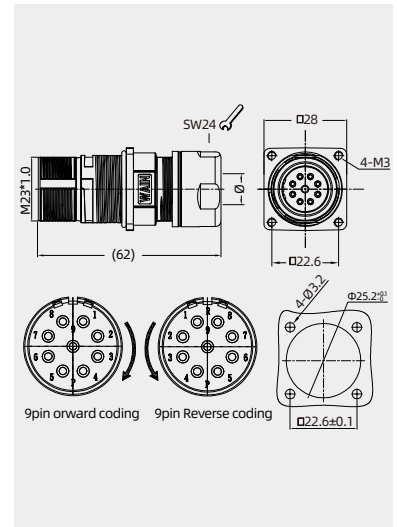
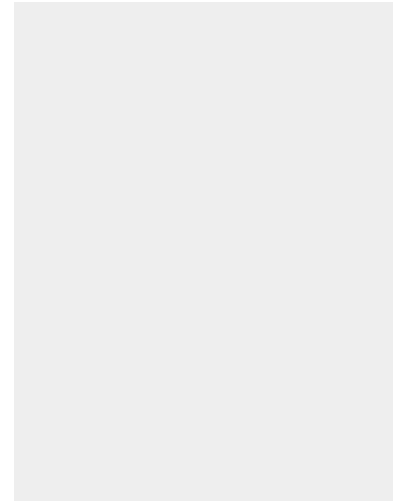
## Tools

## Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.



## MR23 Circular connector

160V- 10A

## Technical characteristics

Specifications			
Specifications	DIN EN 60 664		
	DIN EN 61 984		
Approvals			
Electrical data		Mechanical data	
Number of contacts	9	Housing material	copper alloy,zinc alloy
Rated current	10A	Housing surface	Nickel-plated
mm <sup>2</sup> / AWG	0.14-1.0 + 0.35-2.5	Contact resistance	≤ 5 mΩ
Rated voltage	160 V	Insulating bodies	PBT
Rated impulse voltage	2.5 kV	Contact material	copper alloy
Pollution degree	3	Contact surface	gold plated
Flammability acc. to UL 94	V0 (UL94)	Mechanical working life	>500
Overvoltage categorie	III	Degree of protection	IP67
		Limiting temperature	-40°C ...+130°C

Forward coding, Crimp terminal  
order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
9	4.5-8mm	MR23-009-CCT/R28-D8-SH	181 009 700 2536
	6-10mm	MR23-009-CCT/R28-D10-SH	181 009 700 2537
	9-14.5mm	MR23-009-CCT/R28-D14.5-SH	181 009 700 2538

Reverse coding, Crimp terminal  
order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
9	4.5-8mm	MR23-009R-CCT/R28-D8-SH	181 009 700 2539
	6-10mm	MR23-009R-CCT/R28-D10-SH	181 009 700 2540
	9-14.5mm	MR23-009R-CCT/R28-D14.5-SH	181 009 700 2541

## Crimp contacts

## Crimp contacts 9A

9A



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.03-0.34	M23-MC9G-0.34	101 031 210 2501
②	0.14-1.0	M23-MC9G-1.0	101 031 210 0801

NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.03-0.34	M23-FC9G-0.34	101 031 220 2501
②	0.14-1.0	M23-FC9G-1.0	101 031 220 0801

## Crimp contacts 20A

20A



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.35-2.5	MR23-MC20G-2.5	101 020 210 1001

NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.35-2.5	MR23-FC20G-2.5	101 020 220 1001

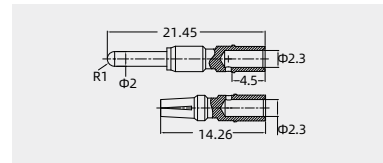
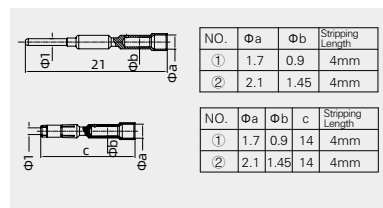
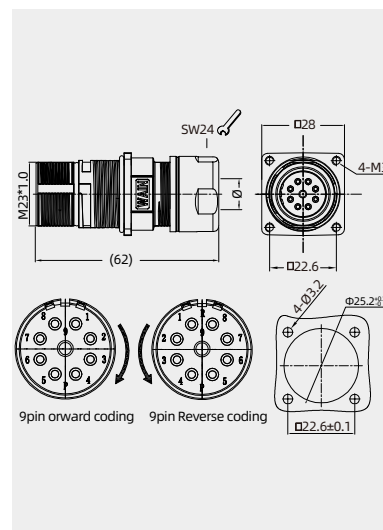
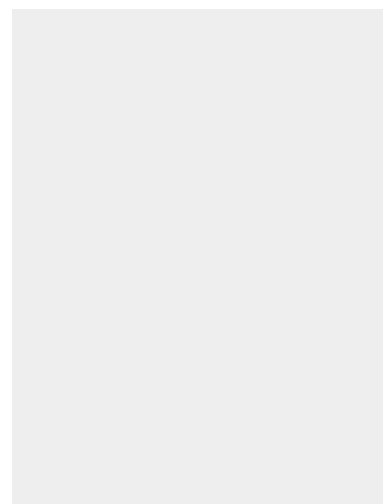
## Tools

## Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.



## MR23 Circular connector

160V- 10A

## Technical characteristics

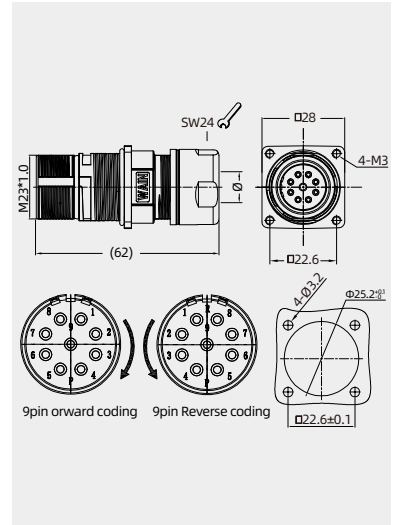
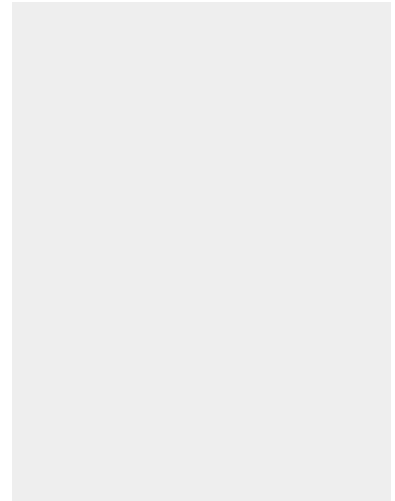
Specifications			
Specifications	DIN EN 60 664		
	DIN EN 61 984		
Approvals			
Electrical data		Mechanical data	
Number of contacts	9	Housing material	copper alloy, zinc alloy
Rated current	10A	Housing surface	Nickel-plated
mm <sup>2</sup> / AWG	0.14-1.0 + 0.35-2.5	Contact resistance	≤ 5 mΩ
Rated voltage	160 V	Insulating bodies	PBT
Rated impulse voltage	2.5 kV	Contact material	copper alloy
Pollution degree	3	Contact surface	gold plated
Flammability acc. to UL 94	V0 (UL94)	Mechanical working life	>500
Overvoltage categorie	III	Degree of protection	IP67
		Limiting temperature	-40°C ...+130°C

Forward coding, Crimp terminal  
order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
9	4.5-8mm	MR23-009/B-CCT/R28-D8-SH	181 009 700 2542
	6-10mm	MR23-009/B-CCT/R28-D10-SH	181 009 700 2543
	9-14.5mm	MR23-009/B-CCT/R28-D14.5-SH	181 009 700 2544

Reverse coding, Crimp terminal  
order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
9	4.5-8mm	MR23-009R/B-CCT/R28-D8-SH	181 009 700 2545
	6-10mm	MR23-009R/B-CCT/R28-D10-SH	181 009 700 2546
	9-14.5mm	MR23-009R/B-CCT/R28-D14.5-SH	181 009 700 2547



## Crimp contacts

## Crimp contacts 9A

9A



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.03-0.34	M23-MC9G-0.34	101 031 210 2501
②	0.14-1.0	M23-MC9G-1.0	101 031 210 0801

NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.03-0.34	M23-FC9G-0.34	101 031 220 2501
②	0.14-1.0	M23-FC9G-1.0	101 031 220 0801

NO.	Φa	Φb	Stripping Length
①	1.7	0.9	4mm
②	2.1	1.45	4mm

NO.	Φa	Φb	c	Stripping Length
①	1.7	0.9	14	4mm
②	2.1	1.45	14	4mm

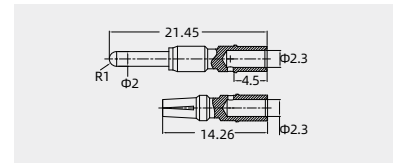
## Crimp contacts 20A

20A



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.35-2.5	MR23-MC20G-2.5	101 020 210 1001

NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.35-2.5	MR23-FC20G-2.5	101 020 220 1001



## Tools

## Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## MR23 Circular connector

300V- 20A

## Technical characteristics

Specifications			
Specifications	DIN EN 60 664		
	DIN EN 61 984		
Approvals			
Electrical data		Mechanical data	
Number of contacts	6	7	Housing material
Rated current	20A	20A	Housing surface
mm <sup>2</sup> / AWG	(0.35-2.5 mm <sup>2</sup> / AWG 22-14)		Contact resistance
Rated voltage	300 V	300 V	Insulating bodies
Rated impulse voltage	2.5 kV	2.5 kV	Contact material
Pollution degree	3	3	Contact surface
Flammability acc. to UL 94	V0 (UL94)	V0 (UL94)	Mechanical working life
Overvoltage categorie	III	III	Degree of protection
			Limiting temperature

Forward coding, Crimp terminal  
order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
6	4.5-8mm	MR23-006-CCT/R26-D8-SH	181 006 700 2013
	6-10mm	MR23-006-CCT/R26-D10-SH	181 006 700 2014
	9-14.5mm	MR23-006-CCT/R26-D14.5-SH	181 006 700 2015
7	4.5-8mm	MR23-007-CCT/R26-D8-SH	181 007 700 2013
	6-10mm	MR23-007-CCT/R26-D10-SH	181 007 700 2014
	9-14.5mm	MR23-007-CCT/R26-D14.5-SH	181 007 700 2015

Reverse coding, Crimp terminal  
order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
6	4.5-8mm	MR23-006R-CCT/R26-D8-SH	181 006 700 2016
	6-10mm	MR23-006R-CCT/R26-D10-SH	181 006 700 2017
	9-14.5mm	MR23-006R-CCT/R26-D14.5-SH	181 006 700 2018
7	4.5-8mm	MR23-007R-CCT/R26-D8-SH	181 007 700 2016
	6-10mm	MR23-007R-CCT/R26-D10-SH	181 007 700 2017
	9-14.5mm	MR23-007R-CCT/R26-D14.5-SH	181 007 700 2018

## Crimp contacts

## Crimp contacts 20A

20A



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.35-2.5	MR23-MC20G-2.5	101 020 210 1001
NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.35-2.5	MR23-FC20G-2.5	101 020 220 1001

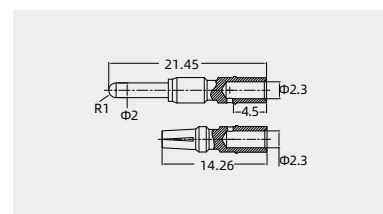
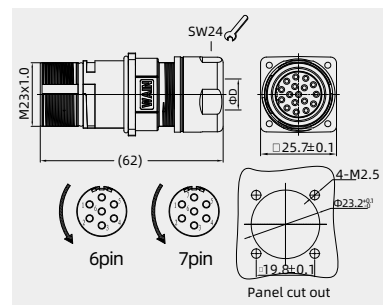
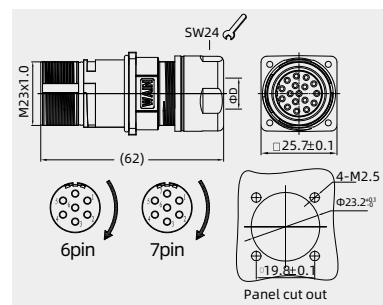
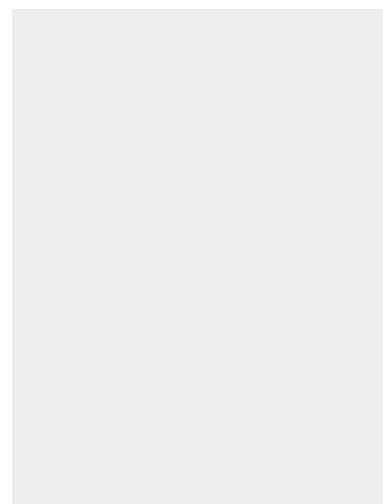
## Tools

## Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.



## MR23 Circular connector

300V- 20A

## Technical characteristics

Specifications			
Specifications	DIN EN 60 664		
	DIN EN 61 984		
Approvals			
Electrical data		Mechanical data	
Number of contacts	6	7	Housing material
Rated current	20A	20A	Housing surface
mm <sup>2</sup> / AWG	(0.35-2.5 mm <sup>2</sup> / AWG 22-14)		Contact resistance
Rated voltage	300 V	300 V	Insulating bodies
Rated impulse voltage	2.5 kV	2.5 kV	Contact material
Pollution degree	3	3	Contact surface
Flammability acc. to UL 94	V0 (UL94)	V0 (UL94)	Mechanical working life
Overvoltage categorie	III	III	Degree of protection
			Limiting temperature

Forward coding, Crimp terminal  
order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
6	4.5-8mm	MR23-006-CCT/R28-D8-SH	181 006 700 2019
	6-10mm	MR23-006-CCT/R28-D10-SH	181 006 700 2020
	9-14.5mm	MR23-006-CCT/R28-D14.5-SH	181 006 700 2021
7	4.5-8mm	MR23-007-CCT/R28-D8-SH	181 007 700 2019
	6-10mm	MR23-007-CCT/R28-D10-SH	181 007 700 2020
	9-14.5mm	MR23-007-CCT/R28-D14.5-SH	181 007 700 2021

Reverse coding, Crimp terminal  
order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
6	4.5-8mm	MR23-006R-CCT/R28-D8-SH	181 006 700 2022
	6-10mm	MR23-006R-CCT/R28-D10-SH	181 006 700 2023
	9-14.5mm	MR23-006R-CCT/R28-D14.5-SH	181 006 700 2024
7	4.5-8mm	MR23-007R-CCT/R28-D8-SH	181 007 700 2022
	6-10mm	MR23-007R-CCT/R28-D10-SH	181 007 700 2023
	9-14.5mm	MR23-007R-CCT/R28-D14.5-SH	181 007 700 2024

## Crimp contacts

## Crimp contacts 20A

20A



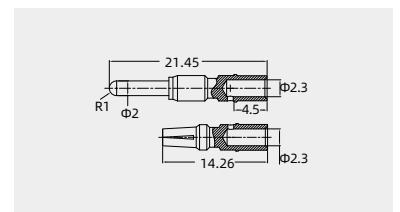
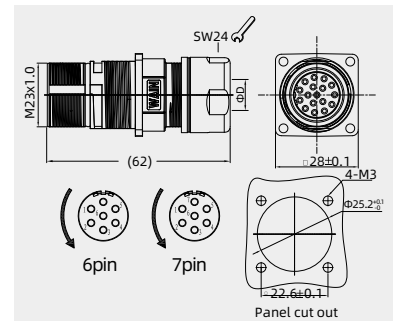
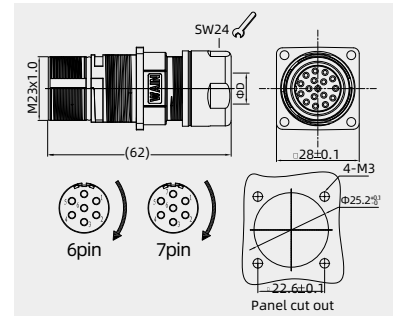
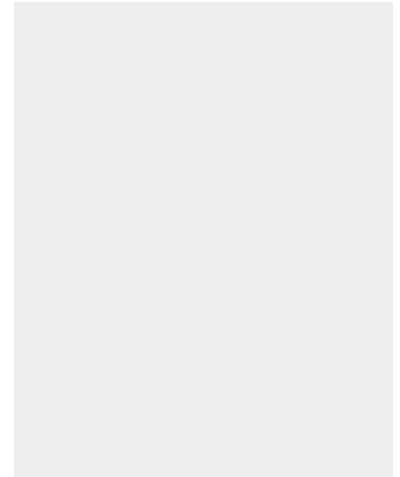
NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.35-2.5	MR23-MC20G-2.5	101 020 210 1001
NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.35-2.5	MR23-FC20G-2.5	101 020 220 1001

## Tools

## Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039



Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## MR23 Circular connector

160V/125V- 7A

## Technical characteristics

Specifications				
Specifications	DIN EN 60 664			
	DIN EN 61 984			
Approvals				
Electrical data		Mechanical data		
Number of contacts	12	17	Housing material	copper alloy,zinc alloy
Rated current	7A	7A	Housing surface	Nickel-plated
mm <sup>2</sup> / AWG	(0.03-1.0 mm <sup>2</sup> / AWG 32-18)		Contact resistance	≤ 5 mΩ
Rated voltage	160 V	125 V	Insulating bodies	PBT
Rated impulse voltage	2.5 kV	2.0 kV	Contact material	copper alloy
Pollution degree	3	3	Contact surface	gold plated
Flammability acc. to UL 94	V0 (UL94)	V0 (UL94)	Mechanical working life	>500
Overvoltage categorie	III	III	Degree of protection	IP67
			Limiting temperature	-40°C ...+130°C

Forward coding, Crimp terminal  
order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
12	4.5-8mm	MR23-012-CCT-D8-SH	181 012 700 4004
	6-10mm	MR23-012-CCT-D10-SH	181 012 700 4005
	9-14.5mm	MR23-012-CCT-D14.5-SH	181 012 700 4007
17	4.5-8mm	MR23-017-CCT-D8-SH	181 017 700 2011
	6-10mm	MR23-017-CCT-D10-SH	181 017 400 2011
	9-14.5mm	MR23-017-CCT-D14.5-SH	181 017 421 2011

Reverse coding, Crimp terminal  
order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
12	4.5-8mm	MR23-012R-CCT-D8-SH	181 012 700 4008
	6-10mm	MR23-012R-CCT-D10-SH	181 012 421 2010
	9-14.5mm	MR23-012R-CCT-D14.5-SH	181 012 700 4009
17	4.5-8mm	MR23-017R-CCT-D8-SH	181 017 700 4004
	6-10mm	MR23-017R-CCT-D10-SH	181 017 700 2009
	9-14.5mm	MR23-017R-CCT-D14.5-SH	181 017 700 2010

## Crimp contacts

## Crimp contacts 9A

9A



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.03-0.34	M23-MC9G-0.34	101 031 210 2501
②	0.14-1.0	M23-MC9G-1.0	101 031 210 0801
NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.03-0.34	M23-FC9G-0.34	101 031 220 2501
②	0.14-1.0	M23-FC9G-1.0	101 031 220 0801

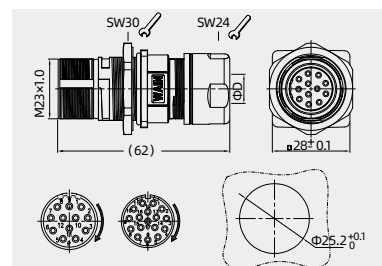
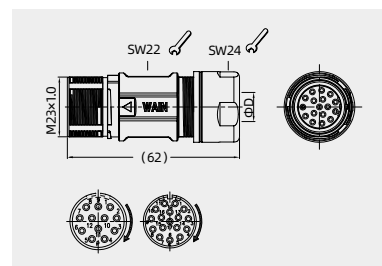
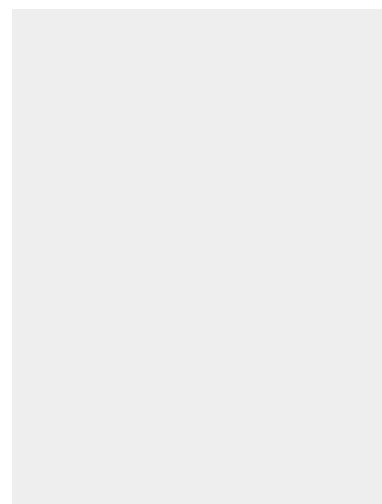
## Tools

Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.



NO.	Φa	Φb	Stripping Length
①	1.7	0.9	4mm
②	2.1	1.45	4mm

NO.	Φa	Φb	c	Stripping Length
①	1.7	0.9	14	4mm
②	2.1	1.45	14	4mm

## MR23 Circular connector

160V/125V- 7A

## Technical characteristics

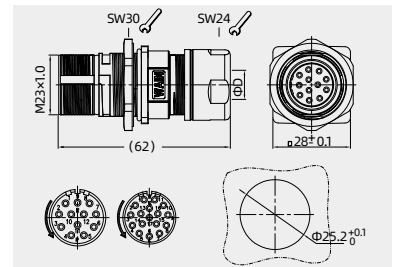
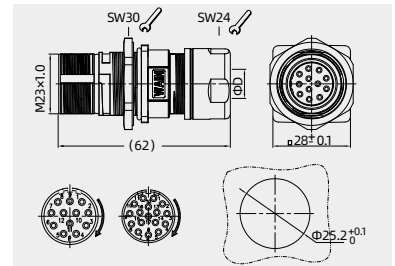
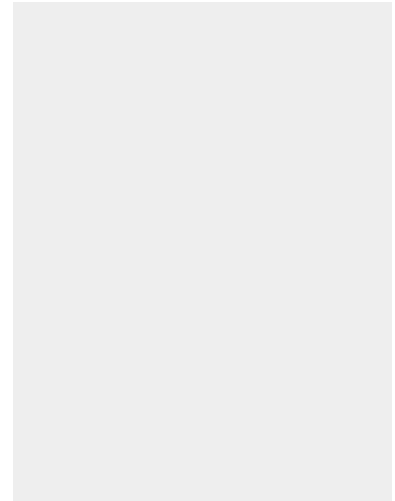
Specifications			
Specifications	DIN EN 60 664		
	DIN EN 61 984		
Approvals			
Electrical data		Mechanical data	
Number of contacts	12	17	Housing material
Rated current	7A	7A	Housing surface
mm <sup>2</sup> / AWG	(0.03-1.0 mm <sup>2</sup> / AWG 32-18)		Contact resistance
Rated voltage	160 V	125 V	Insulating bodies
Rated impulse voltage	2.5 kV	2.0 kV	Contact material
Pollution degree	3	3	Contact surface
Flammability acc. to UL 94	V0 (UL94)	V0 (UL94)	Mechanical working life
Overvoltage categorie	III	III	Degree of protection
			Limiting temperature

Forward coding, Crimp terminal  
order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
12	4.5-8mm	MR23-012-CCT/R-D8-SH	181 012 700 2008
	6-10mm	MR23-012-CCT/R-D10-SH	181 012 700 2007
	9-14.5mm	MR23-012-CCT/R-D14.5-SH	181 012 700 4011
17	4.5-8mm	MR23-017-CCT/R-D8-SH	181 017 700 2008
	6-10mm	MR23-017-CCT/R-D10-SH	181 017 400 2014
	9-14.5mm	MR23-017-CCT/R-D14.5-SH	181 017 700 2007

Reverse coding, Crimp terminal  
order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
12	4.5-8mm	MR23-012R-CCT/R-D8-SH	181 012 700 2014
	6-10mm	MR23-012R-CCT/R-D10-SH	181 012 700 2012
	9-14.5mm	MR23-012R-CCT/R-D14.5-SH	181 012 700 2013
17	4.5-8mm	MR23-017R-CCT/R-D8-SH	181 017 700 2021
	6-10mm	MR23-017R-CCT/R-D10-SH	181 017 700 2019
	9-14.5mm	MR23-017R-CCT/R-D14.5-SH	181 017 700 2020



## Crimp contacts

## Crimp contacts 9A

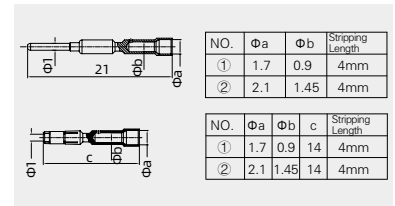
9A



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.03-0.34	M23-MC9G-0.34	101 031 210 2501
②	0.14-1.0	M23-MC9G-1.0	101 031 210 0801

NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.03-0.34	M23-FC9G-0.34	101 031 220 2501
②	0.14-1.0	M23-FC9G-1.0	101 031 220 0801



## Tools

## Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.



## MR23 Circular connector

160V/125V- 7A

## Technical characteristics

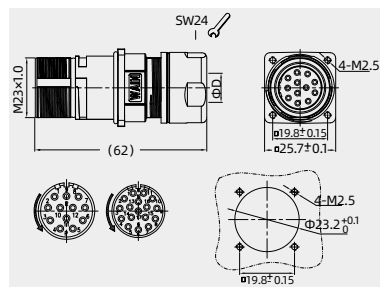
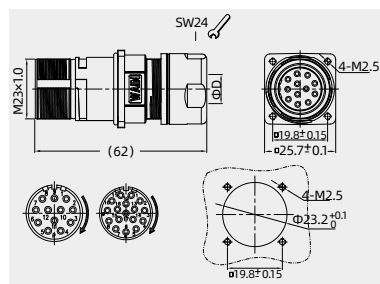
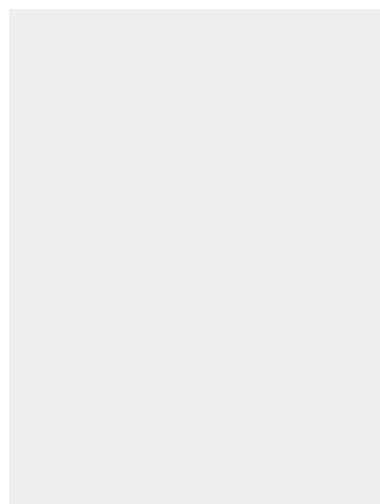
Specifications			
Specifications	DIN EN 60 664		
	DIN EN 61 984		
Approvals			
Electrical data		Mechanical data	
Number of contacts	12	17	Housing material
Rated current	7A	7A	Housing surface
mm <sup>2</sup> / AWG	(0.03-1.0 mm <sup>2</sup> / AWG 32-18)		Contact resistance
Rated voltage	160 V	125 V	Insulating bodies
Rated impulse voltage	2.5 kV	2.0 kV	Contact material
Pollution degree	3	3	Contact surface
Flammability acc. to UL 94	V0 (UL94)	V0 (UL94)	Mechanical working life
Overvoltage categorie	III	III	Degree of protection
			Limiting temperature

Forward coding, Crimp terminal  
order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
12	4.5-8mm	MR23-012-CCT/R26-D8-SH	181 012 700 2003
	6-10mm	MR23-012-CCT/R26-D10-SH	181 012 700 2001
	9-14.5mm	MR23-012-CCT/R26-D14.5-SH	181 012 700 2002
17	4.5-8mm	MR23-017-CCT/R26-D8-SH	181 017 700 2003
	6-10mm	MR23-017-CCT/R26-D10-SH	181 017 700 2001
	9-14.5mm	MR23-017-CCT/R26-D14.5-SH	181 017 700 2002

Reverse coding, Crimp terminal  
order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
12	4.5-8mm	MR23-012R-CCT/R26-D8-SH	181 012 700 2011
	6-10mm	MR23-012R-CCT/R26-D10-SH	181 012 700 2009
	9-14.5mm	MR23-012R-CCT/R26-D14.5-SH	181 012 700 2010
17	4.5-8mm	MR23-017R-CCT/R26-D8-SH	181 017 700 2015
	6-10mm	MR23-017R-CCT/R26-D10-SH	181 017 700 2013
	9-14.5mm	MR23-017R-CCT/R26-D14.5-SH	181 017 700 2014



## Crimp contacts

## Crimp contacts 9A

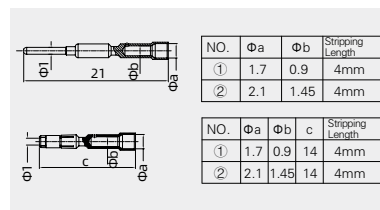
9A



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.03-0.34	M23-MC9G-0.34	101 031 210 2501
②	0.14-1.0	M23-MC9G-1.0	101 031 210 0801

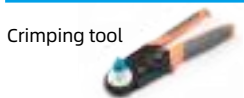
  

NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.03-0.34	M23-FC9G-0.34	101 031 220 2501
②	0.14-1.0	M23-FC9G-1.0	101 031 220 0801



## Tools

## Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## MR23 Circular connector

160V/125V- 7A

## Technical characteristics

Specifications			
Specifications	DIN EN 60 664		
	DIN EN 61 984		
Approvals			
Electrical data		Mechanical data	
Number of contacts	12	17	Housing material
Rated current	7A	7A	Housing surface
mm <sup>2</sup> / AWG	(0.03-1.0 mm <sup>2</sup> / AWG 32-18)		Contact resistance
Rated voltage	160 V	125 V	Insulating bodies
Rated impulse voltage	2.5 kV	2.0 kV	Contact material
Pollution degree	3	3	Contact surface
Flammability acc. to UL 94	V0 (UL94)	V0 (UL94)	Mechanical working life
Overvoltage categorie	III	III	Degree of protection
			Limiting temperature

Forward coding, Crimp terminal  
order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
12	4.5-8mm	MR23-012-CCT/R28-D8-SH	181 012 700 2006
	6-10mm	MR23-012-CCT/R28-D10-SH	181 012 700 2004
	9-14.5mm	MR23-012-CCT/R28-D14.5-SH	181 012 700 2005
17	4.5-8mm	MR23-017-CCT/R28-D8-SH	181 017 700 2006
	6-10mm	MR23-017-CCT/R28-D10-SH	181 017 700 2004
	9-14.5mm	MR23-017-CCT/R28-D14.5-SH	181 017 700 2005

Reverse coding, Crimp terminal  
order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
12	4.5-8mm	MR23-012R-CCT/R28-D8-SH	181 012 799 2010
	6-10mm	MR23-012R-CCT/R28-D10-SH	181 012 799 2011
	9-14.5mm	MR23-012R-CCT/R28-D14.5-SH	181 012 799 2012
17	4.5-8mm	MR23-017R-CCT/R28-D8-SH	181 017 700 2018
	6-10mm	MR23-017R-CCT/R28-D10-SH	181 017 700 2016
	9-14.5mm	MR23-017R-CCT/R28-D14.5-SH	181 017 700 2017

## Crimp contacts

## Crimp contacts 9A

9A



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.03-0.34	M23-MC9G-0.34	101 031 210 2501
②	0.14-1.0	M23-MC9G-1.0	101 031 210 0801

NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.03-0.34	M23-FC9G-0.34	101 031 220 2501
②	0.14-1.0	M23-FC9G-1.0	101 031 220 0801

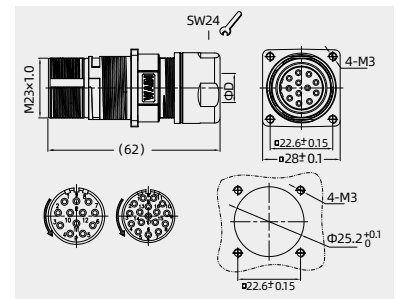
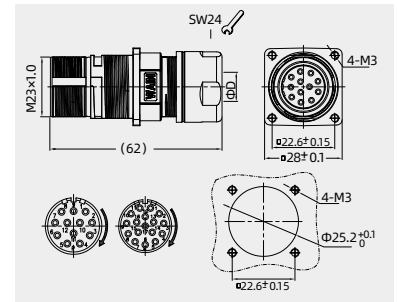
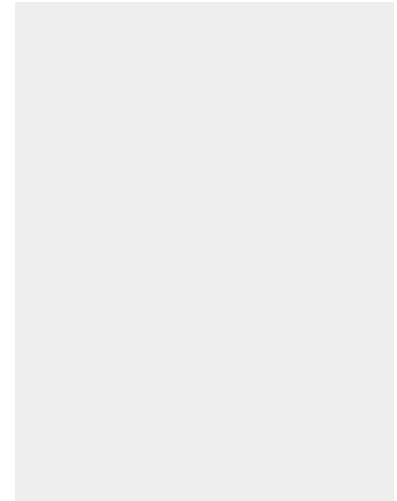
## Tools

## Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.



NO.	Φa	Φb	Stripping Length
①	1.7	0.9	4mm
②	2.1	1.45	4mm

NO.	Φa	Φb	c	Stripping Length
①	1.7	0.9	14	4mm
②	2.1	1.45	14	4mm

## MR23 Circular connector

63V- 7A

## Technical characteristics

Specifications			
Specifications	DIN EN 60 664		
	DIN EN 61 984		
Approvals			
Electrical data		Mechanical data	
Number of contacts	19(16+3)	Housing material	copper alloy,zinc alloy
signal:	0.03-1.0 mm <sup>2</sup> / AWG 32-18	Housing surface	Nickel-plated
power:	0.14-1.5 mm <sup>2</sup> / AWG 20-16	Contact resistance	≤ 5 mΩ
Rated current	7A	Insulating bodies	PBT
Rated voltage	63 V	Contact material	copper alloy
Rated impulse voltage	1.5 kV	Contact surface	gold plated
Pollution degree	3	Mechanical working life	>500
Flammability acc. to UL 94	V0 (UL94)	Degree of protection	IP67
Overvoltage categorie	III	Limiting temperature	-40°C ...+130°C

Forward coding, Crimp terminal  
order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
19	4.5-8mm	MR23-019-CCT-D8-SH	181 019 700 2001
	6-10mm	MR23-019-CCT-D10-SH	181 019 700 2002
	9-14.5mm	MR23-019-CCT-D14.5-SH	181 019 700 2003

Reverse coding, Crimp terminal  
order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
19	4.5-8mm	MR23-019R-CCT-D8-SH	181 019 700 2004
	6-10mm	MR23-019R-CCT-D10-SH	181 019 700 2005
	9-14.5mm	MR23-019R-CCT-D14.5-SH	181 019 700 2006

## Crimp contacts

## Crimp contacts 9A/7A

9A(signal)



7A(power)



9A(signal)



7A(power)



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.03-0.34	M23-MC9G-0.34	101 031 210 2501
②	0.14-1.0	M23-MC9G-1.0	101 031 210 0801
③	0.14-1.4	MR23-MC7G-1.0	101 015 210 0801
④	0.5-1.5	MR23-MC7G-1.5	101 015 210 0901
NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.03-0.34	M23-FC9G-0.34	101 031 220 2501
②	0.14-1.0	M23-FC9G-1.0	101 031 220 0801
③	0.14-1.4	MR23-FC7G-1.0	101 015 220 0801
④	0.5-1.5	MR23-FC7G-1.5	101 015 220 0901

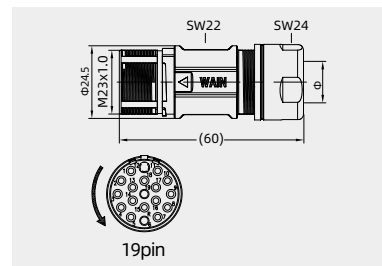
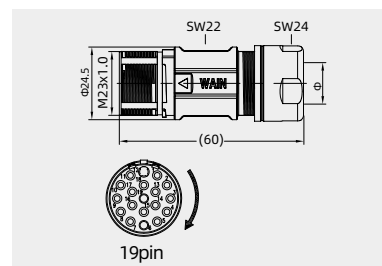
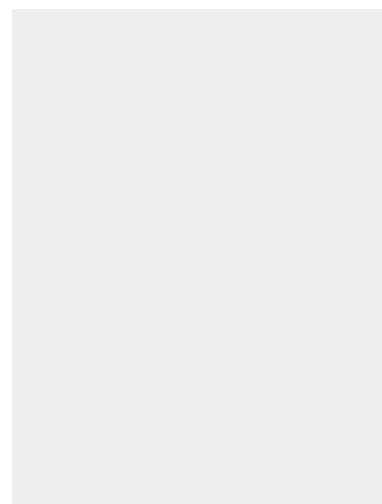
## Tools

Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.



NO.	$\Phi a$	$\Phi b$	C	Stripping Length
①	1.7	0.9	21	4mm
②	2.1	1.45	21	4mm
③	2.1	1.45	20.65	6mm
④	2.1	1.75	20.65	6mm

NO.	$\Phi a$	$\Phi b$	C	Stripping Length
①	1.7	0.9	14	4mm
②	2.1	1.45	14	4mm
③	2.1	1.45	13.9	6mm
④	2.1	1.75	13.9	6mm

## MR23 Circular connector

63V- 7A

## Technical characteristics

Specifications			
Specifications	DIN EN 60 664 DIN EN 61 984		
Approvals			
Electrical data		Mechanical data	
Number of contacts	19(16+3)	Housing material	copper alloy,zinc alloy
signal:	0.03-1.0 mm <sup>2</sup> / AWG 32-18	Housing surface	Nickel-plated
power:	0.14-1.5 mm <sup>2</sup> / AWG 20-16	Contact resistance	≤ 5 mΩ
Rated current	7A	Insulating bodies	PBT
Rated voltage	63 V	Contact material	copper alloy
Rated impulse voltage	1.5 kV	Contact surface	gold plated
Pollution degree	3	Mechanical working life	>500
Flammability acc. to UL 94	V0 (UL94)	Degree of protection	IP67
Overvoltage categorie	III	Limiting temperature	-40°C ...+130°C

Forward coding, Crimp terminal  
order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
19	4.5-8mm	MR23-019-CCT/R-D8-SH	181 019 700 2007
	6-10mm	MR23-019-CCT/R-D10-SH	181 019 700 2008
	9-14.5mm	MR23-019-CCT/R-D14.5-SH	181 019 700 2009

Reverse coding, Crimp terminal  
order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
19	4.5-8mm	MR23-019R-CCT/R-D8-SH	181 019 700 2010
	6-10mm	MR23-019R-CCT/R-D10-SH	181 019 700 2011
	9-14.5mm	MR23-019R-CCT/R-D14.5-SH	181 019 700 2012



## Crimp contacts

## Crimp contacts 9A/7A

9A(signal)

7A(power)

9A(signal)

7A(power)

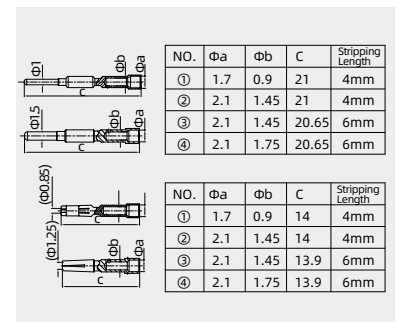
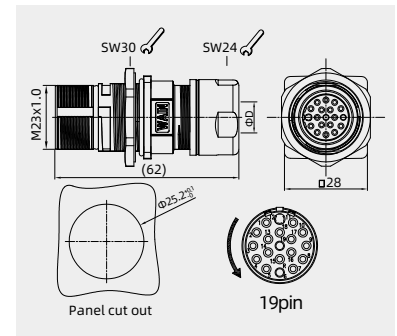
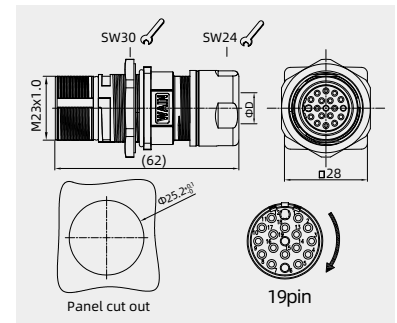
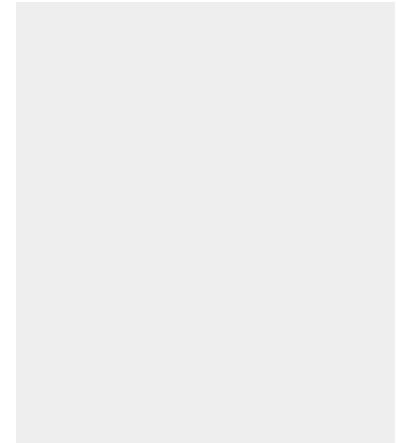
NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.03-0.34	M23-MC9G-0.34	101 031 210 2501
②	0.14-1.0	M23-MC9G-1.0	101 031 210 0801
③	0.14-1.4	MR23-MC7G-1.0	101 015 210 0801
④	0.5-1.5	MR23-MC7G-1.5	101 015 210 0901
NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.03-0.34	M23-FC9G-0.34	101 031 220 2501
②	0.14-1.0	M23-FC9G-1.0	101 031 220 0801
③	0.14-1.4	MR23-FC7G-1.0	101 015 220 0801
④	0.5-1.5	MR23-FC7G-1.5	101 015 220 0901

## Tools

Crimping tool

Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.



## MR23 Circular connector

63V- 7A

## Technical characteristics

Specifications			
Specifications	DIN EN 60 664		
	DIN EN 61 984		
Approvals			
Electrical data		Mechanical data	
Number of contacts	19(16+3)	Housing material	copper alloy,zinc alloy
signal:	0.03-1.0 mm <sup>2</sup> / AWG 32-18	Housing surface	Nickel-plated
power:	0.14-1.5 mm <sup>2</sup> / AWG 20-16	Contact resistance	≤ 5 mΩ
Rated current	7A	Insulating bodies	PBT
Rated voltage	63 V	Contact material	copper alloy
Rated impulse voltage	1.5 kV	Contact surface	gold plated
Pollution degree	3	Mechanical working life	>500
Flammability acc. to UL 94	V0 (UL94)	Degree of protection	IP67
Overvoltage categorie	III	Limiting temperature	-40°C ...+130°C

Forward coding, Crimp terminal  
order crimp contacts separately



Contacts	Cable outlet	Designation	Order No.
19	4.5-8mm	MR23-019-CCT/R26-D8-SH	181 019 700 2013
	6-10mm	MR23-019-CCT/R26-D10-SH	181 019 700 2014
	9-14.5mm	MR23-019-CCT/R26-D14.5-SH	181 019 700 2015

Reverse coding, Crimp terminal  
order crimp contacts separately



Contacts	Cable outlet	Designation	Order No.
19	4.5-8mm	MR23-019R-CCT/R26-D8-SH	181 019 700 2016
	6-10mm	MR23-019R-CCT/R26-D10-SH	181 019 700 2017
	9-14.5mm	MR23-019R-CCT/R26-D14.5-SH	181 019 700 2018

## Crimp contacts

Crimp contacts 9A/7A

9A(signal)

7A(power)

9A(signal)

7A(power)

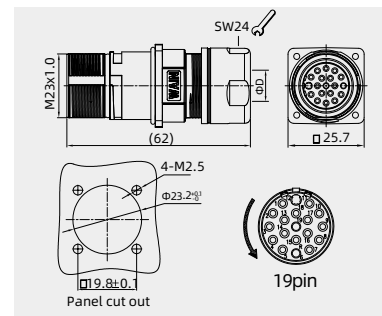
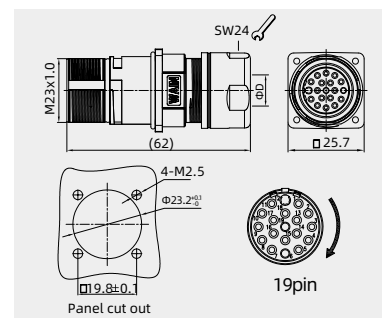
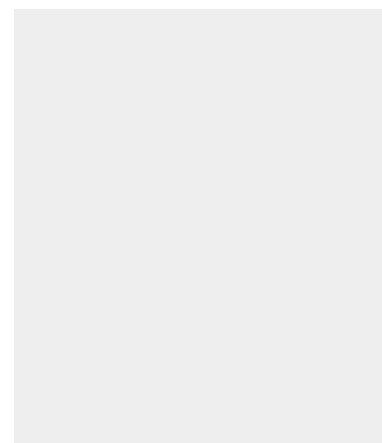
NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.03-0.34	M23-MC9G-0.34	101 031 210 2501
②	0.14-1.0	M23-MC9G-1.0	101 031 210 0801
③	0.14-1.4	MR23-MC7G-1.0	101 015 210 0801
④	0.5-1.5	MR23-MC7G-1.5	101 015 210 0901
NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.03-0.34	M23-FC9G-0.34	101 031 220 2501
②	0.14-1.0	M23-FC9G-1.0	101 031 220 0801
③	0.14-1.4	MR23-FC7G-1.0	101 015 220 0801
④	0.5-1.5	MR23-FC7G-1.5	101 015 220 0901

Tools

Crimping tool

Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.



NO.	Φa	Φb	C	Stripping Length
①	1.7	0.9	21	4mm
②	2.1	1.45	21	4mm
③	2.1	1.45	20.65	6mm
④	2.1	1.75	20.65	6mm

NO.	Φa	Φb	C	Stripping Length
①	1.7	0.9	14	4mm
②	2.1	1.45	14	4mm
③	2.1	1.45	13.9	6mm
④	2.1	1.75	13.9	6mm

## MR23 Circular connector

63V- 7A

## Technical characteristics

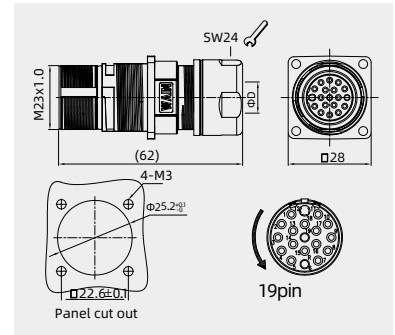
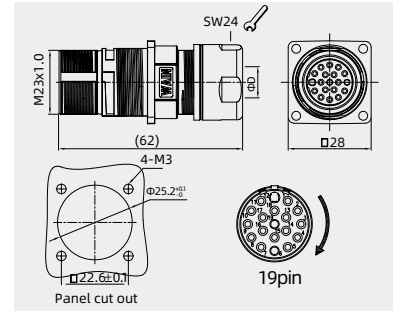
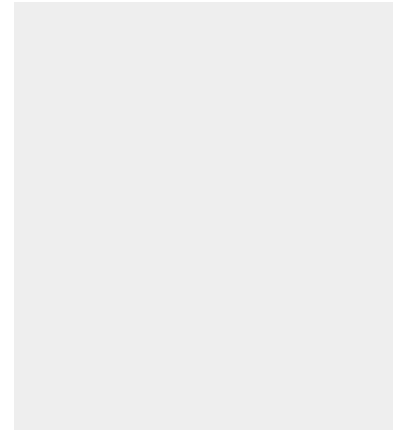
Specifications			
Specifications	DIN EN 60 664 DIN EN 61 984		
Approvals			
Electrical data		Mechanical data	
Number of contacts	19(16+3)	Housing material	copper alloy,zinc alloy
signal:	0.03-1.0 mm <sup>2</sup> / AWG 32-18	Housing surface	Nickel-plated
power:	0.14-1.5 mm <sup>2</sup> / AWG 20-16	Contact resistance	≤ 5 mΩ
Rated current	7A	Insulating bodies	PBT
Rated voltage	63 V	Contact material	copper alloy
Rated impulse voltage	1.5 kv	Contact surface	gold plated
Pollution degree	3	Mechanical working life	>500
Flammability acc. to UL 94	V0 (UL94)	Degree of protection	IP67
Overvoltage categorie	III	Limiting temperature	-40°C ...+130°C

Forward coding, Crimp terminal  
order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
19	4.5-8mm	MR23-019-CCT/R28-D8-SH	181 019 700 2019
	6-10mm	MR23-019-CCT/R28-D10-SH	181 019 700 2020
	9-14.5mm	MR23-019-CCT/R28-D14.5-SH	181 019 700 2021

Reverse coding, Crimp terminal  
order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
19	4.5-8mm	MR23-019R-CCT/R28-D8-SH	181 019 700 2022
	6-10mm	MR23-019R-CCT/R28-D10-SH	181 019 700 2023
	9-14.5mm	MR23-019R-CCT/R28-D14.5-SH	181 019 700 2024



## Crimp contacts

## Crimp contacts 9A/7A

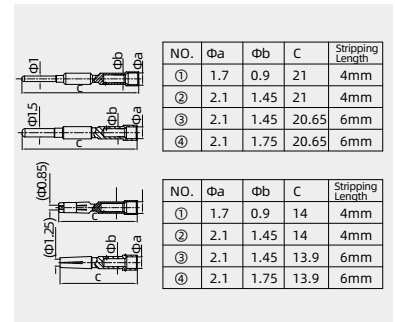
9A(signal)

7A(power)

9A(signal)

7A(power)

NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.03-0.34	M23-MC9G-0.34	101 031 210 2501
②	0.14-1.0	M23-MC9G-1.0	101 031 210 0801
③	0.14-1.4	MR23-MC7G-1.0	101 015 210 0801
④	0.5-1.5	MR23-MC7G-1.5	101 015 210 0901
NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.03-0.34	M23-FC9G-0.34	101 031 220 2501
②	0.14-1.0	M23-FC9G-1.0	101 031 220 0801
③	0.14-1.4	MR23-FC7G-1.0	101 015 220 0801
④	0.5-1.5	MR23-FC7G-1.5	101 015 220 0901



## Tools

Crimping tool

Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## MR23 Circular connector

300V- 20A

## Technical characteristics

Specifications			
Specifications	DIN EN 60 664		
	DIN EN 61 984		
Approvals			
Electrical data		Mechanical data	
Number of contacts	6	7	Housing material
Rated current	20A	20A	Housing surface
mm <sup>2</sup> / AWG	(0.35-2.5 mm <sup>2</sup> / AWG 22-14)		Contact resistance
Rated voltage	300 V	300 V	Insulating bodies
Rated impulse voltage	2.5 kV	2.5 kV	Contact material
Pollution degree	3	3	Contact surface
Flammability acc. to UL 94	V0 (UL94)	V0 (UL94)	Mechanical working life
Overvoltage categorie	III	III	Degree of protection
			Limiting temperature

Forward coding, Crimp terminal  
order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
6	4.5-8mm	MR23-006-T-D8-SH	181 006 400 2001
	6-10mm	MR23-006-T-D10-SH	181 006 400 2002
	9-14.5mm	MR23-006-T-D14.5-SH	181 006 400 2003
7	4.5-8mm	MR23-007-T-D8-SH	181 007 400 2001
	6-10mm	MR23-007-T-D10-SH	181 007 400 2002
	9-14.5mm	MR23-007-T-D14.5-SH	181 007 400 2003

Reverse coding, Crimp terminal  
order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
6	4.5-8mm	MR23-006R-T-D8-SH	181 006 400 2004
	6-10mm	MR23-006R-T-D10-SH	181 006 400 2005
	9-14.5mm	MR23-006R-T-D14.5-SH	181 006 400 2006
7	4.5-8mm	MR23-007R-T-D8-SH	181 007 400 2004
	6-10mm	MR23-007R-T-D10-SH	181 007 400 2005
	9-14.5mm	MR23-007R-T-D14.5-SH	181 007 400 2006

## Crimp contacts

## Crimp contacts 20A

20A



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.35-2.5	MR23-MC20G-2.5	101 020 210 1001
NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.35-2.5	MR23-FC20G-2.5	101 020 220 1001

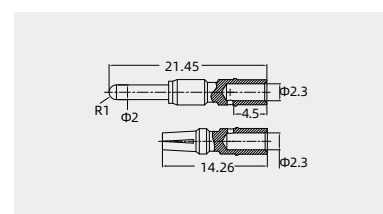
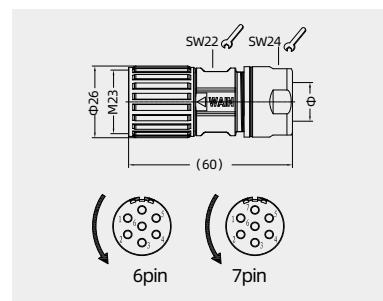
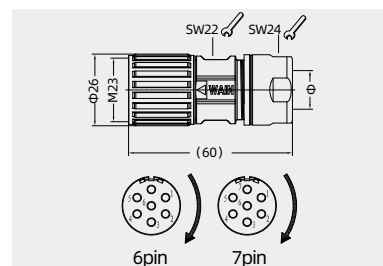
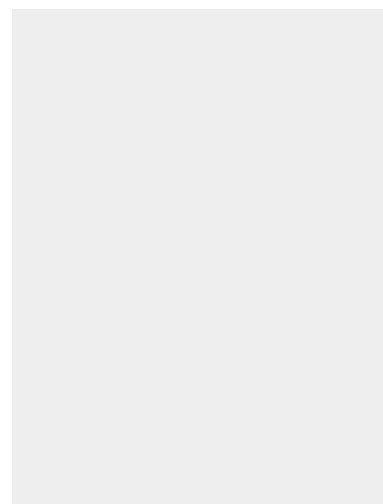
## Tools

## Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.



## MR23 Circular connector

160V- 10A

## Technical characteristics

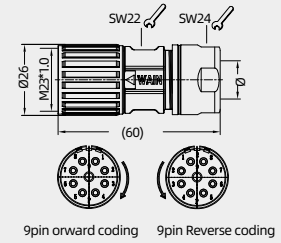
Specifications			
Specifications	DIN EN 60 664 DIN EN 61 984		
Approvals			
Electrical data	Mechanical data		
Number of contacts	9	Housing material	copper alloy,zinc alloy
Rated current	10A	Housing surface	Nickel-plated
mm <sup>2</sup> / AWG	0.14-1.0 + 0.35-2.5	Contact resistance	≤ 5 mΩ
Rated voltage	160 V	Insulating bodies	PBT
Rated impulse voltage	2.5 kV	Contact material	copper alloy
Pollution degree	3	Contact surface	gold plated
Flammability acc. to UL 94	V0 (UL94)	Mechanical working life	>500
Overvoltage categorie	III	Degree of protection	IP67
		Limiting temperature	-40°C ...+130°C

Forward coding, Crimp terminal  
order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
9	4.5-8mm	MR23-009-T-D8-SH	181 009 400 2504
	6-10mm	MR23-009-T-D10-SH	181 009 400 2502
	9-14.5mm	MR23-009-T-D14.5-SH	181 009 400 2501

Reverse coding, Crimp terminal  
order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
9	4.5-8mm	MR23-009R-T-D8-SH	181 009 400 2503
	6-10mm	MR23-009R-T-D10-SH	181 009 400 2505
	9-14.5mm	MR23-009R-T-D14.5-SH	181 009 400 2506



## Crimp contacts

## Crimp contacts 9A

9A



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.03-0.34	M23-MC9G-0.34	101 031 210 2501
②	0.14-1.0	M23-MC9G-1.0	101 031 210 0801

NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.03-0.34	M23-FC9G-0.34	101 031 220 2501
②	0.14-1.0	M23-FC9G-1.0	101 031 220 0801

NO.	Φa	Φb	Stripping Length
①	1.7	0.9	4mm
②	2.1	1.45	4mm

NO.	Φa	Φb	c	Stripping Length
①	1.7	0.9	14	4mm
②	2.1	1.45	14	4mm

## Crimp contacts 20A

20A



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.35-2.5	MR23-MC20G-2.5	101 020 210 1001

NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.35-2.5	MR23-FC20G-2.5	101 020 220 1001

## Tools

## Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.



## MR23 Circular connector

160V- 10A

## Technical characteristics

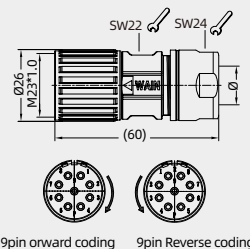
Specifications			
Specifications	DIN EN 60 664		
	DIN EN 61 984		
Approvals			
Electrical data		Mechanical data	
Number of contacts	9	Housing material	copper alloy,zinc alloy
Rated current	10A	Housing surface	Nickel-plated
mm <sup>2</sup> / AWG	0.14-1.0 + 0.35-2.5	Contact resistance	≤ 5 mΩ
Rated voltage	160 V	Insulating bodies	PBT
Rated impulse voltage	2.5 kV	Contact material	copper alloy
Pollution degree	3	Contact surface	gold plated
Flammability acc. to UL 94	V0 (UL94)	Mechanical working life	>500
Overvoltage categorie	III	Degree of protection	IP67
		Limiting temperature	-40°C ...+130°C

Forward coding, Crimp terminal  
order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
9	4.5-8mm	MR23-009/B-T-D8-SH	181 009 400 2507
	6-10mm	MR23-009/B-T-D10-SH	181 009 400 2508
	9-14.5mm	MR23-009/B-T-D14.5-SH	181 009 400 2509

Reverse coding, Crimp terminal  
order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
9	4.5-8mm	MR23-009R/B-T-D8-SH	181 009 400 2510
	6-10mm	MR23-009R/B-T-D10-SH	181 009 400 2511
	9-14.5mm	MR23-009R/B-T-D14.5-SH	181 009 400 2512



## Crimp contacts

## Crimp contacts 9A

9A



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.03-0.34	M23-MC9G-0.34	101 031 210 2501
②	0.14-1.0	M23-MC9G-1.0	101 031 210 0801

NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.03-0.34	M23-FC9G-0.34	101 031 220 2501
②	0.14-1.0	M23-FC9G-1.0	101 031 220 0801

NO.	Φa	Φb	Stripping Length
①	1.7	0.9	4mm
②	2.1	1.45	4mm

NO.	Φa	Φb	c	Stripping Length
①	1.7	0.9	14	4mm
②	2.1	1.45	14	4mm

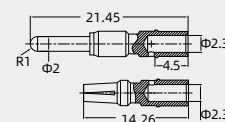
## Crimp contacts 20A

20A



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.35-2.5	MR23-MC20G-2.5	101 020 210 1001

NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.35-2.5	MR23-FC20G-2.5	101 020 220 1001



## Tools

## Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## MR23 Circular connector

160V/125V- 7A

## Technical characteristics

Specifications				
Specifications	DIN EN 60 664			
	DIN EN 61 984			
Approvals				
Electrical data		Mechanical data		
Number of contacts	12	17	Housing material	copper alloy,zinc alloy
Rated current	7A	7A	Housing surface	Nickel-plated
mm <sup>2</sup> / AWG	(0.03-1.0 mm <sup>2</sup> / AWG 32-18)		Contact resistance	≤ 5 mΩ
Rated voltage	160 V	125 V	Insulating bodies	PBT
Rated impulse voltage	2.5 kV	2.0 kV	Contact material	copper alloy
Pollution degree	3	3	Contact surface	gold plated
Flammability acc. to UL 94	V0 (UL94)	V0 (UL94)	Mechanical working life	>500
Overvoltage categorie	III	III	Degree of protection	IP67
			Limiting temperature	-40°C ...+130°C

Forward coding, Crimp terminal  
order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
12	4.5-8mm	MR23-012-T-D8-SH	181 012 421 3001
	6-10mm	MR23-012-T-D10-SH	181 012 421 3002
	9-14.5mm	MR23-012-T-D14.5-SH	181 012 421 3003
17	4.5-8mm	MR23-017-T-D8-SH	181 017 400 2001
	6-10mm	MR23-017-T-D10-SH	181 017 400 2002
	9-14.5mm	MR23-017-T-D14.5-SH	181 017 400 2003

Reverse coding, Crimp terminal  
order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
12	4.5-8mm	MR23-012R-T-D8-SH	181 012 421 3004
	6-10mm	MR23-012R-T-D10-SH	181 012 421 3005
	9-14.5mm	MR23-012R-T-D14.5-SH	181 012 421 3006
17	4.5-8mm	MR23-017R-T-D8-SH	181 017 400 2004
	6-10mm	MR23-017R-T-D10-SH	181 017 400 3005
	9-14.5mm	MR23-017R-T-D14.5-SH	181 017 400 2005

## Crimp contacts

## Crimp contacts 9A

9A



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.03-0.34	M23-MC9G-0.34	101 031 210 2501
②	0.14-1.0	M23-MC9G-1.0	101 031 210 0801
NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.03-0.34	M23-FC9G-0.34	101 031 220 2501
②	0.14-1.0	M23-FC9G-1.0	101 031 220 0801

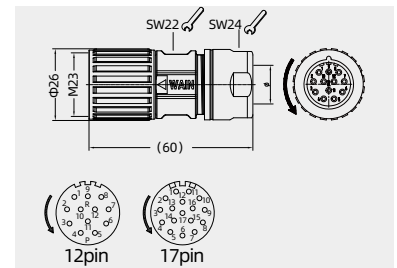
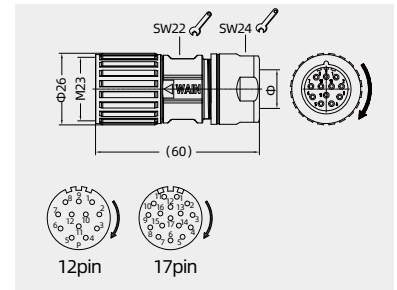
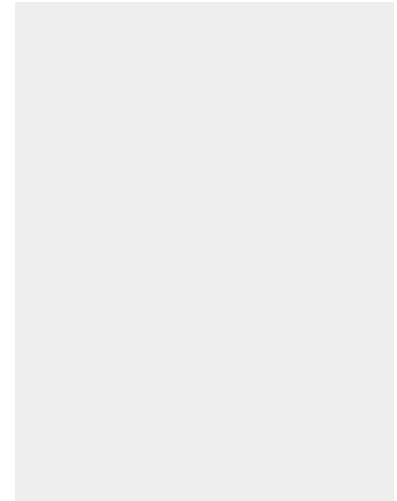
## Tools

## Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.



NO.	Φa	Φb	Stripping Length
①	1.7	0.9	4mm
②	2.1	1.45	4mm

NO.	Φa	Φb	c	Stripping Length
①	1.7	0.9	14	4mm
②	2.1	1.45	14	4mm

## MR23 Circular connector

63V- 7A

## Technical characteristics

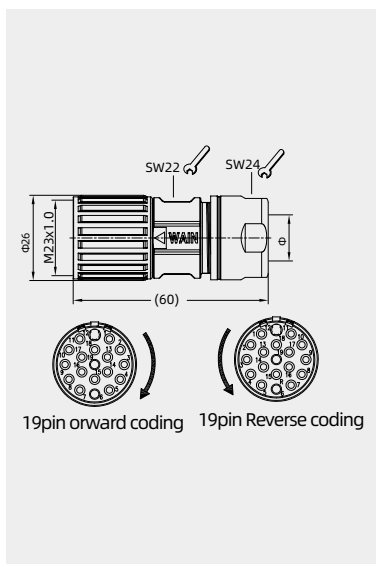
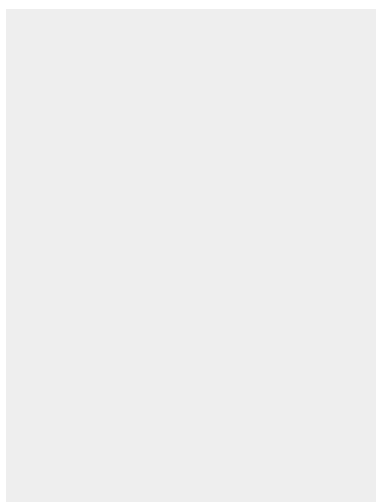
Specifications			
Specifications	DIN EN 60 664 DIN EN 61 984		
Approvals			
Electrical data	Mechanical data		
Number of contacts	19(16+3)	Housing material	copper alloy,zinc alloy
signal:	0.03-1.0 mm <sup>2</sup> / AWG 32-18	Housing surface	Nickel-plated
power:	0.14-1.5 mm <sup>2</sup> / AWG 20-16	Contact resistance	≤ 5 mΩ
Rated current	7A	Insulating bodies	PBT
Rated voltage	63 V	Contact material	copper alloy
Rated impulse voltage	1.5 kV	Contact surface	gold plated
Pollution degree	3	Mechanical working life	>500
Flammability acc. to UL 94	V0 (UL94)	Degree of protection	IP67
Overvoltage categorie	III	Limiting temperature	-40°C ...+130°C

Forward coding, Crimp terminal  
order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
19	4.5-8mm	MR23-019-T-D8-SH	181 019 400 2001
	6-10mm	MR23-019-T-D10-SH	181 019 400 2002
	9-14.5mm	MR23-019-T-D14.5-SH	181 019 400 2003

Reverse coding, Crimp terminal  
order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
19	4.5-8mm	MR23-019R-T-D8-SH	181 019 400 2004
	6-10mm	MR23-019R-T-D10-SH	181 019 400 2005
	9-14.5mm	MR23-019R-T-D14.5-SH	181 019 400 2006



## Crimp contacts

## Crimp contacts 9A/7A

9A(signal)



7A(power)



9A(signal)



7A(power)



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.03-0.34	M23-MC9G-0.34	101 031 210 2501
②	0.14-1.0	M23-MC9G-1.0	101 031 210 0801
③	0.14-1.4	MR23-MC7G-1.0	101 015 210 0801
④	0.5-1.5	MR23-MC7G-1.5	101 015 210 0901
NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.03-0.34	M23-FC9G-0.34	101 031 220 2501
②	0.14-1.0	M23-FC9G-1.0	101 031 220 0801
③	0.14-1.4	MR23-FC7G-1.0	101 015 220 0801
④	0.5-1.5	MR23-FC7G-1.5	101 015 220 0901

## Tools

Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

NO.	$\phi a$	$\phi b$	C	Stripping Length
①	1.7	0.9	21	4mm
②	2.1	1.45	21	4mm
③	2.1	1.45	20.65	6mm
④	2.1	1.75	20.65	6mm

NO.	$\phi a$	$\phi b$	C	Stripping Length
①	1.7	0.9	14	4mm
②	2.1	1.45	14	4mm
③	2.1	1.45	13.9	6mm
④	2.1	1.75	13.9	6mm

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## MR23 Circular connector

300V- 20A

## Technical characteristics

Specifications			
Specifications	DIN EN 60 664		
	DIN EN 61 984		
Approvals			
Electrical data		Mechanical data	
Number of contacts	6	7	Housing material
Rated current	20A	20A	Housing surface
mm <sup>2</sup> / AWG	(0.35-2.5 mm <sup>2</sup> / AWG 22-14)		Contact resistance
Rated voltage	300 V	300 V	Insulating bodies
Rated impulse voltage	2.5 kV	2.5 kV	Contact material
Pollution degree	3	3	Contact surface
Flammability acc. to UL 94	V0 (UL94)	V0 (UL94)	Mechanical working life
Overvoltage categorie	III	III	Degree of protection
			Limiting temperature

Forward coding, Crimp terminal  
order crimp contacts separately

Contacts	Designation	Order No.
06	MR23-006-BKP26-SE-OD2.7	181 006 600 3001
07	MR23-007-BKP26-SE-OD2.7	181 007 600 3001
06	MR23-006-BKP26-SE-OD3.2	181 006 600 3002
07	MR23-007-BKP26-SE-OD3.2	181 007 600 3002
06	MR23-006-BKP28.8-SE	181 006 600 3003
07	MR23-007-BKP28.8-SE	181 007 600 3003

Reverse coding, Crimp terminal  
order crimp contacts separately

Contacts	Designation	Order No.
06	MR23-006R-BKP26-SE-OD2.7	181 006 600 3004
07	MR23-007R-BKP26-SE-OD2.7	181 007 600 3004
06	MR23-006R-BKP26-SE-OD3.2	181 006 600 3005
07	MR23-007R-BKP26-SE-OD3.2	181 007 600 3005
06	MR23-006R-BKP28.8-SE	181 006 600 3006
07	MR23-007R-BKP28.8-SE	181 007 600 3006

## Crimp contacts

## Crimp contacts 20A

20A



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.35-2.5	MR23-MC20G-2.5	101 020 210 1001
NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.35-2.5	MR23-FC20G-2.5	101 020 220 1001

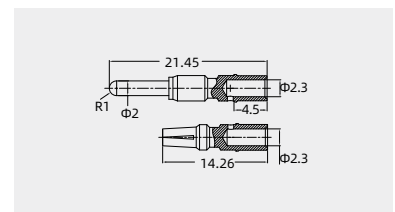
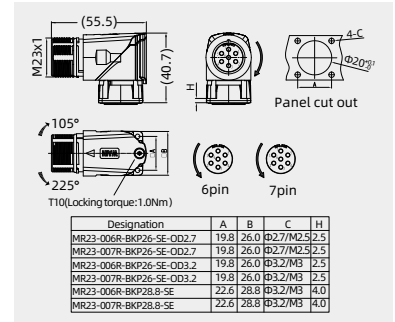
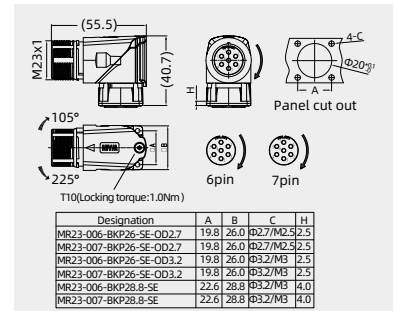
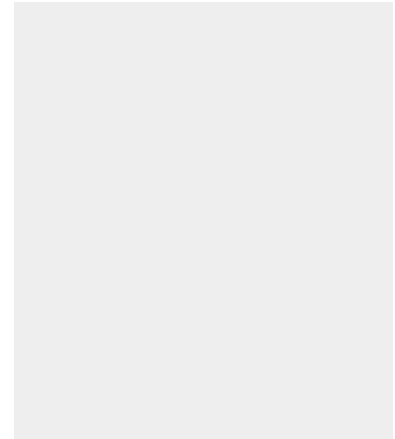
## Tools

## Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.



## MR23 Circular connector

160V- 10A

## Technical characteristics

Specifications			
Specifications	DIN EN 60 664		
	DIN EN 61 984		
Approvals			
Electrical data		Mechanical data	
Number of contacts	9	Housing material	copper alloy,zinc alloy
Rated current	10A	Housing surface	Nickel-plated
mm <sup>2</sup> / AWG	0.14-1.0 + 0.35-2.5	Contact resistance	≤ 5 mΩ
Rated voltage	160 V	Insulating bodies	PBT
Rated impulse voltage	2.5 kV	Contact material	copper alloy
Pollution degree	3	Contact surface	gold plated
Flammability acc. to UL 94	V0 (UL94)	Mechanical working life	>500
Overvoltage categorie	III	Degree of protection	IP67
		Limiting temperature	-40°C ...+130°C

Forward coding, Crimp terminal  
order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
9	4.5-8mm	MR23-009-BKP26-SE-OD2.7	181 009 600 2500
	6-10mm	MR23-009-BKP26-SE-OD3.2	181 009 600 2502
	9-14.5mm	MR23-009-BKP28.8-SE	181 009 600 2504

Reverse coding, Crimp terminal  
order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
9	4.5-8mm	MR23-009R-BKP26-SE-OD2.7	181 009 600 2501
	6-10mm	MR23-009R-BKP26-SE-OD3.2	181 009 600 2503
	9-14.5mm	MR23-009R-BKP28.8-SE	181 009 600 2505

## Crimp contacts

## Crimp contacts 9A

9A



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.03-0.34	M23-MC9G-0.34	101 031 210 2501
②	0.14-1.0	M23-MC9G-1.0	101 031 210 0801

NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.03-0.34	M23-FC9G-0.34	101 031 220 2501
②	0.14-1.0	M23-FC9G-1.0	101 031 220 0801

## Crimp contacts 20A

20A



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.35-2.5	MR23-MC20G-2.5	101 020 210 1001

NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.35-2.5	MR23-FC20G-2.5	101 020 220 1001

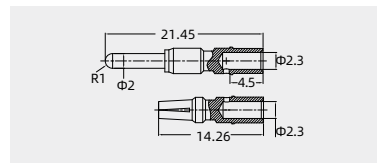
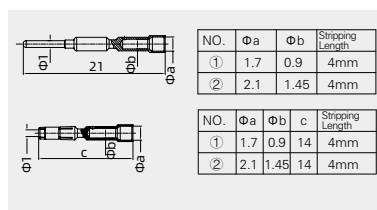
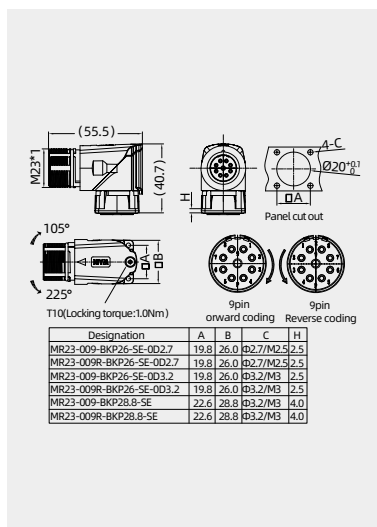
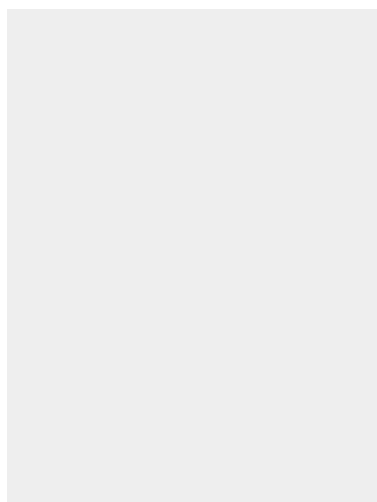
## Tools

## Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.



## MR23 Circular connector

160V- 10A

## Technical characteristics

Specifications			
Specifications	DIN EN 60 664		
	DIN EN 61 984		
Approvals			
Electrical data		Mechanical data	
Number of contacts	9	Housing material	copper alloy, zinc alloy
Rated current	10A	Housing surface	Nickel-plated
mm <sup>2</sup> / AWG	0.14-1.0 + 0.35-2.5	Contact resistance	≤ 5 mΩ
Rated voltage	160 V	Insulating bodies	PBT
Rated impulse voltage	2.5 kV	Contact material	copper alloy
Pollution degree	3	Contact surface	gold plated
Flammability acc. to UL 94	V0 (UL94)	Mechanical working life	>500
Overvoltage categorie	III	Degree of protection	IP67
		Limiting temperature	-40°C ...+130°C

Forward coding, Crimp terminal  
order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
9	4.5-8mm	MR23-009/B-BKP26-SE-OD2.7	181 009 600 2506
	6-10mm	MR23-009/B-BKP26-SE-OD3.2	181 009 600 2508
	9-14.5mm	MR23-009/B-BKP28.8-SE	181 009 600 2510

Reverse coding, Crimp terminal  
order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
9	4.5-8mm	MR23-009R/B-BKP26-SE-OD2.7	181 009 600 2507
	6-10mm	MR23-009R/B-BKP26-SE-OD3.2	181 009 600 2509
	9-14.5mm	MR23-009R/B-BKP28.8-SE	181 009 600 2511

## Crimp contacts

## Crimp contacts 9A

9A



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.03-0.34	M23-MC9G-0.34	101 031 210 2501
②	0.14-1.0	M23-MC9G-1.0	101 031 210 0801

NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.03-0.34	M23-FC9G-0.34	101 031 220 2501
②	0.14-1.0	M23-FC9G-1.0	101 031 220 0801

## Crimp contacts 20A

20A



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.35-2.5	MR23-MC20G-2.5	101 020 210 1001

NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.35-2.5	MR23-FC20G-2.5	101 020 220 1001

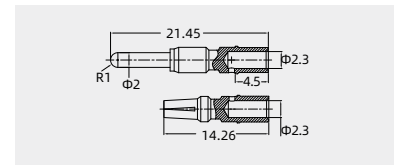
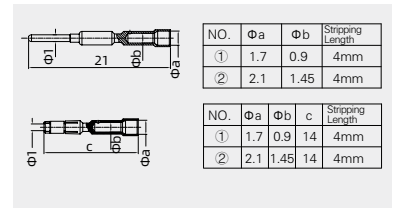
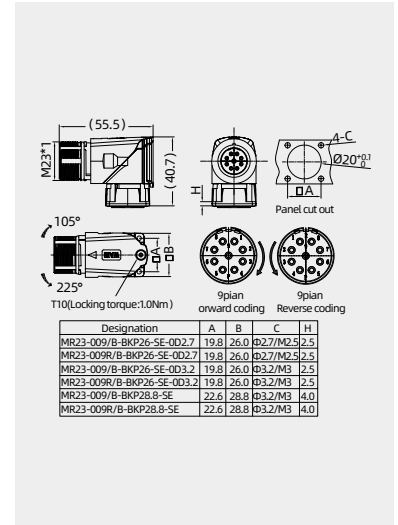
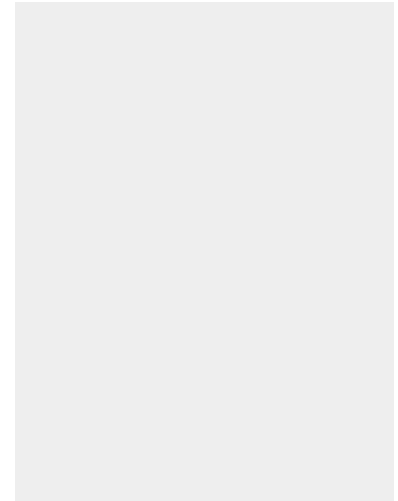
## Tools

## Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.



## MR23 Circular connector

160V/125V- 7A

## Technical characteristics

Specifications			
Specifications	DIN EN 60 664		
	DIN EN 61 984		
Approvals			
Electrical data		Mechanical data	
Number of contacts	12	17	Housing material
Rated current	7A	7A	Housing surface
mm <sup>2</sup> / AWG	(0.03-1.0 mm <sup>2</sup> / AWG 32-18)		Contact resistance
Rated voltage	160 V	125 V	Insulating bodies
Rated impulse voltage	2.5 kV	2.0 kV	Contact material
Pollution degree	3	3	Contact surface
Flammability acc. to UL 94	V0 (UL94)	V0 (UL94)	Mechanical working life
Overvoltage categorie	III	III	Degree of protection
			Limiting temperature

Forward coding, Crimp terminal  
order crimp contacts separately



Contacts	Designation	Order No.
12	MR23-012-BKP26-SE-OD2.7	181 012 600 3001
17	MR23-017-BKP26-SE-OD2.7	181 017 600 2003
12	MR23-012-BKP26-SE-OD3.2	181 000 099 2501
17	MR23-017-BKP26-SE-OD3.2	181 017 600 3004
12	MR23-012-BKP28.8-SE	181 012 600 2001
17	MR23-017-BKP28.8-SE	181 017 600 2001

Reverse coding, Crimp terminal  
order crimp contacts separately



Contacts	Designation	Order No.
12	MR23-012R-BKP26-SE-OD2.7	181 012 600 3002
17	MR23-017R-BKP26-SE-OD2.7	181 017 600 2004
12	MR23-012R-BKP26-SE-OD3.2	181 012 600 3004
17	MR23-017R-BKP26-SE-OD3.2	181 000 099 2500
12	MR23-012R-BKP28.8-SE	181 012 600 2002
17	MR23-017R-BKP28.8-SE	181 017 600 2002

## Crimp contacts

Crimp contacts 9A

9A



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.03-0.34	M23-MC9G-0.34	101 031 210 2501
②	0.14-1.0	M23-MC9G-1.0	101 031 210 0801
NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.03-0.34	M23-FC9G-0.34	101 031 220 2501
②	0.14-1.0	M23-FC9G-1.0	101 031 220 0801

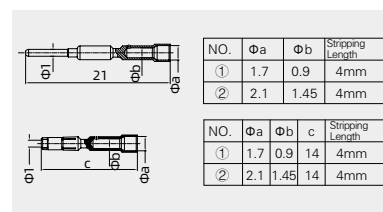
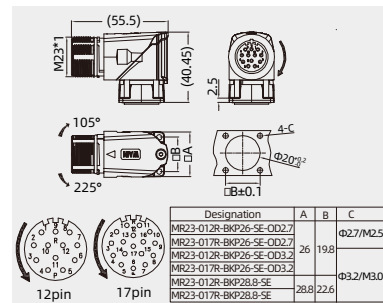
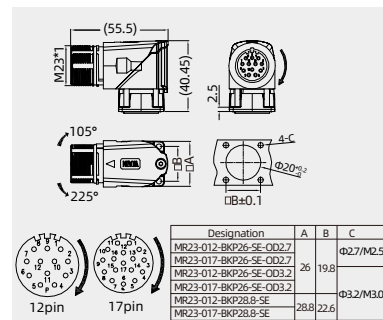
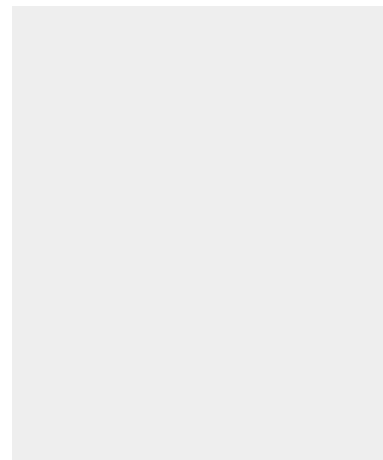
Tools

Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.



## MR23 Circular connector

63V- 7A

## Technical characteristics

Specifications			
Specifications	DIN EN 60 664		
	DIN EN 61 984		
Approvals			
Electrical data		Mechanical data	
Number of contacts	19(16+3)	Housing material	copper alloy,zinc alloy
signal:	0.03-1.0 mm <sup>2</sup> / AWG 32-18	Housing surface	Nickel-plated
power:	0.14-1.5 mm <sup>2</sup> / AWG 20-16	Contact resistance	≤ 5 mΩ
Rated current	7A	Insulating bodies	PBT
Rated voltage	63 V	Contact material	copper alloy
Rated impulse voltage	1.5 kV	Contact surface	gold plated
Pollution degree	3	Mechanical working life	>500
Flammability acc. to UL 94	V0 (UL94)	Degree of protection	IP67
Overvoltage categorie	III	Limiting temperature	-40°C ...+130°C

Forward coding, Crimp terminal  
order crimp contacts separately

Contacts	Designation	Order No.
19	MR23-019-BKP26-SE-OD2.7	181 019 300 1001
	MR23-019-BKP26-SE-OD3.2	181 019 300 1002
	MR23-019-BKP28.8-SE	181 019 300 1003

Reverse coding, Crimp terminal  
order crimp contacts separately

Contacts	Designation	Order No.
19	MR23-019R-BKP26-SE-OD2.7	181 019 300 1004
	MR23-019R-BKP26-SE-OD3.2	181 019 300 1005
	MR23-019R-BKP28.8-SE	181 019 300 1006

## Crimp contacts

## Crimp contacts 9A/7A



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.03-0.34	M23-MC9G-0.34	101 031 210 2501
②	0.14-1.0	M23-MC9G-1.0	101 031 210 0801
③	0.14-1.4	MR23-MC7G-1.0	101 015 210 0801
④	0.5-1.5	MR23-MC7G-1.5	101 015 210 0901
NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.03-0.34	M23-FC9G-0.34	101 031 220 2501
②	0.14-1.0	M23-FC9G-1.0	101 031 220 0801
③	0.14-1.4	MR23-FC7G-1.0	101 015 220 0801
④	0.5-1.5	MR23-FC7G-1.5	101 015 220 0901

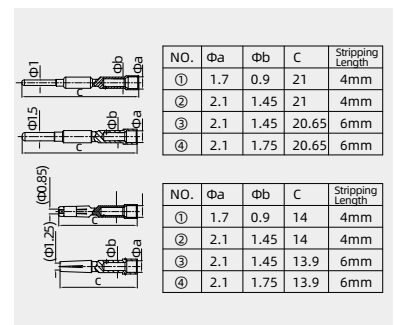
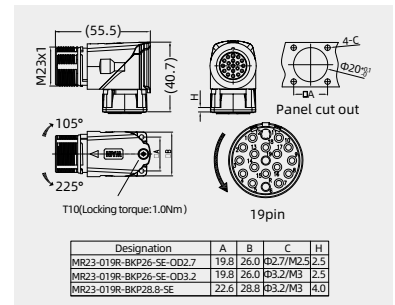
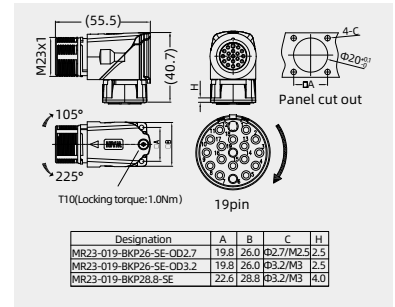
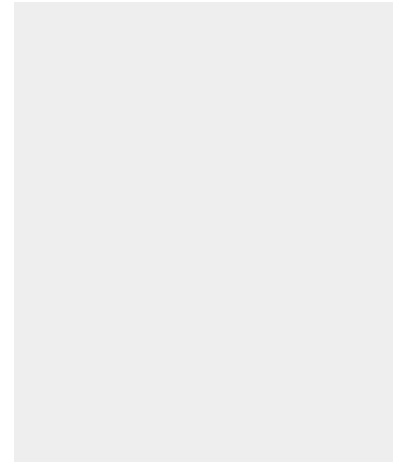
## Tools

## Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.





## MR23 Circular connector

300V- 20A

## Technical characteristics

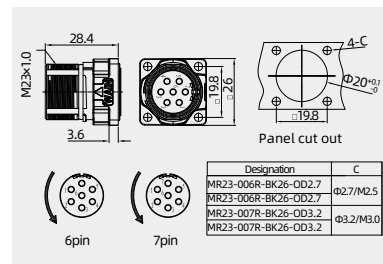
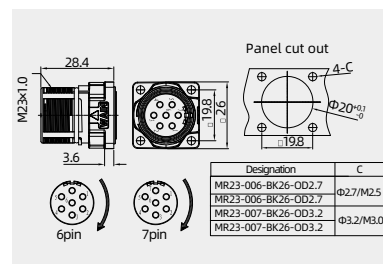
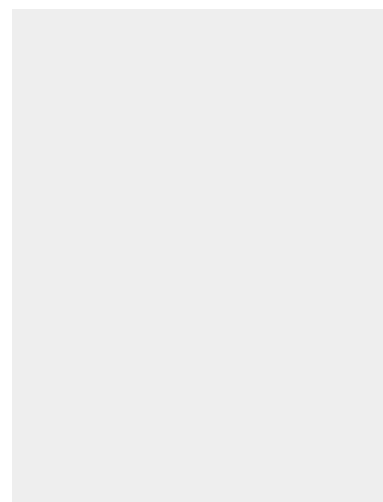
Specifications				
Specifications	DIN EN 60 664			
	DIN EN 61 984			
Approvals				
Electrical data		Mechanical data		
Number of contacts	6	7	Housing material	copper alloy,zinc alloy
Rated current	20A	20A	Housing surface	Nickel-plated
mm <sup>2</sup> / AWG	(0.35-2.5 mm <sup>2</sup> / AWG 22-14)		Contact resistance	≤ 5 mΩ
Rated voltage	300 V	300 V	Insulating bodies	PBT
Rated impulse voltage	2.5 kV	2.5 kV	Contact material	copper alloy
Pollution degree	3	3	Contact surface	gold plated
Flammability acc. to UL 94	V0 (UL94)	V0 (UL94)	Mechanical working life	>500
Overvoltage categorie	III	III	Degree of protection	IP67
			Limiting temperature	-40°C ...+130°C

Forward coding, Crimp terminal  
order crimp contacts separately

Contacts	Designation	Order No.
6	MR23-006-BK26-OD2.7	181 006 300 3001
7	MR23-007-BK26-OD2.7	181 007 300 3001
6	MR23-006-BK26-OD3.2	181 006 300 3002
7	MR23-007-BK26-OD3.2	181 007 300 3002
6	MR23-006-BK28-OD3.2	166 000 399 2500
7	MR23-007-BK28-OD3.2	166 000 399 2501

Reverse coding, Crimp terminal  
order crimp contacts separately

Contacts	Designation	Order No.
6	MR23-006R-BK26-OD2.7	181 006 300 3003
7	MR23-007R-BK26-OD2.7	181 007 300 3003
6	MR23-006R-BK26-OD3.2	181 006 300 3004
7	MR23-007R-BK26-OD3.2	181 007 300 3004
6	MR23-006R-BK28-OD3.2	166 000 399 2502
7	MR23-007R-BK28-OD3.2	166 000 399 2503



## Crimp contacts

## Crimp contacts 20A

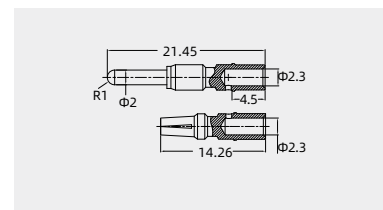
20A



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.35-2.5	MR23-MC20G-2.5	101 020 210 1001

NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.35-2.5	MR23-FC20G-2.5	101 020 220 1001



## Tools

## Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## MR23 Circular connector

160V- 10A

## Technical characteristics

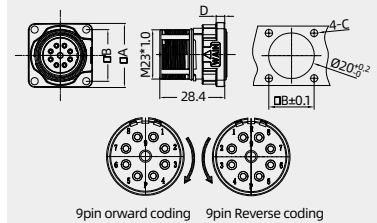
Specifications			
Specifications	DIN EN 60 664		
	DIN EN 61 984		
Approvals			
Electrical data		Mechanical data	
Number of contacts	9	Housing material	copper alloy,zinc alloy
Rated current	10A	Housing surface	Nickel-plated
mm <sup>2</sup> / AWG	0.14-1.0 + 0.35-2.5	Contact resistance	≤ 5 mΩ
Rated voltage	160 V	Insulating bodies	PBT
Rated impulse voltage	2.5 kV	Contact material	copper alloy
Pollution degree	3	Contact surface	gold plated
Flammability acc. to UL 94	V0 (UL94)	Mechanical working life	>500
Overvoltage categorie	III	Degree of protection	IP67
		Limiting temperature	-40°C ...+130°C

Forward coding, Crimp terminal  
order crimp contacts separately

Contacts	Designation	Order No.
9	MR23-009-BK26-OD2.7	181 009 300 1500
	MR23-009-BK26-OD3.2	181 009 300 1501
	MR23-009-BK28-OD3.2	181 009 300 1508

Reverse coding, Crimp terminal  
order crimp contacts separately

Contacts	Designation	Order No.
9	MR23-009R-BK26-OD2.7	181 009 300 1504
	MR23-009R-BK26-OD3.2	181 009 300 1505
	MR23-009R-BK28-OD3.2	181 009 300 1510



9pin orward coding 9pin Reverse coding

Designation	A	B	C	D
MR23-009-BK26-OD2.7				
MR23-009R-BK26-OD2.7	26	19.8	Ø2.7/M2.5	3.6
MR23-009-BK26-SE-OD3.2				
MR23-009R-BK26-OD3.2			Ø3.2/M3.0	
MR23-009-BK28-OD3.2	28	22.6		3.7
MR23-009R-BK28-OD3.2				

## Crimp contacts

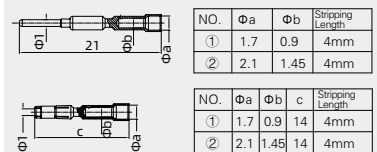
## Crimp contacts 9A

9A



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.03-0.34	M23-MC9G-0.34	101 031 210 2501
②	0.14-1.0	M23-MC9G-1.0	101 031 210 0801

NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.03-0.34	M23-FC9G-0.34	101 031 220 2501
②	0.14-1.0	M23-FC9G-1.0	101 031 220 0801



NO.	Φa	Φb	Stripping Length
①	1.7	0.9	4mm
②	2.1	1.45	4mm

NO.	Φa	Φb	c	Stripping Length
①	1.7	0.9	14	4mm
②	2.1	1.45	14	4mm

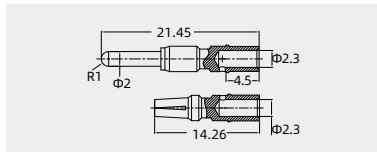
## Crimp contacts 20A

20A



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.35-2.5	MR23-MC20G-2.5	101 020 210 1001

NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.35-2.5	MR23-FC20G-2.5	101 020 220 1001



## Tools

## Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## MR23 Circular connector

160V- 10A

## Technical characteristics

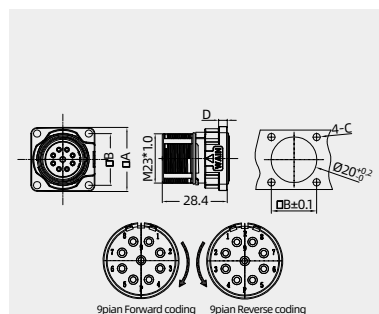
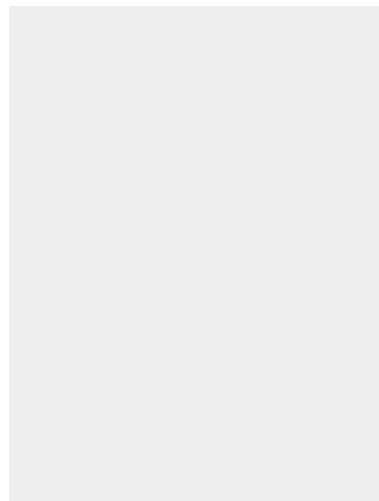
Specifications			
Specifications	DIN EN 60 664		
	DIN EN 61 984		
Approvals			
Electrical data		Mechanical data	
Number of contacts	9	Housing material	copper alloy, zinc alloy
Rated current	10A	Housing surface	Nickel-plated
mm <sup>2</sup> / AWG	0.14-1.0 + 0.35-2.5	Contact resistance	≤ 5 mΩ
Rated voltage	160 V	Insulating bodies	PBT
Rated impulse voltage	2.5 kV	Contact material	copper alloy
Pollution degree	3	Contact surface	gold plated
Flammability acc. to UL 94	V0 (UL94)	Mechanical working life	>500
Overvoltage categorie	III	Degree of protection	IP67
		Limiting temperature	-40°C ...+130°C

Forward coding, Crimp terminal  
order crimp contacts separately

Contacts	Designation	Order No.
9	MR23-009/B-BK26-OD2.7	181 009 300 1502
	MR23-009/B-BK26-OD3.2	181 009 300 1503
	MR23-009/B-BK28-OD3.2	181 009 300 1509

Reverse coding, Crimp terminal  
order crimp contacts separately

Contacts	Designation	Order No.
9	MR23-009R/B-BK26-OD2.7	181 009 300 1506
	MR23-009R/B-BK26-OD3.2	181 009 300 1507
	MR23-009R/B-BK28-OD3.2	181 009 300 1511



Designation	A	B	C	D
MR23-009/B-BK26-OD2.7				
MR23-009R/B-BK26-OD2.7	26	19.8	Ø2.7/M2.5	3.6
MR23-009/B-BK26-OD3.2				
MR23-009R/B-BK26-OD3.2	26	22.6	Ø3.2/M3.0	3.7
MR23-009/B-BK28-OD3.2				
MR23-009R/B-BK28-OD3.2	28	22.6		

## Crimp contacts

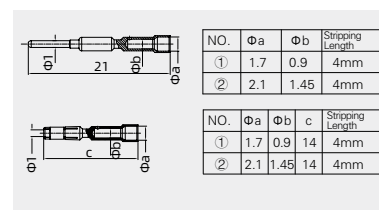
## Crimp contacts 9A

9A



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.03-0.34	M23-MC9G-0.34	101 031 210 2501
②	0.14-1.0	M23-MC9G-1.0	101 031 210 0801

NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.03-0.34	M23-FC9G-0.34	101 031 220 2501
②	0.14-1.0	M23-FC9G-1.0	101 031 220 0801



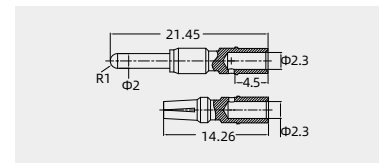
## Crimp contacts 20A

20A



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.35-2.5	MR23-MC20G-2.5	101 020 210 1001

NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.35-2.5	MR23-FC20G-2.5	101 020 220 1001



## Tools

## Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## MR23 Circular connector

160V/125V- 7A

## Technical characteristics

Specifications			
Specifications	DIN EN 60 664		
	DIN EN 61 984		
Approvals			
Electrical data		Mechanical data	
Number of contacts	12	17	Housing material
Rated current	7A	7A	Housing surface
mm <sup>2</sup> / AWG	(0.03-1.0 mm <sup>2</sup> / AWG 32-18)		Contact resistance
Rated voltage	160 V	125 V	Insulating bodies
Rated impulse voltage	2.5 kV	2.0 kV	Contact material
Pollution degree	3	3	Contact surface
Flammability acc. to UL 94	V0 (UL94)	V0 (UL94)	Mechanical working life
Overvoltage categorie	III	III	Degree of protection
			Limiting temperature

Forward coding, Crimp terminal  
order crimp contacts separately

Contacts	Designation	Order No.
12	MR23-012-BK26-OD2.7	181 012 300 2001
17	MR23-017-BK26-OD2.7	181 017 300 2001
12	MR23-012-BK26-OD3.2	181 012 300 3001
17	MR23-017-BK26-OD3.2	181 017 300 3001
12	MR23-012-BK28-OD3.2	181 012 300 2003
17	MR23-017-BK28-OD3.2	181 017 300 2004

Reverse coding, Crimp terminal  
order crimp contacts separately

Contacts	Designation	Order No.
12	MR23-012R-BK26-OD2.7	181 012 300 2002
17	MR23-017R-BK26-OD2.7	181 017 300 2002
12	MR23-012R-BK26-OD3.2	181 012 300 3002
17	MR23-017R-BK26-OD3.2	181 017 300 2003
12	MR23-012R-BK28-OD3.2	181 012 300 2004
17	MR23-017R-BK28-OD3.2	181 017 300 2005

## Crimp contacts

## Crimp contacts 9A

9A



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.03-0.34	M23-MC9G-0.34	101 031 210 2501
②	0.14-1.0	M23-MC9G-1.0	101 031 210 0801
NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.03-0.34	M23-FC9G-0.34	101 031 220 2501
②	0.14-1.0	M23-FC9G-1.0	101 031 220 0801

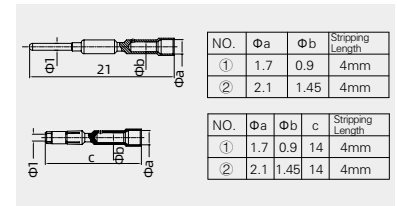
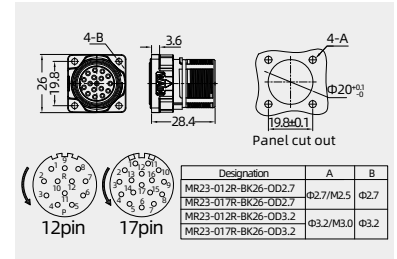
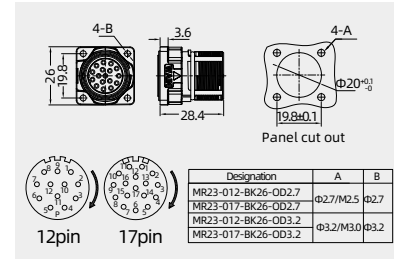
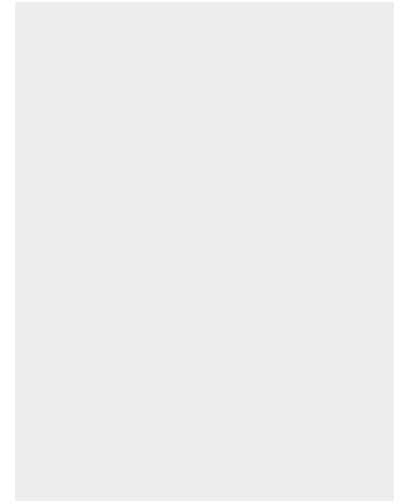
## Tools

## Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.



## MR23 Circular connector

63V- 7A

## Technical characteristics

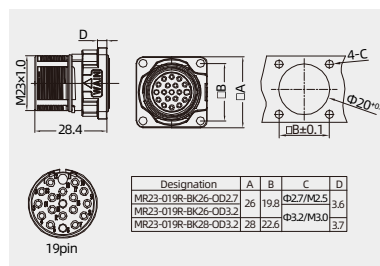
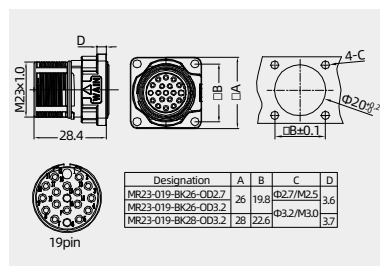
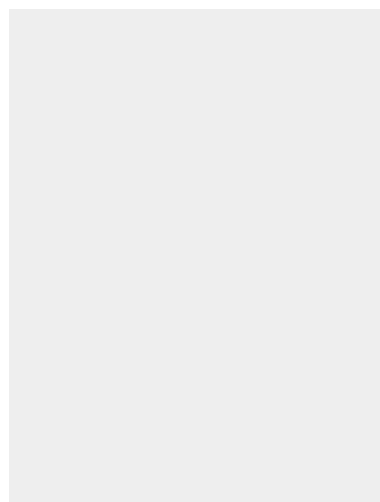
Specifications			
Specifications	DIN EN 60 664		
	DIN EN 61 984		
Approvals			
Electrical data		Mechanical data	
Number of contacts	19(16+3)	Housing material	copper alloy,zinc alloy
signal:	0.03-1.0 mm <sup>2</sup> / AWG 32-18	Housing surface	Nickel-plated
power:	0.14-1.5 mm <sup>2</sup> / AWG 20-16	Contact resistance	≤ 5 mΩ
Rated current	7A	Insulating bodies	PBT
Rated voltage	63 V	Contact material	copper alloy
Rated impulse voltage	1.5 kV	Contact surface	gold plated
Pollution degree	3	Mechanical working life	>500
Flammability acc. to UL 94	V0 (UL94)	Degree of protection	IP67
Overvoltage categorie	III	Limiting temperature	-40°C ...+130°C

Forward coding, Crimp terminal  
order crimp contacts separately

Contacts	Designation	Order No.
19	MR23-019-BK26-OD2.7	181 019 300 1007
	MR23-019-BK26-OD3.2	181 019 300 1008
	MR23-019-BK28-OD3.2	166 000 399 2504

Reverse coding, Crimp terminal  
order crimp contacts separately

Contacts	Designation	Order No.
19	MR23-019R-BK26-OD2.7	181 019 300 1009
	MR23-019R-BK26-OD3.2	181 019 300 1010
	MR23-019R-BK28-OD3.2	166 000 399 2505



## Crimp contacts

## Crimp contacts 9A/7A

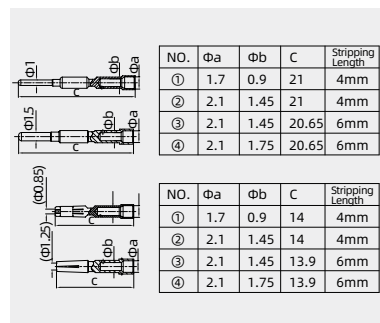
9A(signal)

7A(power)

9A(signal)

7A(power)

NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.03-0.34	M23-MC9G-0.34	101 031 210 2501
②	0.14-1.0	M23-MC9G-1.0	101 031 210 0801
③	0.14-1.4	MR23-MC7G-1.0	101 015 210 0801
④	0.5-1.5	MR23-MC7G-1.5	101 015 210 0901
NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.03-0.34	M23-FC9G-0.34	101 031 220 2501
②	0.14-1.0	M23-FC9G-1.0	101 031 220 0801
③	0.14-1.4	MR23-FC7G-1.0	101 015 220 0801
④	0.5-1.5	MR23-FC7G-1.5	101 015 220 0901



## Tools

Crimping tool

Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## MR23 Circular connector

300V- 20A

## Technical characteristics

Specifications				
Specifications	DIN EN 60 664			
	DIN EN 61 984			
Approvals				
Electrical data		Mechanical data		
Number of contacts	6	7	Housing material	copper alloy,zinc alloy
Rated current	20A	20A	Housing surface	Nickel-plated
mm <sup>2</sup> / AWG	(0.35-2.5 mm <sup>2</sup> / AWG 22-14)		Contact resistance	≤ 5 mΩ
Rated voltage	300 V	300 V	Insulating bodies	PBT
Rated impulse voltage	2.5 kV	2.5 kV	Contact material	copper alloy
Pollution degree	3	3	Contact surface	gold plated
Flammability acc. to UL 94	V0 (UL94)	V0 (UL94)	Mechanical working life	>500
Overvoltage categorie	III	III	Degree of protection	IP67
			Limiting temperature	-40°C ...+130°C

Forward coding, Crimp terminal  
order crimp contacts separately

Contacts	Designation	Order No.
6	MR23-006-BK-M20	181 006 300 3005
7	MR23-007-BK-M20	181 007 300 3005

Reverse coding, Crimp terminal  
order crimp contacts separately

Contacts	Designation	Order No.
6	MR23-006R-BK-M20	181 006 300 3006
7	MR23-007R-BK-M20	181 007 300 3006

## Crimp contacts

## Crimp contacts 20A

20A



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.35-2.5	MR23-MC20G-2.5	101 020 210 1001
NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.35-2.5	MR23-FC20G-2.5	101 020 220 1001

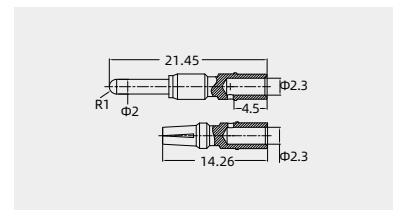
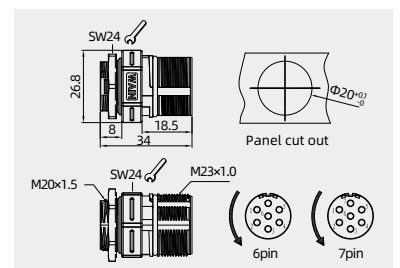
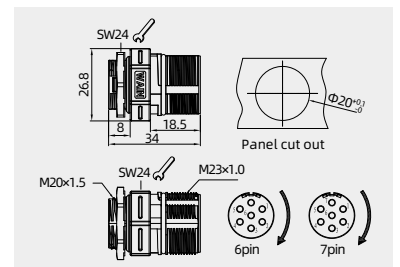
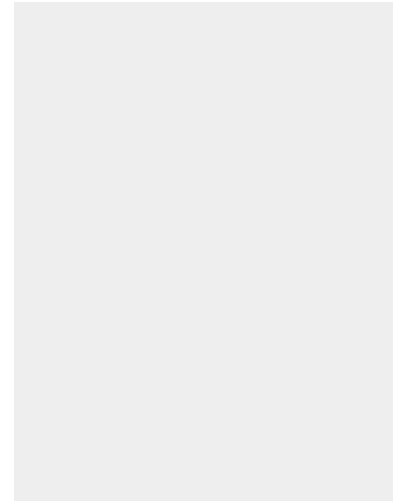
## Tools

## Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.



## MR23 Circular connector

160V- 10A

## Technical characteristics

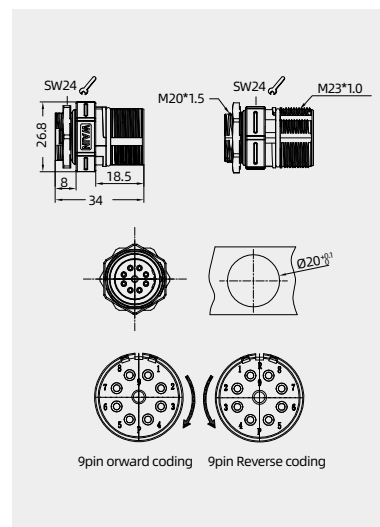
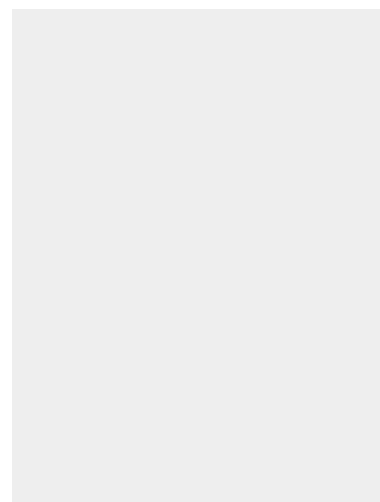
Specifications			
Specifications	DIN EN 60 664		
	DIN EN 61 984		
Approvals			
Electrical data		Mechanical data	
Number of contacts	9	Housing material	copper alloy, zinc alloy
Rated current	10A	Housing surface	Nickel-plated
mm <sup>2</sup> / AWG	0.14-1.0 + 0.35-2.5	Contact resistance	≤ 5 mΩ
Rated voltage	160 V	Insulating bodies	PBT
Rated impulse voltage	2.5 kV	Contact material	copper alloy
Pollution degree	3	Contact surface	gold plated
Flammability acc. to UL 94	V0 (UL94)	Mechanical working life	>500
Overvoltage categorie	III	Degree of protection	IP67
		Limiting temperature	-40°C ...+130°C

Forward coding, Crimp terminal  
order crimp contacts separately

Contacts	Designation	Order No.
9	MR23-009-BK-M20	181 009 300 1512

Reverse coding, Crimp terminal  
order crimp contacts separately

Contacts	Designation	Order No.
9	MR23-009R-BK-M20	181 009 300 1514



## Crimp contacts

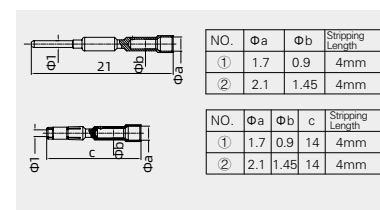
## Crimp contacts 9A

9A



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.03-0.34	M23-MC9G-0.34	101 031 210 2501
②	0.14-1.0	M23-MC9G-1.0	101 031 210 0801

NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.03-0.34	M23-FC9G-0.34	101 031 220 2501
②	0.14-1.0	M23-FC9G-1.0	101 031 220 0801



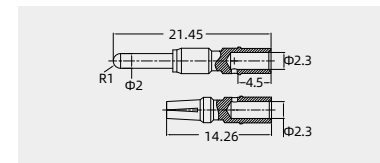
## Crimp contacts 20A

20A



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.35-2.5	MR23-MC20G-2.5	101 020 210 1001

NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.35-2.5	MR23-FC20G-2.5	101 020 220 1001



## Tools

## Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## MR23 Circular connector

160V- 10A

## Technical characteristics

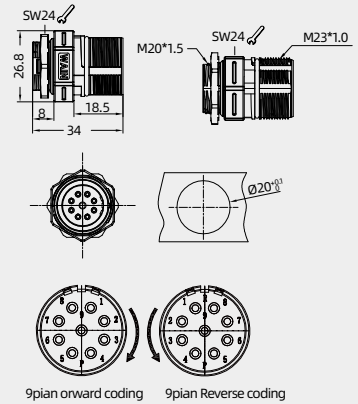
Specifications			
Specifications	DIN EN 60 664		
	DIN EN 61 984		
Approvals			
Electrical data		Mechanical data	
Number of contacts	9	Housing material	copper alloy,zinc alloy
Rated current	10A	Housing surface	Nickel-plated
mm <sup>2</sup> / AWG	0.14-1.0 + 0,35-2.5	Contact resistance	≤ 5 mΩ
Rated voltage	160 V	Insulating bodies	PBT
Rated impulse voltage	2.5 kV	Contact material	copper alloy
Pollution degree	3	Contact surface	gold plated
Flammability acc. to UL 94	V0 (UL94)	Mechanical working life	>500
Overvoltage categorie	III	Degree of protection	IP67
		Limiting temperature	-40°C ...+130°C

Forward coding, Crimp terminal  
order crimp contacts separately

Contacts	Designation	Order No.
9	MR23-009/B-BK-M20	181 009 300 1513

Reverse coding, Crimp terminal  
order crimp contacts separately

Contacts	Designation	Order No.
9	MR23-009R/B-BK-M20	181 009 300 1515



## Crimp contacts

## Crimp contacts 9A

9A



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.03-0.34	M23-MC9G-0.34	101 031 210 2501
②	0.14-1.0	M23-MC9G-1.0	101 031 210 0801

NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.03-0.34	M23-FC9G-0.34	101 031 220 2501
②	0.14-1.0	M23-FC9G-1.0	101 031 220 0801

NO.	Φa	Φb	Stripping Length
①	1.7	0.9	4mm
②	2.1	1.45	4mm

NO.	Φa	Φb	c	Stripping Length
①	1.7	0.9	14	4mm
②	2.1	1.45	14	4mm

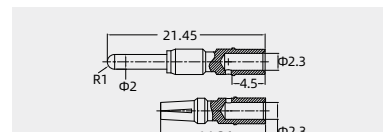
## Crimp contacts 20A

20A



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.35-2.5	MR23-MC20G-2.5	101 020 210 1001

NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.35-2.5	MR23-FC20G-2.5	101 020 220 1001



## Tools

## Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.



## MR23 Circular connector

160V/125V- 7A

## Technical characteristics

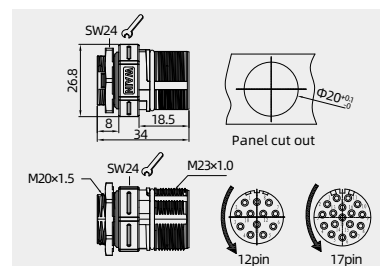
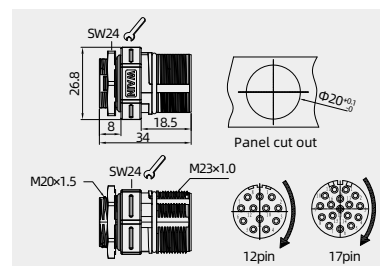
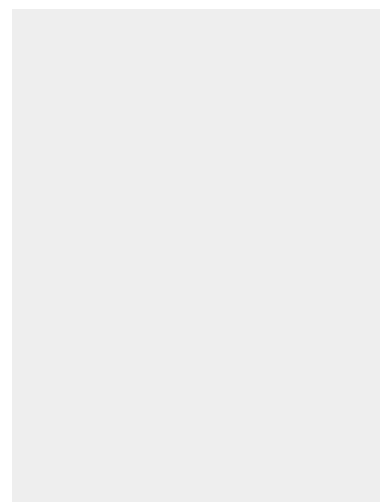
Specifications				
Specifications	DIN EN 60 664 DIN EN 61 984			
Approvals				
Electrical data	Mechanical data			
Number of contacts	12	17	Housing material	copper alloy,zinc alloy
Rated current	7A	7A	Housing surface	Nickel-plated
mm <sup>2</sup> / AWG	(0.03-1.0 mm <sup>2</sup> / AWG 32-18)		Contact resistance	≤ 5 mΩ
Rated voltage	160 V	125 V	Insulating bodies	PBT
Rated impulse voltage	2.5 kV	2.0 kV	Contact material	copper alloy
Pollution degree	3	3	Contact surface	gold plated
Flammability acc. to UL 94	V0 (UL94)	V0 (UL94)	Mechanical working life	>500
Overvoltage categorie	III	III	Degree of protection	IP67
			Limiting temperature	-40°C ...+130°C

Forward coding, Crimp terminal  
order crimp contacts separately

Contacts	Designation	Order No.
12	MR23-012-BK-M20	181 012 300 3003
17	MR23-017-BK-M20	181 017 300 3002

Reverse coding, Crimp terminal  
order crimp contacts separately

Contacts	Designation	Order No.
12	MR23-012R-BK-M20	181 012 300 3004
17	MR23-017R-BK-M20	181 017 300 3003



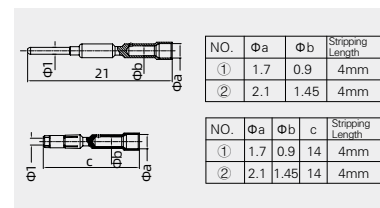
## Crimp contacts

## Crimp contacts 9A

9A



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.03-0.34	M23-MC9G-0.34	101 031 210 2501
②	0.14-1.0	M23-MC9G-1.0	101 031 210 0801
NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.03-0.34	M23-FC9G-0.34	101 031 220 2501
②	0.14-1.0	M23-FC9G-1.0	101 031 220 0801



## Tools

## Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## MR23 Circular connector

63V- 7A

### Technical characteristics

Specifications			
Specifications	DIN EN 60 664		
	DIN EN 61 984		
Approvals			
Electrical data		Mechanical data	
Number of contacts	19(16+3)	Housing material	copper alloy,zinc alloy
signal:	0.03-1.0 mm <sup>2</sup> / AWG 32-18	Housing surface	Nickel-plated
power:	0.14-1.5 mm <sup>2</sup> / AWG 20-16	Contact resistance	≤ 5 mΩ
Rated current	7A	Insulating bodies	PBT
Rated voltage	63 V	Contact material	copper alloy
Rated impulse voltage	1.5 kV	Contact surface	gold plated
Pollution degree	3	Mechanical working life	>500
Flammability acc. to UL 94	V0 (UL94)	Degree of protection	IP67
Overvoltage categorie	III	Limiting temperature	-40°C ...+130°C

#### Forward coding, Crimp terminal order crimp contacts separately



Contacts	Designation	Order No.
19	MR23-019-BK-M20	181 019 300 1011

#### Reverse coding, Crimp terminal order crimp contacts separately



Contacts	Designation	Order No.
19	MR23-019R-BK-M20	181 019 300 1012

### Crimp contacts

#### Crimp contacts 9A/7A



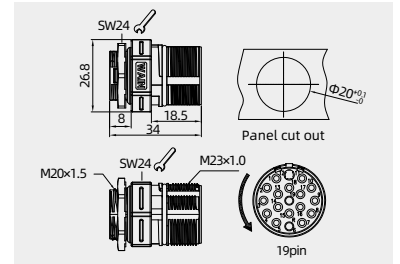
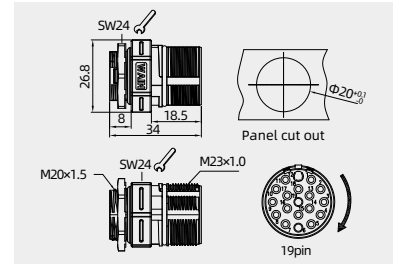
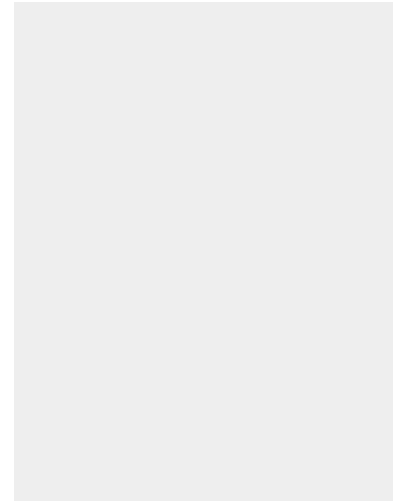
NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.03-0.34	M23-MC9G-0.34	101 031 210 2501
②	0.14-1.0	M23-MC9G-1.0	101 031 210 0801
③	0.14-1.4	MR23-MC7G-1.0	101 015 210 0801
④	0.5-1.5	MR23-MC7G-1.5	101 015 210 0901
NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.03-0.34	M23-FC9G-0.34	101 031 220 2501
②	0.14-1.0	M23-FC9G-1.0	101 031 220 0801
③	0.14-1.4	MR23-FC7G-1.0	101 015 220 0801
④	0.5-1.5	MR23-FC7G-1.5	101 015 220 0901

#### Tools



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.



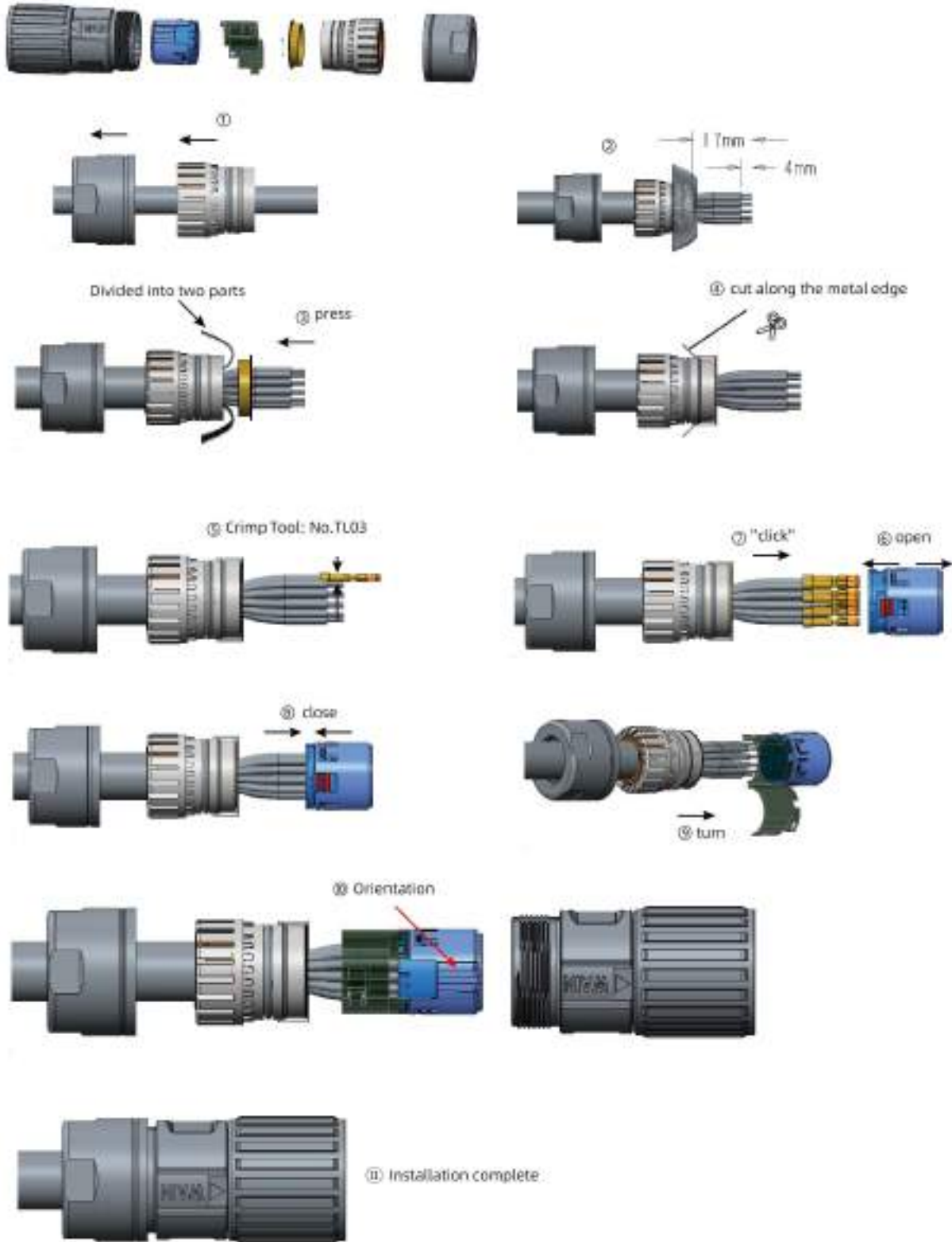
NO.	Φa	Φb	C	Stripping Length
①	1.7	0.9	21	4mm
②	2.1	1.45	21	4mm
③	2.1	1.45	20.65	6mm
④	2.1	1.75	20.65	6mm

NO.	Φa	Φb	C	Stripping Length
①	1.7	0.9	14	4mm
②	2.1	1.45	14	4mm
③	2.1	1.45	13.9	6mm
④	2.1	1.75	13.9	6mm

- Operating Instruction(MR23-0XX-T-DXX-SH)

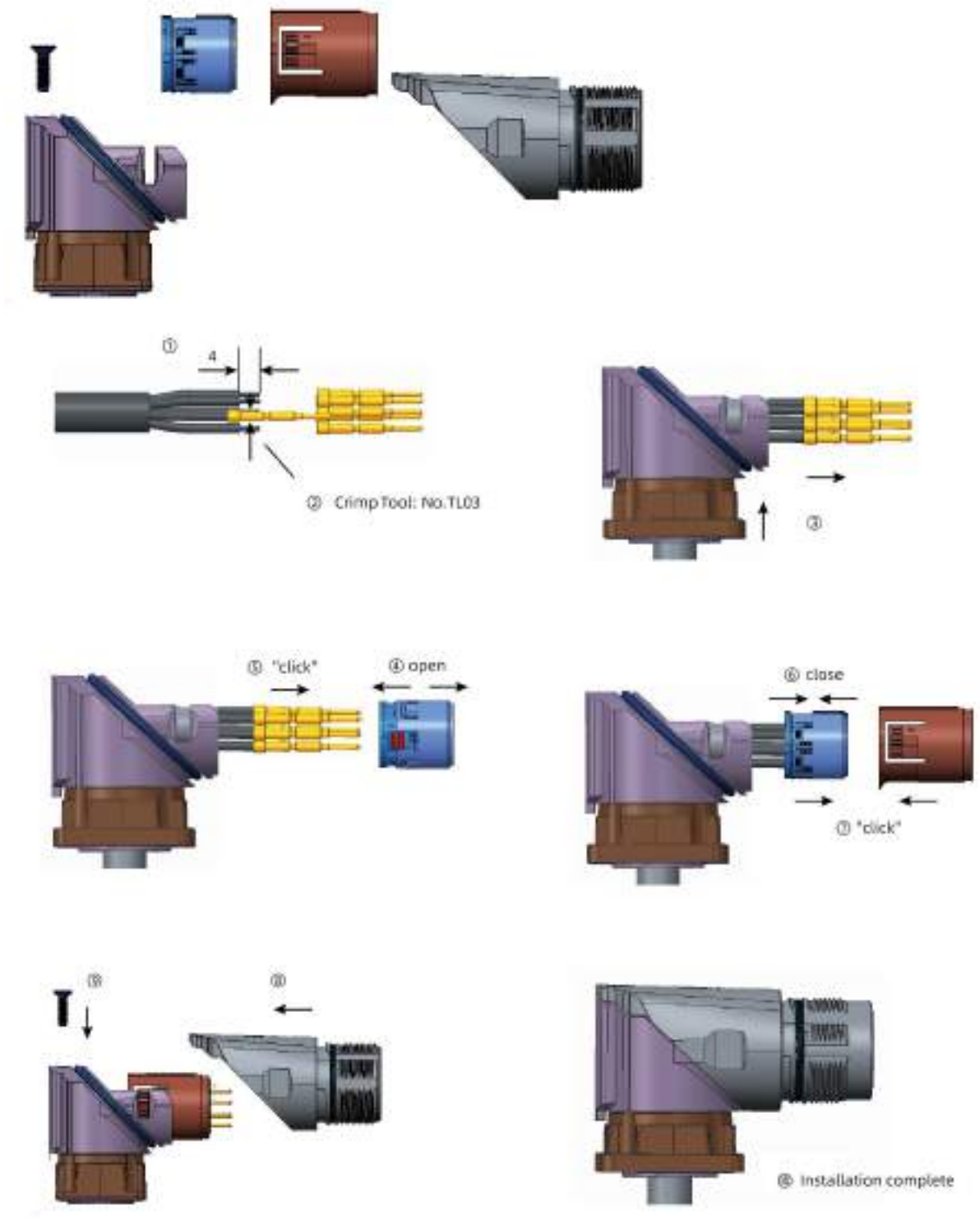
• Installation Step



MR23 Circular connector

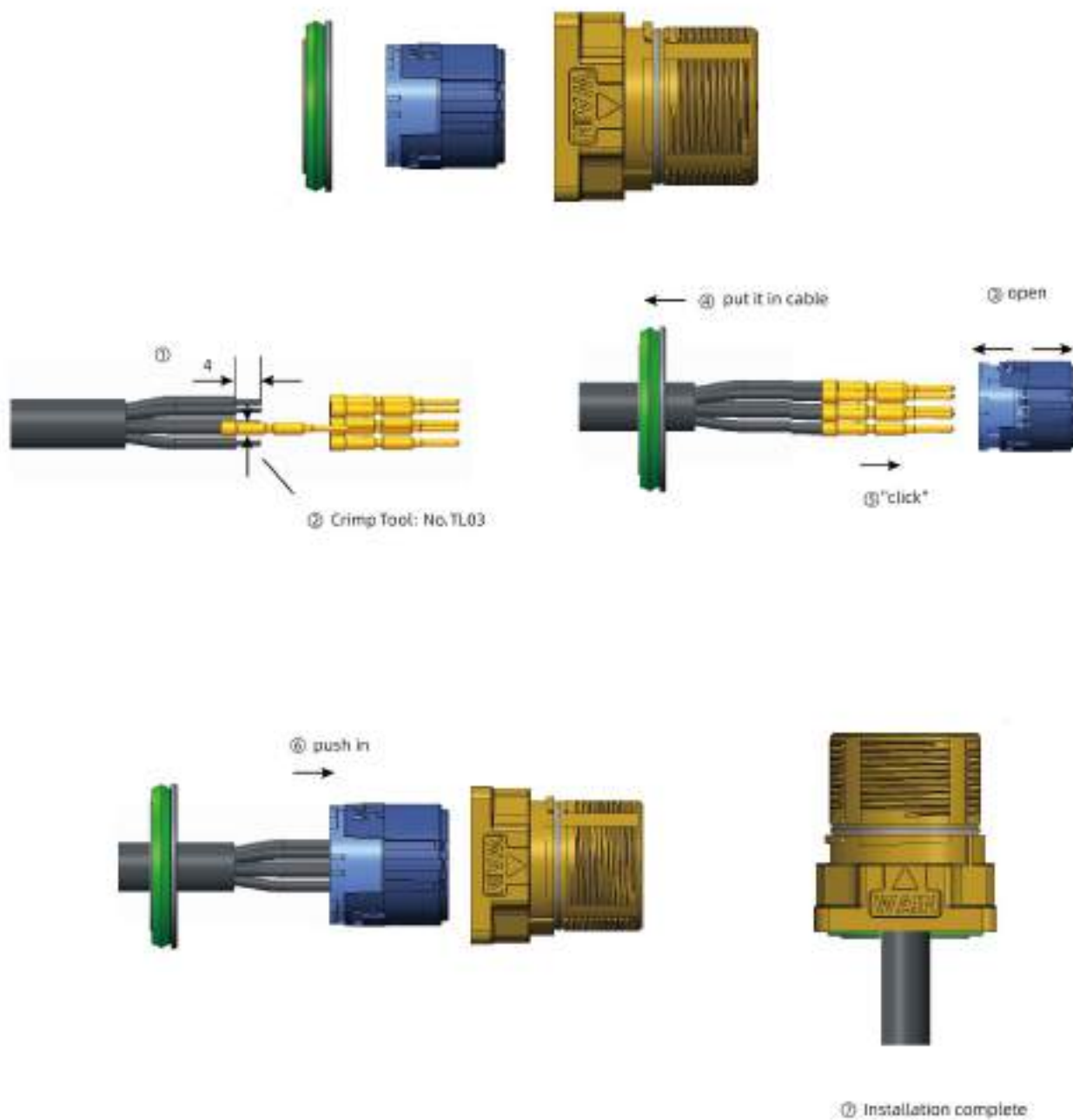
- Operating Instruction(MR23-0XX-BKP26-SE)

• Installation Step



- Operating Instruction(MR23-0XX-BK26-OD3.2/2.7)

- Installation Step



## M23 Circular power connectors

M23



## Circular Connector M23

630/250V 30/9A

## Technical characteristics

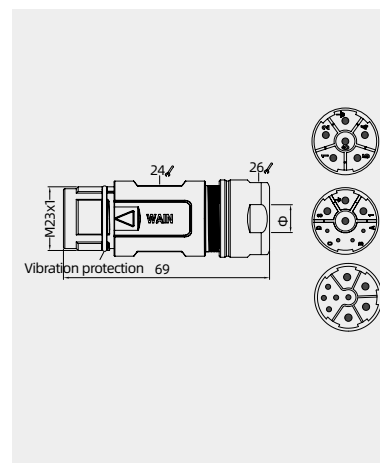
Specifications							Mechanical date	
Specifications	DIN EN 60 664 DIN EN 61 984					Housing material	CuZn,Zinc(GD-Zn)	
Approvals								
Electrical data							Mechanical date	
Number of contacts	6(5+PE)		8(4+3+PE)		9(5+3+PE)		Housing material	CuZn,Zinc(GD-Zn)
Contacts	5+PE	4	3+PE	5	3+PE		Housing surface	Nickel-plated
ContactsΦ(mm)	2	1	2	1	2		Insulating bodies	Polyamide
mm <sup>2</sup> /AWG	0.35...4.0/22-12	0.03...1.5/32-16	0.35...4.0/22-12	0.14...1.5/26-16	0.35...4.0/22-12		Contact material	copper alloy
Rated current(25°C)	30	9	30	9	30		Contact surface	gold plated
Rated voltage	630	250	630	250	630		Terminal	Crimp version
Test voltage Urms (AC)	6kV	4kV	6kV	4kV	6kV		Gasket and O ring	Fluorine rubber
Overvoltage categorie	III		III		III		Ambient temperature	-40°C ...+130°C
Pollution degree	3		3		3		Cable outlet	4.2-17mm shielded
							Connector locking system	M23screw
							Mechanical operation	> 500
							Degree of protection	IP67

## Male, Crimp terminal

order crimp contacts separately



Contacts	Cable outlet	Designation	Order No.
6(5+PE)	4.2-6.6mm	M23-MC06-TH-D6.6-SH	166 006 110 2007
	7.5-12mm	M23-MC06-TH-D12-SH	166 006 110 2001
	9.5-14.5mm	M23-MC06-TH-D14.5-SH	166 006 110 2002
	14-17mm	M23-MC06-TH-D17-SH	166 006 110 2003
8(4+3+PE)	4.2-6.6mm	M23-MC04/4-TH-D6.6-SH	166 008 110 2007
	7.5-12mm	M23-MC04/4-TH-D12-SH	166 008 110 2001
	9.5-14.5mm	M23-MC04/4-TH-D14.5-SH	166 008 110 2002
	14-17mm	M23-MC04/4-TH-D17-SH	166 008 110 2003
9(5+3+PE)	4.2-6.6mm	M23-MC04/5-TH-D6.6-SH	181 000 099 2502
	7.5-12mm	M23-MC04/5-TH-D12-SH	166 000 110 2500
	9.5-14.5mm	M23-MC04/5-TH-D14.5-SH	181 000 099 2503
	14-17mm	M23-MC04/5-TH-D17-SH	181 000 099 2504



## Crimp contacts

## Crimp contacts 9A/30A

9A

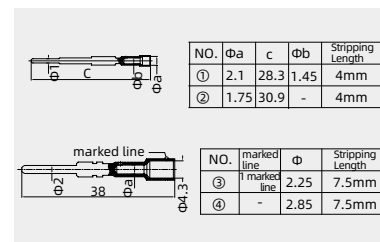


NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.14-1.0	M23-MCL9G-1.0	101 031 210 0802
②	0.5-1.5	M23-MCL9G-1.5	101 031 210 0902

30A



③	0.35-2.5	M23-MCL30G-2.5	101 031 210 1002
④	2.5-4.0	M23-MCL30G-4.0	101 031 210 1202



## Tools

Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## Circular Connector M23

630/250V 30/9A

## Technical characteristics

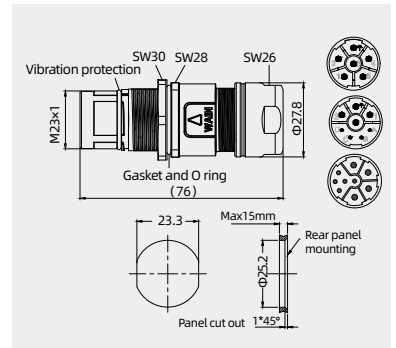
Specifications						Mechanical data	
Specifications	DIN EN 60 664 DIN EN 61 984					Housing material	CuZn,Zinc(GD-Zn)
Approvals							
Electrical data						Mechanical data	
Number of contacts	6(5+PE)	8(4+3+PE)		9(5+3+PE)		Housing surface	Nickel-plated
Contacts	5+PE	4	3+PE	5	3+PE	Insulating bodies	Polyamide
ContactsΦ(mm)	2	1	2	1	2	Contact material	copper alloy
mm <sup>2</sup> /AWG	0.35...4.0/22-12	0.03...1.5/32-16	0.35...4.0/22-12	0.14...1.5/26-16	0.35...4.0/22-12	Contact surface	gold plated
Rated current(25°C)	30	9	30	9	30	Terminal	Crimp version
Rated voltage	630	250	630	250	630	Gasket and O ring	Fluorine rubber
Test voltage Urms (AC)	6kV	4kV	6kV	4kV	6kV	Ambient temperature	-40°C ...+130°C
Overvoltage categorie	III		III		III	Cable outlet	4.2-17mm shielded
Pollution degree	3		3		3	Connector locking system	M23screw
						Mechanical operation	> 500
						Degree of protection	IP67

## Male, Crimp terminal

order crimp contacts separately



Contacts	Cable outlet	Designation	Order No.
6(5+PE)	4.2-6.6mm	M23-MC06-CCT/R-D6.6-SH	166 006 110 2007
	7.5-12mm	M23-MC06-CCT/R-D12-SH	166 006 110 2001
	9.5-14.5mm	M23-MC06-CCT/R-D14.5-SH	166 006 110 2002
	14-17mm	M23-MC06-CCT/R-D17-SH	166 006 110 2003
8(4+3+PE)	4.2-6.6mm	M23-MC04/4-CCT/R-D6.6-SH	166 008 110 2007
	7.5-12mm	M23-MC04/4-CCT/R-D12-SH	166 008 110 2001
	9.5-14.5mm	M23-MC04/4-CCT/R-D14.5-SH	166 008 110 2002
	14-17mm	M23-MC04/4-CCT/R-D17-SH	166 008 110 2003
9(5+3+PE)	4.2-6.6mm	M23-MC04/5-CCT/R-D6.6-SH	181 000 099 2505
	7.5-12mm	M23-MC04/5-CCT/R-D12-SH	166 009 710 2500
	9.5-14.5mm	M23-MC04/5-CCT/R-D14.5-SH	181 000 099 2506
	14-17mm	M23-MC04/5-CCT/R-D17-SH	181 000 099 2507

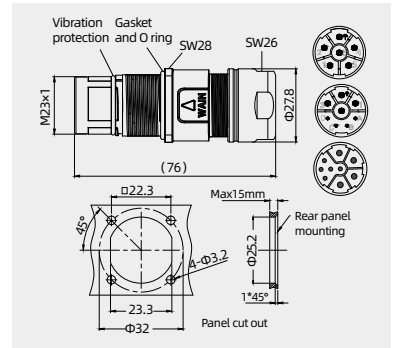


## Male, Crimp terminal

order crimp contacts separately



Contacts	Cable outlet	Designation	Order No.
6(5+PE)	4.2-6.6mm	M23-MC06-CCT/R28-D6.6-SH	166 006 110 2009
	7.5-12mm	M23-MC06-CCT/R28-D12-SH	166 006 710 2007
	9.5-14.5mm	M23-MC06-CCT/R28-D14.5-SH	166 006 710 2008
	14-17mm	M23-MC06-CCT/R28-D17-SH	166 006 710 2001
8(4+3+PE)	4.2-6.6mm	M23-MC04/4-CCT/R28-D6.6-SH	166 008 110 2009
	7.5-12mm	M23-MC04/4-CCT/R28-D12-SH	166 008 710 2007
	9.5-14.5mm	M23-MC04/4-CCT/R28-D14.5-SH	166 008 710 2008
	14-17mm	M23-MC04/4-CCT/R28-D17-SH	166 008 710 2002
9(5+3+PE)	4.2-6.6mm	M23-MC04/5-CCT/R28-D6.6-SH	181 000 099 2508
	7.5-12mm	M23-MC04/5-CCT/R28-D12-SH	166 000 799 2500
	9.5-14.5mm	M23-MC04/5-CCT/R28-D14.5-SH	166 000 799 2501
	14-17mm	M23-MC04/5-CCT/R28-D17-SH	166 000 799 2502



## Crimp contacts

Crimp contacts 9A/30A

9A

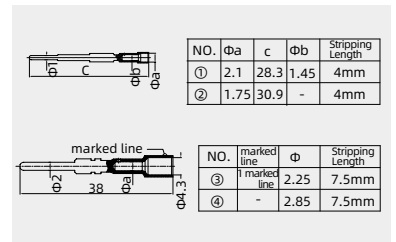


NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.14-1.0	M23-MCL9G-1.0	101 031 210 0802
②	0.5-1.5	M23-MCL9G-1.5	101 031 210 0902

30A



③	0.35-2.5	M23-MCL30G-2.5	101 031 210 1002
④	2.5-4.0	M23-MCL30G-4.0	101 031 210 1202



## Tools

Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.



## Circular Connector M23

630/250V 30/9A

## Technical characteristics

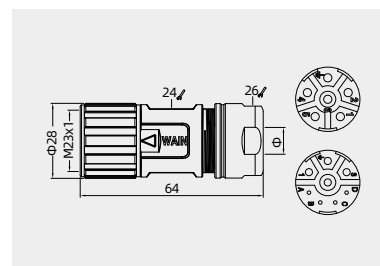
Specifications						Mechanical data	
Specifications	DIN EN 60 664 DIN EN 61 984					Housing material	CuZn,Zinc(GD-Zn)
Approvals							
Electrical data							
Number of contacts	6(5+PE)	8(4+3+PE)		9(5+3+PE)		Housing surface	Nickel-plated
Contacts	5+PE	4	3+PE	5	3+PE	Insulating bodies	Polyamide
ContactsΦ(mm)	2	1	2	1	2	Contact material	copper alloy
mm <sup>2</sup> /AWG	0.35...4.0/22-12	0.03...1.5/32-16	0.35...4.0/22-12	0.14...1.5/26-16	0.35...4.0/22-12	Contact surface	gold plated
Rated current(25°C)	30	9	30	9	30	Terminal	Crimp version
Rated voltage	630	250	630	250	630	Gasket and O ring	Fluorine rubber
Test voltage Urms (AC)	6kV	4kV	6kV	4kV	6kV	Ambient temperature	-40°C ...+130°C
Overvoltage categorie	III		III		III	Cable outlet	4.2-17mm shielded
Pollution degree	3		3		3	Connector locking system	M23screw
						Mechanical operation	> 500
						Degree of protection	IP67

## Female, Crimp terminal

order crimp contacts separately



Contacts	Cable outlet	Designation	Order No.
6(5+PE)	4.2-6.6mm	M23-FC06-T-D6.6-SH	166 006 420 2007
	7.5-12mm	M23-FC06-T-D12-SH	166 006 420 2001
	9.5-14.5mm	M23-FC06-T-D14.5-SH	166 006 420 2002
	14-17mm	M23-FC06-T-D17-SH	166 006 420 2003
8(4+3+PE)	4.2-6.6mm	M23-FC04/4-T-D6.6-SH	166 008 120 2004
	7.5-12mm	M23-FC04/4-T-D12-SH	166 008 420 2001
	9.5-14.5mm	M23-FC04/4-T-D14.5-SH	166 008 420 2002
	14-17mm	M23-FC04/4-T-D17-SH	166 008 420 2003



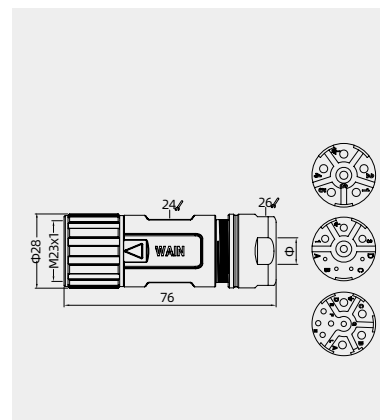
## Female, Crimp terminal

order crimp contacts separately

Recommended use



Contacts	Cable outlet	Designation	Order No.
6(5+PE)	4.2-6.6mm	M23-FC06-TH-D6.6-SH	166 006 420 2008
	7.5-12mm	M23-FC06-TH-D12-SH	166 006 120 2001
	9.5-14.5mm	M23-FC06-TH-D14.5-SH	166 006 120 2002
	14-17mm	M23-FC06-TH-D17-SH	166 006 120 2003
8(4+3+PE)	4.2-6.6mm	M23-FC04/4-TH-D6.6-SH	166 008 120 2005
	7.5-12mm	M23-FC04/4-TH-D12-SH	166 008 120 2001
	9.5-14.5mm	M23-FC04/4-TH-D14.5-SH	166 008 120 2002
9(5+3+PE)	4.2-6.6mm	M23-FC04/5-TH-D6.6-SH	166 000 199 0500
	7.5-12mm	M23-FC04/5-TH-D12-SH	166 009 420 2001
	9.5-14.5mm	M23-FC04/5-TH-D14.5-SH	166 000 199 2500
	14-17mm	M23-FC04/5-TH-D17-SH	166 009 120 2500



## Crimp contacts

## Crimp contacts 9A/30A

9A

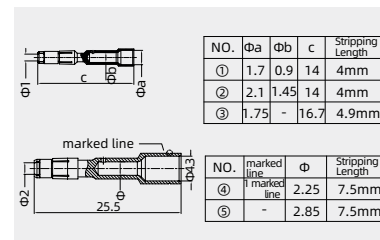


NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.03-0.34	M23-FC9G-0.34	101 031 220 2501
②	0.14-1.0	M23-FC9G-1.0	101 031 220 0801
③	0.5-1.5	M23-FC9G-1.5	101 031 220 0901

30A



④	0.35-2.5	M23-FC30G-2.5	101 032 220 1001
⑤	2.5-4.0	M23-FC30G-4.0	101 032 220 1201



## Tools

Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## Circular Connector M23

630/250V 30/9A

## Technical characteristics

Specifications				
Specifications	DIN EN 60 664			
	DIN EN 61 984			
Approvals				
Electrical data		Mechanical data		
Number of contacts	6(5+PE)      8(4+3+PE)	Housing material	CuZn,Zinc(GD-Zn)	
Contacts	5+PE      4      3+PE	Housing surface	Nickel-plated	
ContactsΦ(mm)	2      1      2	Insulating bodies	Polyamide	
mm <sup>2</sup> /AWG	0.1...4.0/28-12    0.03...1.0/32-18    0.1...4.0/28-12	Contact material	copper alloy	
Rated current(25°C)	30      9      30	Contact surface	gold plated	
Rated voltage	630      250      630	Terminal	Crimp version	
Test voltage Urms (AC)	6kV      4kV      6kV	Gasket and O ring	Fluorine rubber	
Overvoltage categorie	III      III      III	Ambient temperature	-40°C ...+130°C	
Pollution degree	3      3      3	Connector locking system	M23screw	
		Mechanical operation	> 500	
		Degree of protection	IP67	

## Male, Crimp terminal

order crimp contacts separately

Recommended use



Contacts	Designation	Order No.
6(5+PE)	M23-MC06-BK26	166 006 310 1001
8(4+3+PE)	M23-MC04/4-BK26	166 008 310 1001

## Male, Crimp terminal

order crimp contacts separately



Contacts	Designation	Order No.
6(5+PE)	M23-MC06-BK28	166 006 310 1002
8(4+3+PE)	M23-MC04/4-BK28	166 008 310 1002

## Crimp contacts

## Crimp contacts 9A/30A

9A



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.03-0.34	M23-MC9G-0.34	101 031 210 2501
②	0.14-1.0	M23-MC9G-1.0	101 031 210 0801

30A



③	0.1-0.5	M23-MC30G-0.5	101 032 210 0401
④	0.35-2.5	M23-MC30G-2.5	101 032 210 1001
⑤	2.5-4.0	M23-MC30G-4.0	101 032 210 1201

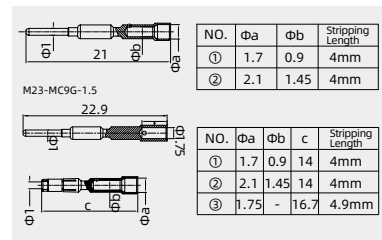
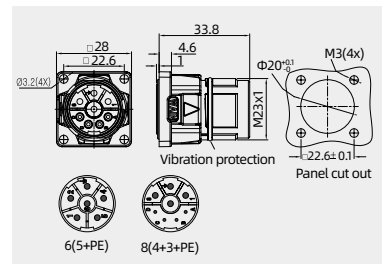
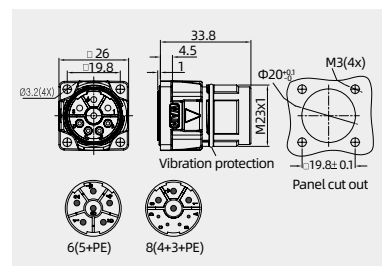
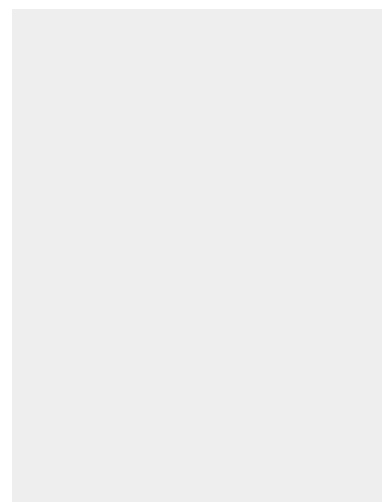
## Tools

Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.



## Circular Connector M23

630/250V 30/9A

## Technical characteristics

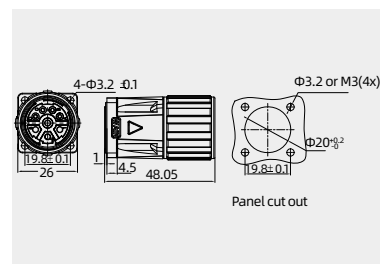
Specifications				
Specifications	DIN EN 60 664			
	DIN EN 61 984			
Approvals				
Electrical data		Mechanical data		
Number of contacts	6(5+PE)      8(4+3+PE)		Housing material	CuZn,Zinc(GD-Zn)
Contacts	5+PE      4      3+PE		Housing surface	Nickel-plated
ContactsΦ(mm)	2      1      2		Insulating bodies	Polyamide
mm <sup>2</sup> /AWG	0.1...4.0/28-12    0.03...1.0/32-18    0.1...4.0/28-12		Contact material	copper alloy
Rated current(25°C)	30      9      30		Contact surface	gold plated
Rated voltage	630      250      630		Terminal	Crimp version
Test voltage Urms (AC)	6kV      4kV      6kV		Gasket and O ring	Fluorine rubber
Overtoltage categorie	III      III		Ambient temperature	-40°C ...+130°C
Pollution degree	3      3		Connector locking system	M23screw
			Mechanical operation	> 500
			Degree of protection	IP67

## Female, Crimp terminal

order crimp contacts separately



Contacts	Designation	Order No.
6(5+PE)	M23-FC06-BK26	166 006 320 1001
8(4+3+PE)	M23-FC04/4-BK26	166 008 020 1001

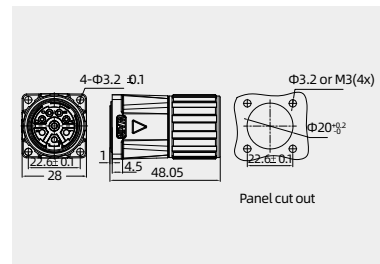


## Female, Crimp terminal

order crimp contacts separately



Contacts	Designation	Order No.
6(5+PE)	M23-FC06-BK28	166 006 320 1002
8(4+3+PE)	M23-FC04/4-BK28	166 008 020 1002



## Crimp contacts

## Crimp contacts 9A/30A

9A

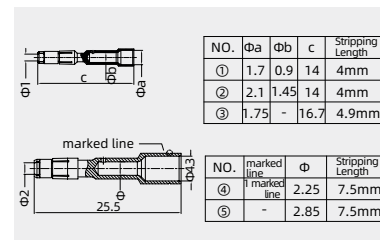


NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.03-0.34	M23-FC9G-0.34	101 031 220 2501
②	0.14-1.0	M23-FC9G-1.0	101 031 220 0801
③	0.5-1.5	M23-FC9G-1.5	101 031 220 0901

30A



④	0.35-2.5	M23-FC30G-2.5	101 032 220 1001
⑤	2.5-4.0	M23-FC30G-4.0	101 032 220 1201



## Tools

Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## Circular Connector M23

630/250V 30/9A

## Technical characteristics

Specifications				
Specifications	DIN EN 60 664 DIN EN 61 984			
Approvals				
Electrical data		Mechanical data		
Number of contacts	6(5+PE)      8(4+3+PE)	Housing material	CuZn,Zinc(GD-Zn)	
Contacts	5+PE      4      3+PE	Housing surface	Nickel-plated	
ContactsΦ(mm)	2      1      2	Insulating bodies	Polyamide	
mm <sup>2</sup> /AWG	0.1...4.0/28-12    0.03...1.0/32-18    0.1...4.0/28-12	Contact material	copper alloy	
Rated current(25°C)	30      9      30	Contact surface	gold plated	
Rated voltage	630      250      630	Terminal	Crimp version	
Test voltage Urms (AC)	6kV      4kV      6kV	Gasket and O ring	Fluorine rubber	
Overvoltage categorie	III	Ambient temperature	-40°C ...+130°C	
Pollution degree	3	Connector locking system	M23screw	
		Mechanical operation	> 500	
		Degree of protection	IP67	

## Male, Crimp terminal

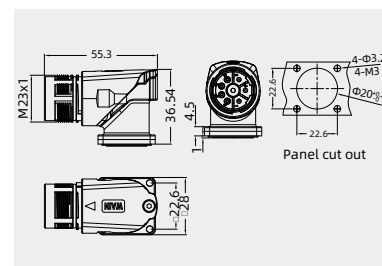
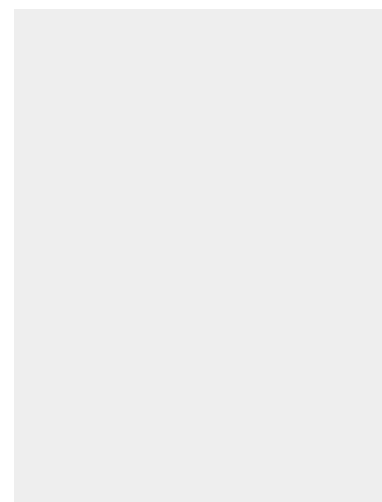
order crimp contacts separately

Elbow without rotated function

Recommended use use



Contacts	Designation	Order No.
6(5+PE)	M23-MC06-BK28-SE	166 006 610 1002
8(4+3+PE)	M23-MC04/4-BK28-SE	166 008 610 1002



## Crimp contacts

## Crimp contacts 9A/30A

	NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
9A	①	0.03-0.34	M23-MC9G-0.34	101 031 210 2501
	②	0.14-1.0	M23-MC9G-1.0	101 031 210 0801
30A	③	0.1-0.5	M23-MC30G-0.5	101 032 210 0401
	④	0.35-2.5	M23-MC30G-2.5	101 032 210 1001
	⑤	2.5-4.0	M23-MC30G-4.0	101 032 210 1201

NO.	Φa	Φb	Stripping Length
①	1.7	0.9	4mm
②	2.1	1.45	4mm

NO.	Φa	Φb	c	Stripping Length
①	1.7	0.9	14	4mm
②	2.1	1.45	14	4mm
③	1.75	-	16.7	4.9mm

## Tools

Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## Circular Connector M23

630/250V 30/9A

## Technical characteristics

Specifications				
Specifications	DIN EN 60 664			
	DIN EN 61 984			
Approvals				
Electrical data		Mechanical data		
Number of contacts	6(5+PE)      8(4+3+PE)	Housing material	CuZn,Zinc(GD-Zn)	
Contacts	5+PE      4      3+PE	Housing surface	Nickel-plated	
ContactsΦ(mm)	2      1      2	Insulating bodies	Polyamide	
mm <sup>2</sup> /AWG	0.1...4.0/28-12    0.03...1.0/32-18    0.1...4.0/28-12	Contact material	copper alloy	
Rated current(25°C)	30      9      30	Contact surface	gold plated	
Rated voltage	630      250      630	Terminal	Crimp version	
Test voltage Urms (AC)	6kV      4kV      6kV	Gasket and O ring	Fluorine rubber	
Overvoltage categorie	III      III	Ambient temperature	-40°C ...+130°C	
Pollution degree	3      3	Connector locking system	M23screw	
		Mechanical operation	> 500	
		Degree of protection	IP67	

## Male, Crimp terminal

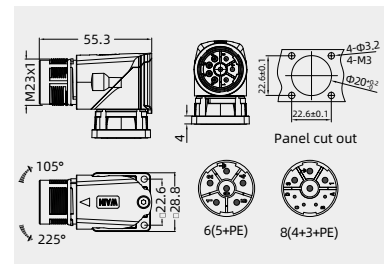
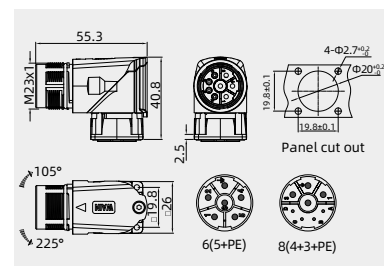
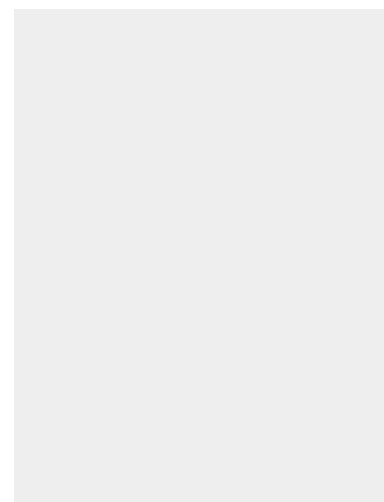
order crimp contacts separately  
Elbow with rotated function

Contacts	Designation	Order No.
6(5+PE)	M23-MC06-BKP26-SE-OD2.7	166 006 610 1003
8(4+3+PE)	M23-MC04/4-BKP26-SE-OD2.7	166 008 610 1011

## Male, Crimp terminal

order crimp contacts separately  
Elbow with rotated function

Contacts	Designation	Order No.
6(5+PE)	M23-MC06-BKP28.8-SE	166 006 310 1003
8(4+3+PE)	M23-MC04/4-BKP28.8-SE	166 008 310 1003



## Crimp contacts

## Crimp contacts 9A/30A



NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.03-0.34	M23-MC9G-0.34	101 031 210 2501
②	0.14-1.0	M23-MC9G-1.0	101 031 210 0801
③	0.1-0.5	M23-MC30G-0.5	101 032 210 0401
④	0.35-2.5	M23-MC30G-2.5	101 032 210 1001
⑤	2.5-4.0	M23-MC30G-4.0	101 032 210 1201

NO.	Φa	Φb	Stripping Length
①	1.7	0.9	4mm
②	2.1	1.45	4mm

NO.	Φa	Φb	c	Stripping Length
①	1.7	0.9	14	4mm
②	2.1	1.45	14	4mm
③	1.75	-	16.7	4.9mm

## Tools

Crimping tool



Wire gauge	Designation	Order No.
0.14-4 mm <sup>2</sup>	TL28-2	198 001 001 0039

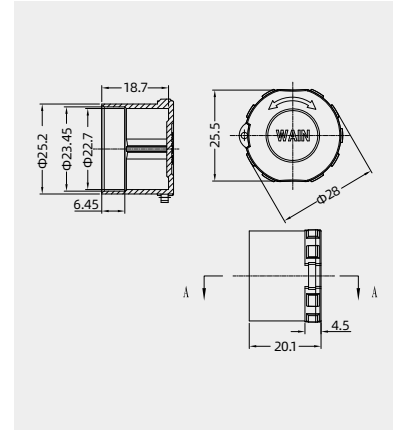
Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## Accessories

## Protection cap IP67

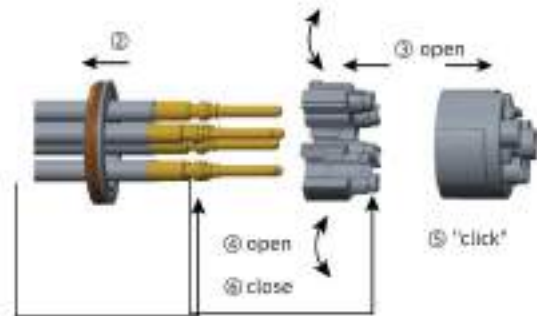
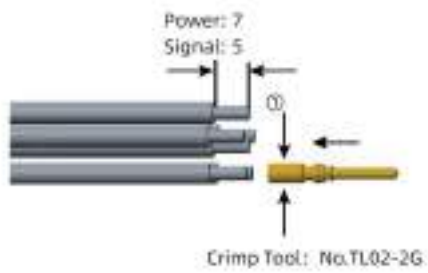
Protection covers  
for male cable connector

Description	Designation	Order No.
Black	M23-CV-F	266 000 000 9001
transparent	M23-CV-F3	166 000 000 9001



- Operating Instruction (Serie M23 Socket male)

- Installation Step

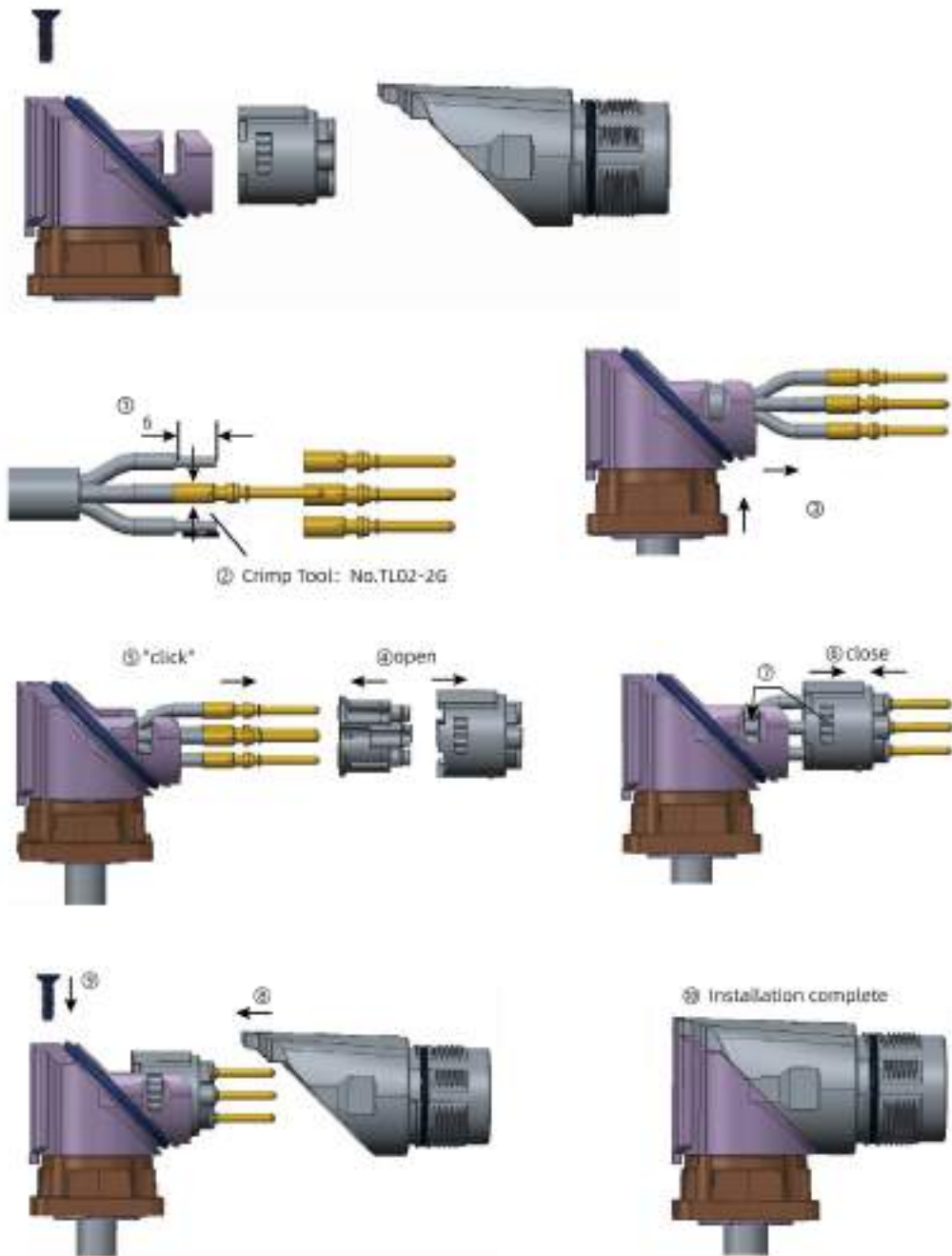


⑩ Installation complete



- Operating Instruction(Power Motor connector)

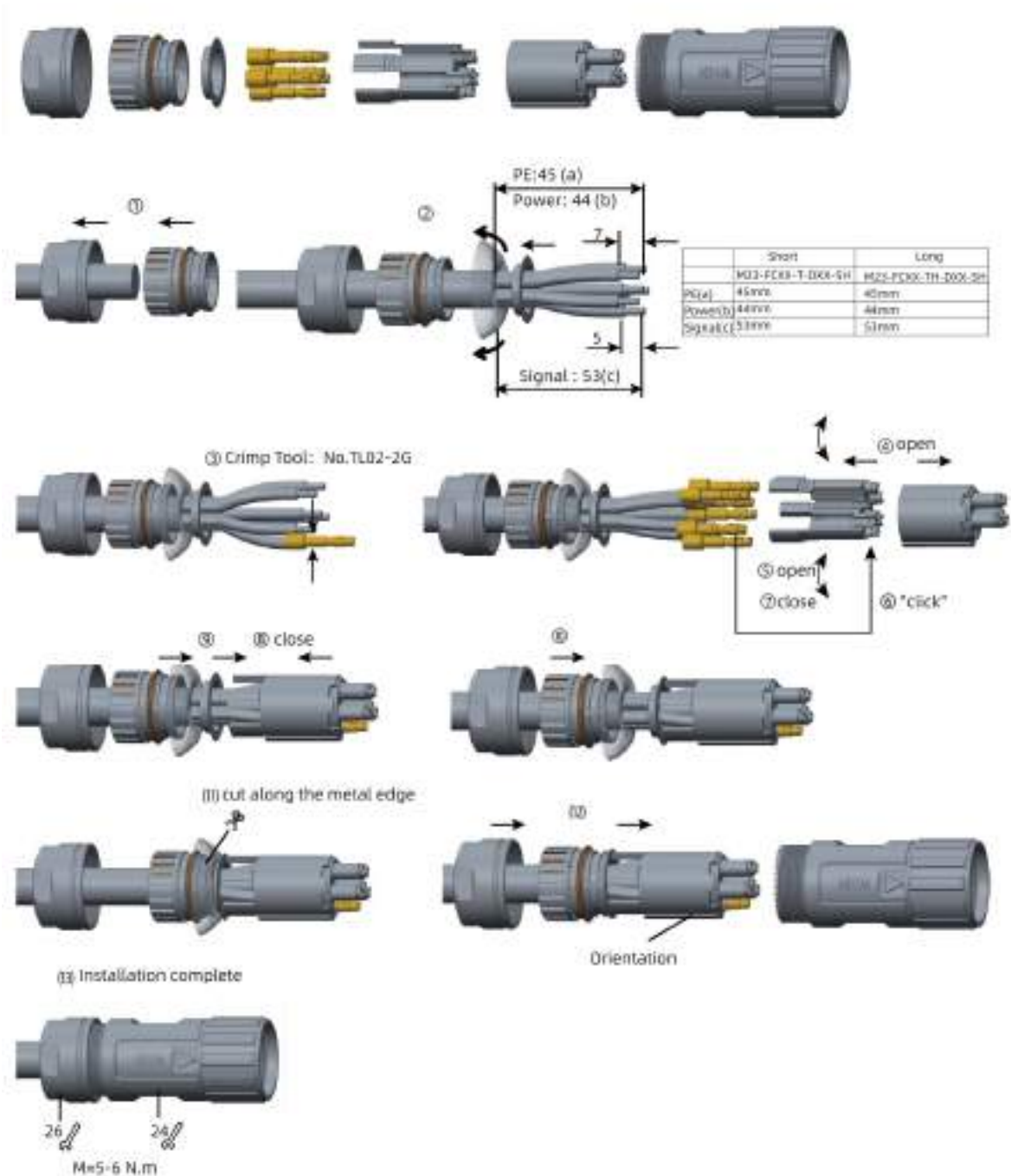
- Installation Step





• Operating Instruction (Serie M23 Plug female)

• Installation Step



## M40 Circular power connectors



M40

## Circular Connector M40

250/630V 30/75A

## Technical characteristics

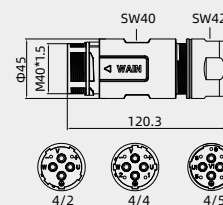
Specifications	
Specifications	DIN EN 60 664 DIN EN 61 984
Approvals	
Electrical data	
Number of contacts	4/2, 4/4, 4/5
Electrical properties	
-Rated current	75A (power) 30A (signal)
-Rated voltage	630V (power) 250V (signal)
-Rated impulse voltage	6000V (power) 4000V (signal)
-Contact resistance	$\phi 3.6$ (power): $\leq 1 \text{ m}\Omega$ $\phi 2$ (signal): $\leq 3 \text{ m}\Omega$
Material and finish	
-Housing material	copper alloyNickel-plated, zinc alloyNickel-plated
-contact	copper alloygold plated
-Insulating material	PA
-Sealing element	FKM
Mechanical properties	
-Mechanical working life	$\geq 500$ 次
-Lock mode	M40 $\times$ 1.5
-Cable and outlet diameter	$\phi 7$ - $\phi 25$
Environmental performance	
-Limiting temperature	-40°C ...+130°C
-Degree of protection	IP67
-Pollution degree	3

## Crimp terminal

Order crimp contacts separately



Contacts	Cable outlet	Designation	Order No.
6(5+PE)	7-9mm	M40-MC04/2-T-D9-SH	170 006 410 2002
	9-16mm	M40-MC04/2-T-D16-SH	170 006 410 2001
	16.5-25mm	M40-MC04/2-T-D25-SH	170 006 410 2003
7-9mm	7-9mm	M40-MC04/4-T-D9-SH	170 008 410 2001
	9-16mm	M40-MC04/4-T-D16-SH	170 008 430 2001
	16.5-25mm	M40-MC04/4-T-D25-SH	170 008 410 2003
9-16mm	7-9mm	M40-MC04/5-T-D9-SH	170 009 410 2001
	9-16mm	M40-MC04/5-T-D16-SH	170 009 410 2002
	16.5-25mm	M40-MC04/5-T-D25-SH	170 009 410 2003



## Accessories

## 30A/75ACrimp contacts

signal



power



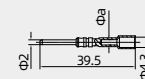
NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.35-2.5	M40-MCL30G-2.5	101 032 210 1012
②	2.5-4.0	M40-MCL30G-4.0	101 032 210 1202
③	1.5-4/6-10	M40-MCL75G-10	101 034 210 1401
④	6-10/10-16	M40-MCL75G-16	101 034 210 1501

## Tools

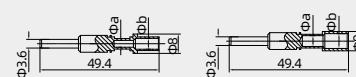
Crimping tool



Wire gauge	Designation	Order No.
0.14-4mm <sup>2</sup>	TL28-2	198 001 001 0039
1.5-10mm <sup>2</sup>	TL28-3	198 001 001 0040



NO.	$\Phi a$	Stripping Length
①	$\Phi 2.25$	7 mm
②	$\Phi 2.85$	7 mm



NO.	$\Phi a$	$\Phi b$	Stripping Length
③	$\Phi 2.85$	$\Phi 4.5$	9 mm
④	$\Phi 4.5$	$\Phi 6.1$	9 mm

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## Circular Connector M40

250/630V 30/75A

## Technical characteristics

Specifications			
Specifications	DIN EN 60 664		
	DIN EN 61 984		
Approvals			
Electrical data			
Number of contacts	4/2, 4/4, 4/5		
Electrical properties			
-Rated current	75A (power)		
	30A (signal)		
-Rated voltage	630V (power)		
	250V (signal)		
-Rated impulse voltage	6000V (power)		
	4000V (signal)		
-Contact resistance	$\phi 3.6$ (power): $\leq 1 \text{ m}\Omega$		
	$\phi 2$ (signal): $\leq 3 \text{ m}\Omega$		
Material and finish			
-Housing material	copper alloyNickel-plated, zinc alloyNickel-plated		
-contact	copper alloygold plated		
-Insulating material	PA		
-Sealing element	FKM		

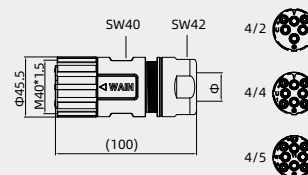
M40

## Crimp terminal

Order crimp contacts separately



Insert	Cable outlet	Designation	Order No.
Female	7-9mm	M40-FC04/2-T-D9-SH	170 004 420 2005
	9-16mm	M40-FC04/2-T-D16-SH	170 004 420 2001
	16.5-25mm	M40-FC04/2-T-D25-SH	170 004 420 2004
	7-9mm	M40-FC04/4-T-D9-SH	170 008 420 2010
	9-16mm	M40-FC04/4-T-D16-SH	170 008 420 2004
	16.5-25mm	M40-FC04/4-T-D25-SH	170 008 420 2005
	7-9mm	M40-FC04/5-T-D9-SH	170 009 420 2007
	9-16mm	M40-FC04/5-T-D16-SH	170 009 420 2001
	16.5-25mm	M40-FC04/5-T-D25-SH	170 009 420 2006



## Accessories

## Crimp contacts 30A/75A

signal



power



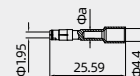
NO.	Wire gauge(mm <sup>2</sup> )	Female	Order No.
①	0.35-2.5	M23-FC30G-2.5	101 032 220 1001
②	2.5-4.0	M23-FC30G-4.0	101 032 220 1201
③	1.5-4/6-10	M40-FC75G-10	101 034 220 1401
④	6-10/10-16	M40-FC75G-16	101 024 220 1501

## Tools

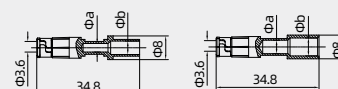
Crimping tool



Wire gauge	Designation	Order No.
0.14-4mm <sup>2</sup>	TL28-2	198 001 001 0039
1.5-10mm <sup>2</sup>	TL28-3	198 001 001 0040



NO.	Φa	Stripping Length
①	Φ2.25	7 mm
②	Φ2.85	7 mm



NO.	Φa	Φb	Stripping Length
③	Φ2.85	Φ4.5	9 mm
④	Φ4.5	Φ6.1	9 mm

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## Circular Connector M40

250/630V 30/65A

## Technical characteristics

Specifications			
Specifications	DIN EN 60 664 DIN EN 61 984		
Approvals			
Electrical data		Mechanical properties	
Number of contacts	4/2, 4/4, 4/5	-Mechanical working life	≥ 500 次
Electrical properties		-Lock mode	M40×1.5
-Rated current	65A (power) 30A (signal)	-Cable and outlet diameter	φ22
-Rated voltage	630V (power) 250V (signal)	Environmental performance	
-Rated impulse voltage	6000V (power) 4000V (signal)	-Limiting temperature	-40°C ...+130°C
-Contact resistance	φ3.6(power): ≤ 1 mΩ φ2 (signal): ≤ 3 mΩ	-Degree of protection	IP67
		-Pollution degree	3
Material and finish			
-Housing material	copper alloyNickel-plated, zinc alloyNickel-plated		
-contact	copper alloygold plated		
-Insulating material	PA		
-Sealing element	FKM		

## Crimp terminal

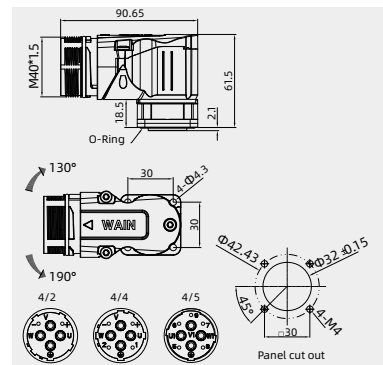
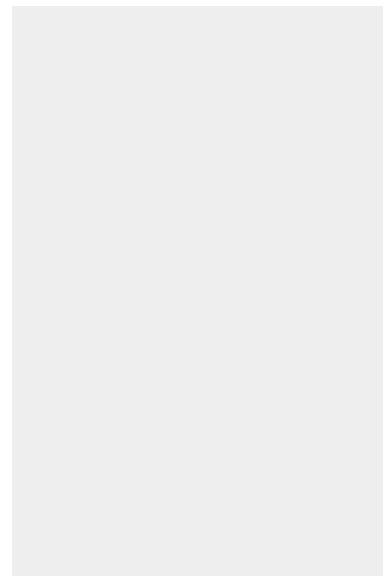
order crimp contacts separately

Rotation type

After fixing, the angle can be rotated up to 320°.



Insert	Cable outlet	Designation	Order No.
Male	φ22	M40-MC04/2-BKP40-SE	170 006 410 1006
	φ22	M40-MC04/4-BKP40-SE	170 008 610 1002
	φ22	M40-MC04/5-BKP40-SE	170 009 610 3001



## Accessories

## Crimp contacts 30A/75A

signal



power



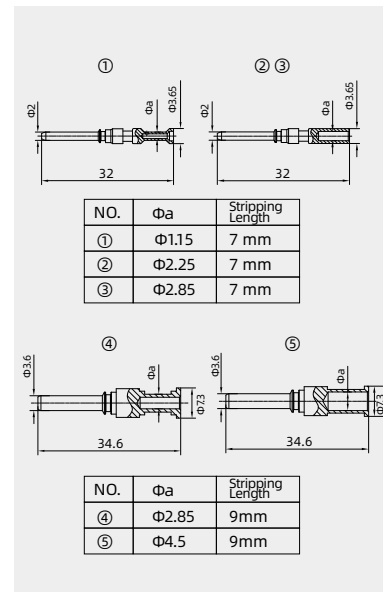
NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.1-0.5	M40-MC30G-0.5	101 032 210 0402
②	0.35-2.5	M40-MC30G-2.5	101 032 210 1013
③	2.5-4.0	M40-MC30G-4.0	101 032 210 1203
④	1.5-4.0	M40-MC75G-4.0	101 034 210 1201
⑤	6-10	M40-MC75G-10	101 034 210 1402

## Tools

Crimping tool



Wire gauge	Designation	Order No.
0.14-4mm <sup>2</sup>	TL28-2	198 001 001 0039
1.5-10mm <sup>2</sup>	TL28-3	198 001 001 0040



Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## Circular Connector M40

250/630V 30/65A

## Technical characteristics

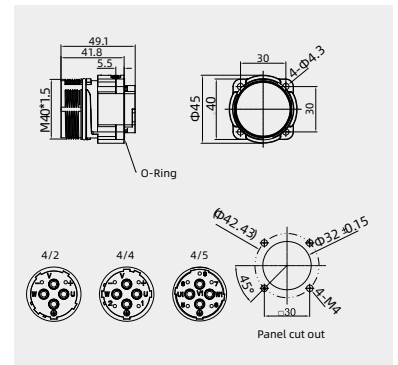
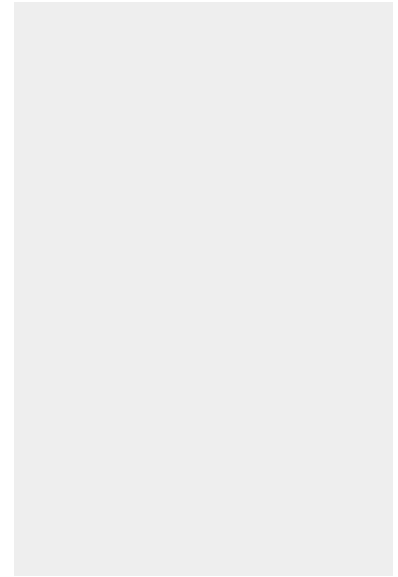
Specifications			
Specifications	DIN EN 60 664 DIN EN 61 984		
Approvals		Mechanical properties	
Electrical data		-Mechanical working life	≥ 500 次
Number of contacts	4/2、4/4、4/5	-Lock mode	M40×1.5
Electrical properties		Environmental performance	
-Rated current	65A (power) 30A (signal)	-Limiting temperature	-40°C ...+130°C
-Rated voltage	630V (power) 250V (signal)	-Degree of protection	IP67
-Rated impulse voltage	6000V (power) 4000V (signal)	-Pollution degree	3
-Contact resistance	φ3.6(power): ≤ 1 mΩ φ2 (signal): ≤ 3 mΩ		
Material and finish			
-Housing material	copper alloyNickel-plated、zinc alloyNickel-plated		
-contact	copper alloygold plated		
-Insulating material	PA		
-Sealing element	FKM		

## Crimp terminal

order crimp contacts separately  
Stationary type,Elbow without rotated  
function



Insert	Designation	Order No.
Male	M40-MC04/2-BK40	170 006 310 1001
	M40-MC04/4-BK40	170 008 310 3001
	M40-MC04/5-BK40	170 009 310 3001



## Accessories

## Crimp terminal

signal



power contact



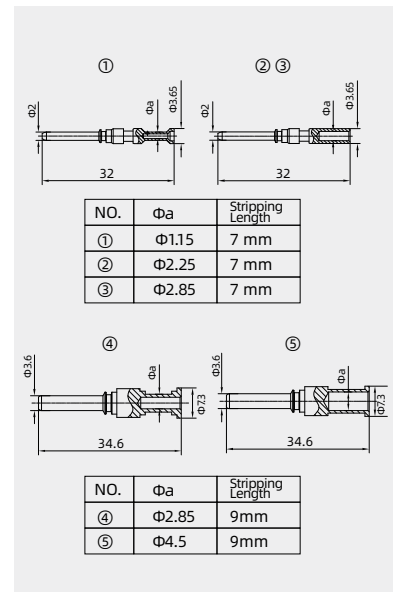
NO.	Wire gauge(mm <sup>2</sup> )	Male	Order No.
①	0.1-0.5	M40-MC30G-0.5	101 032 210 0402
②	0.35-2.5	M40-MC30G-2.5	101 032 210 1013
③	2.5-4.0	M40-MC30G-4.0	101 032 210 1203
④	1.5-4.0	M40-MC75G-4.0	101 034 210 1201
⑤	6-10	M40-MC75G-10	101 034 210 1402

## Tools

Crimping tool



Wire gauge	Designation	Order No.
0.14-4mm <sup>2</sup>	TL28-2	198 001 001 0039
1.5-10mm <sup>2</sup>	TL28-3	198 001 001 0040



Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.



## Circular Connector M40

250/630V 20/63A

## Technical characteristics

Specifications			
Specifications	DIN EN 60 664		
	DIN EN 61 984		
Approvals			
Electrical data			
Number of contacts	4/4	<b>Mechanical properties</b>	
<b>Electrical properties</b>		-Mechanical working life	≥ 500 次
-Rated current	63A (power)	-Lock mode	Thread locking
	20A (signal)	-Cable and outlet diameter	φ19-21.5
-Rated voltage	630V (power)	Environmental performance	
	250V (signal)	-Limiting temperature	-40°C ...+130°C
-Rated impulse voltage	6000V (power)	-Degree of protection	IP67
	4000V (signal)	-Pollution degree	3
-Contact resistance	φ3.6(power): ≤ 1 mΩ		
	φ2 (signal): ≤ 3 mΩ		
Material and finish			
-Housing material	copper alloyNickel-plated, zinc alloyNickel-plated		
-contact	copper alloygold plated		
-Insulating material	PA		
-Sealing element	FKM		

## Crimp terminal

order crimp contacts separately  
Stationary type, Elbow without rotated function



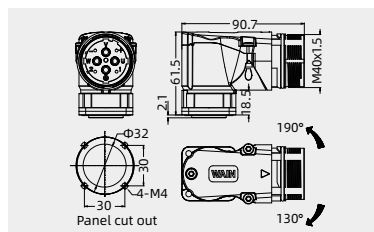
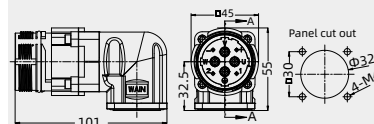
Insert	Designation	Order No.
Male	M40-MC04/4-BK-SE	170 008 610 1001

## Crimp terminal

order crimp contacts separately  
Rotation type  
After fixing, the angle can be rotated up to 320°.



Insert	Designation	Order No.
Male	M40-MC04/4-BKP-SE	170 008 610 1011



## Accessories

## Crimp contacts

signal



NO.	Male	Order No.
①	M40-AMC30G-1.0	101 032 210 0811
②	M40-AMC30G-1.5	101 032 210 0911
③	M40-AMC30G-2.5	101 032 210 1011
④	M40-AMC75G-4	101 024 210 1201
⑤	M40-AMC75G-6	101 024 210 1301
⑥	M40-AMC75G-10	101 024 210 1401

power



## Tools

## Crimping tool

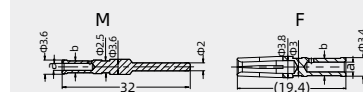


Wire gauge	Designation	Order No.
0.14-4mm <sup>2</sup>	TL28-2	198 001 001 0039
1.5-10mm <sup>2</sup>	TL28-3	198 001 001 0040

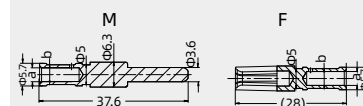
## Contact removal tool



Application	Designation	Order No.
for crimp contacts 75A	M40-TL01	198 001 000 0027
for crimp contacts 30A	M40-TL02	198 001 000 0028



NO.	wire gauge	Stripping Length	a	b
①	1 mm <sup>2</sup>	7 mm	φ1.45	φ2.6
②	1.5 mm <sup>2</sup>	7 mm	φ1.75	φ3/φ3.1
③	2.5 mm <sup>2</sup>	7 mm	φ2.25	φ3.4



NO.	wire gauge	Stripping Length	a	b
④	4 mm <sup>2</sup>	10 mm	φ2.85	φ3.9
⑤	6 mm <sup>2</sup>	10 mm	φ3.5	φ5
⑥	10 mm <sup>2</sup>	10 mm	φ4.5	φ5.7

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.



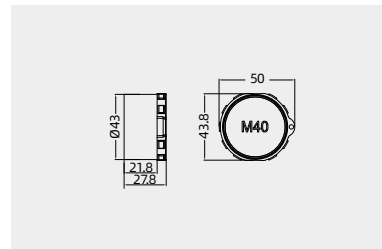
## Accessories

## Protection covers IP67

## M40 Protection cover



Description	Designation	Order No.
Dustproof	M40-CV-F1	170 000 001 9502
	M40-CV-F2	170 000 001 9503

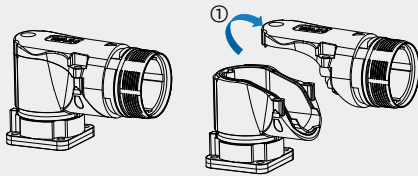


M40

## Circular Connector M40

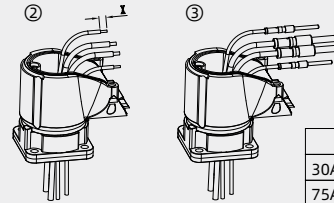
- M40-MC04/4-BKP-SE Power connector

1: Open the upper cover horizontally



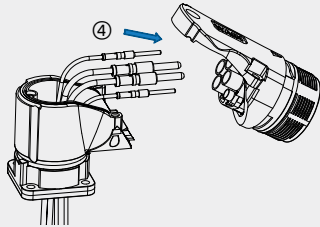
2: pin wiring

- The cable passes through the fixed base.
- Strip the wire insulation husk, and then weld pin to the wire.

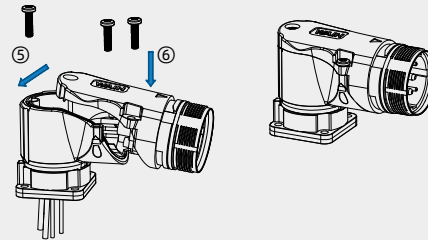


	Stripping length(X)
30A	7 mm
75A	10 mm

3: Insert the pins to the corresponding insert holes in order.



4: Lock the upper cover, and fasten the screws. The installation is completed.





## Q38 Multi-pin Connectors For Vehicle



Q38

## Circular Connector Q38

250V 30/13A

## Technical characteristics

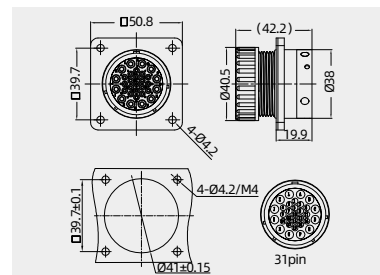
Specifications			
Specifications	DIN EN 60 664 DIN EN 61 984		
Electrical data		Mechanical properties	
Number of contacts	12+19	-Mechanical working life	≥ 500 次
Electrical properties		-Lock mode	Quick connect card slot
-Rated current	30A (power) 13A (signal)	Environmental performance	
-Rated voltage	250V	-Working temperature	-55°C ...+105°C
-Rated impulse voltage	2000V	-Degree of Protection	IP67
Material and finish		-Pollution degree	3
-Hoods/Housings	The copper alloy plating nickel / PA		
-contact	Gold-plated copper alloy		
-Insulating material	PA		
-Sealing element	FKM, silica gel		

## Male, Crimp terminal

Order crimp contacts separately



Contacts	Designation	Order No.
12+19	Q38-MC12/19-BK40-D29	174 031 310 3500

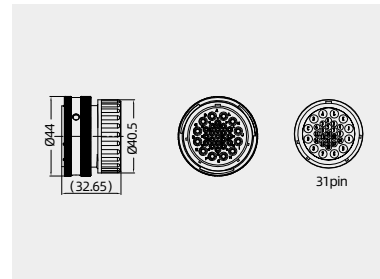


## Female, Crimp terminal

Order crimp contacts separately



Contacts	Designation	Order No.
12+19	Q38-FC12/19-T-D29	174 031 420 3500



## Accessories

## Crimp contacts

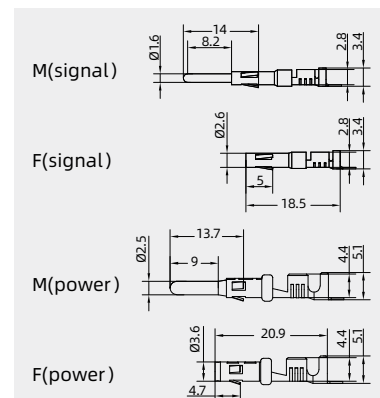
signal



power



NO.	Male	Order No.	Female	Order No.
①	Q38-MC13G-1.5	2010413100901	Q38-FC13G-1.5	2010413200901
②	Q38-MC30G-2.5	2010323101001	Q38-FC30G-2.5	2010323201001



## Circular Connector Q38

250V 30/13A

## Technical characteristics

Specifications			
Specifications	DIN EN 60 664 DIN EN 61 984		
Electrical data		Mechanical properties	
Number of contacts	32 (28+4)	-Mechanical working life	≥ 500 次
Electrical properties		-Lock mode	Quick connect card slot
-Rated current	30A (power) 13A (signal)	Environmental performance	
-Rated voltage	250V	-Working temperature	-55°C ...+105°C
-Rated impulse voltage	2000V	-Degree of Protection	IP67
Material and finish		-Pollution degree	3
-Hoods/Housings	The copper alloy plating nickel / PA		
-contact	Gold-plated copper alloy		
-Insulating material	PA		
-Sealing element	FKM, silica gel		

Q38

## Male, Crimp terminal

Order crimp contacts separately

Contacts	Designation	Order No.
32(28+4)	Q38-MC04/28-BK40-D29	174 032 310 3500



## Male, Crimp terminal

Order crimp contacts separately

Contacts	Designation	Order No.
32(28+4)	Q38-MC04/28-CCT/R-D29	174 032 310 3501



## Accessories

## Crimp contacts

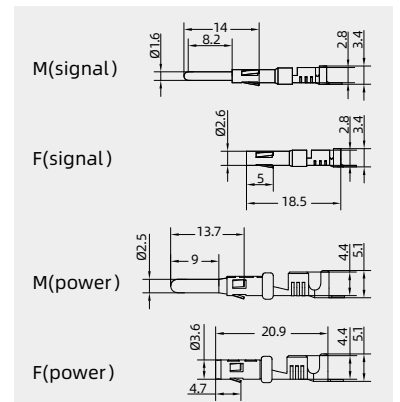
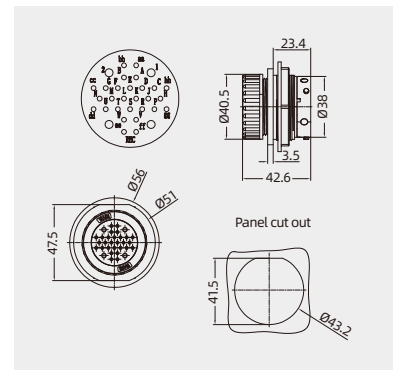
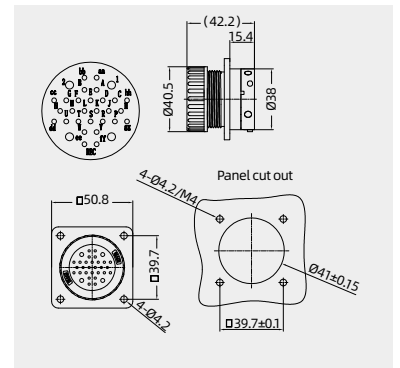
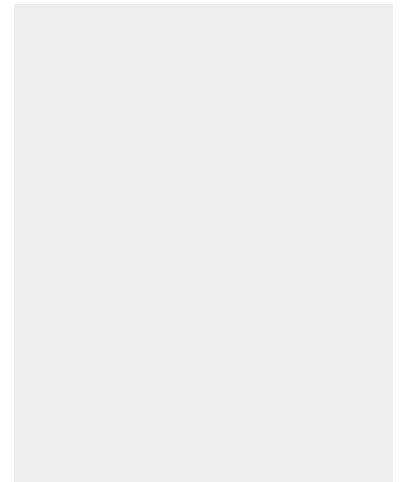
signal

NO.	Male	Order No.	Female	Order No.
①	Q38-MC13G-1.5	2010413100901	Q38-FC13G-1.5	2010413200901
②	Q38-MC30G-2.5	2010323101001	Q38-FC30G-2.5	2010323201001

power



25Q-03 WAIN ELECTRICAL



## Circular Connector Q38

250V 30/13A

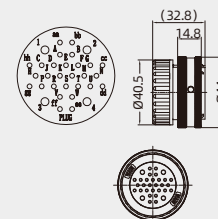
## Technical characteristics

Specifications			
Specifications	DIN EN 60 664 DIN EN 61 984		
Electrical data		Mechanical properties	
Number of contacts	32 (28+4)	-Mechanical working life	$\geq 500$ 次
Electrical properties		-Lock mode	Quick connect card slot
-Rated current	30A (power) 13A (signal)	Environmental performance	
-Rated voltage	250V	-Working temperature	-55°C ...+105°C
-Rated impulse voltage	2000V	-Degree of Protection	IP67
Material and finish		-Pollution degree	3
-Hoods/Housings	The copper alloy plating nickel / PA		
-contact	Gold-plated copper alloy		
-Insulating material	PA		
-Sealing element	FKM, silica gel		

## Female, Crimp terminal

Order crimp contacts separately

Contacts	Designation	Order No.
32(28+4)	Q38-FC04/28-T-D29	174 032 320 3500



## Accessories

## Crimp contacts

signal

NO.	Male	Order No.	Female	Order No.
①	Q38-MC13G-1.5	2010413100901	Q38-FC13G-1.5	2010413200901
②	Q38-MC30G-2.5	2010323101001	Q38-FC30G-2.5	2010323201001

power

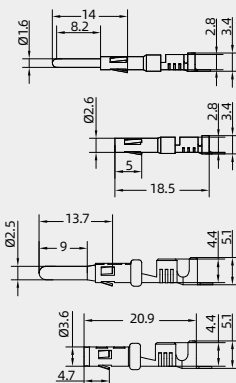


M(signal)

F(signal)

M(power)

F(power)



## Circular Connector Q38

250V 13A

## Technical characteristics

Specifications			
Specifications	DIN EN 60 664 DIN EN 61 984		
Electrical data		Mechanical properties	
Number of contacts	48	-Mechanical working life	$\geq 500$ 次
Electrical properties		-Lock mode	Quick connect card slot
-Rated current	13A (signal)	Environmental performance	
-Rated voltage	250V	-Working temperature	-55°C ...+105°C
-Rated impulse voltage	2000V	-Degree of Protection	IP67
Material and finish		-Pollution degree	3
-Hoods/Housings	The copper alloy plating nickel / PA		
-contact	Gold-plated copper alloy		
-Insulating material	PA		
-Sealing element	FKM, silica gel		

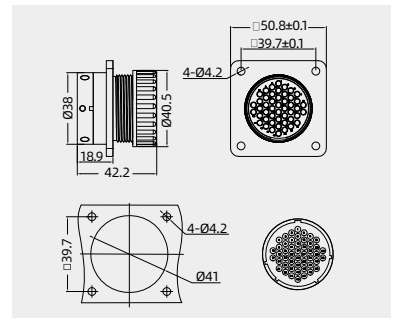
Q38

## Male, Crimp terminal

Order crimp contacts separately



Contacts	Designation	Order No.
48	Q38-MC48-BK40-D29	174 048 310 3501

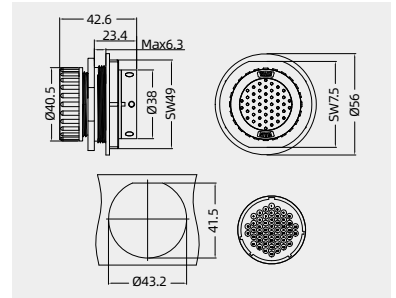


## Male, Crimp terminal

Order crimp contacts separately



Contacts	Designation	Order No.
48	Q38-MC48-CCT/R-D29	174 048 310 3500



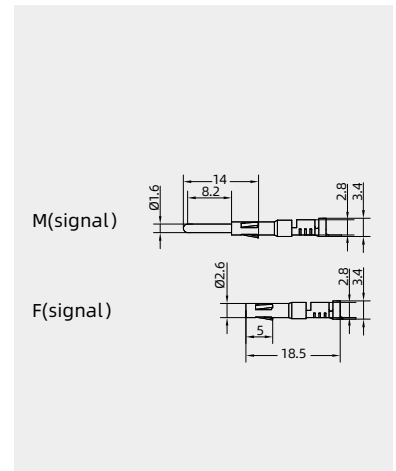
## Accessories

## Crimp contacts

signal



NO.	Male	Order No.	Female	Order No.
①	Q38-MC13G-1.5	2010413100901	Q38-FC13G-1.5	2010413200901





## Circular Connector Q38

250V 13A

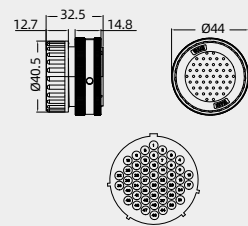
## Technical characteristics

Specifications			
Specifications	DIN EN 60 664 DIN EN 61 984		
Electrical data		Mechanical properties	
Number of contacts	48	-Mechanical working life	≥ 500 次
Electrical properties		-Lock mode	Quick connect card slot
-Rated current	13A (signal)	Environmental performance	
-Rated voltage	250V	-Working temperature	-55°C ...+105°C
-Rated impulse voltage	2000V	-Degree of Protection	IP67
Material and finish		-Pollution degree	3
-Hoods/Housings	The copper alloy plating nickel / PA		
-contact	Gold-plated copper alloy		
-Insulating material	PA		
-Sealing element	FKM, silica gel		

## Female, Crimp terminal

Order crimp contacts separately

Contacts	Designation	Order No.
48	Q38-FC48-T-D29	174 048 420 3500

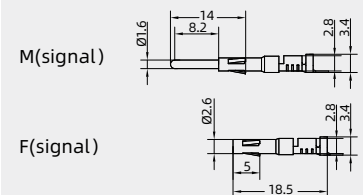


## Accessories

## Crimp contacts

signal

NO.	Male	Order No.	Female	Order No.
①	Q38-MC13G-1.5	2010413100901	Q38-FC13G-1.5	2010413200901



# Power connector(National grid standard)



## Power connector

250V 40A

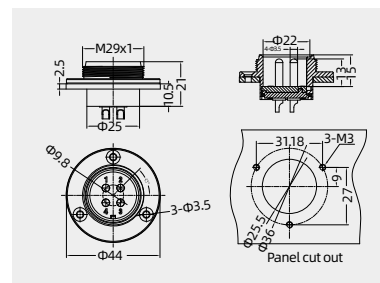
## Technical characteristics

Specifications		
Specifications	DIN EN 60 664 DIN EN 61 984	
Approvals		
Electrical data		Mechanical properties
Number of contacts	4	-Vibration frequency 10~2000Hz, accelerated speed 1.47m/s <sup>2</sup> , instant break ≤ 1us
Electrical properties		-Shock accelerated speed 490m/s <sup>2</sup> , instant break ≤ 1us
-Rated current	40A	-Mechanical working life ≥ 500
-Rated voltage	250V (AC)	-Lock mode Thread locking
-Rated impulse voltage	2kV (AC)	-Cable and outlet diameter 10.5mm
-Insulation resistance	≥ 2000MΩ(normal temperature)	Environmental performance
-Welding wire specifications	plugs 2.0mm2~3.3mm2(Φ2.2mm) socket 2.0mm2~4mm2(Φ2.7mm)	-Relative humidity 90%~95% (40°C ±2°C)
-Contact resistance	≤ 0.75mΩ	-Working temperature -40°C~+105°C
Material and finish		-Salt mist test requirements 5% NaCl neutral steady salt mist 96 h
-Hoods/Housings	The copper alloy plating nickel	-Degree of Protection IP65
-contact	Gold-plated copper alloy	
-Insulating material	Thermosets	
-Sealing element	Rubber	

## Solder terminal



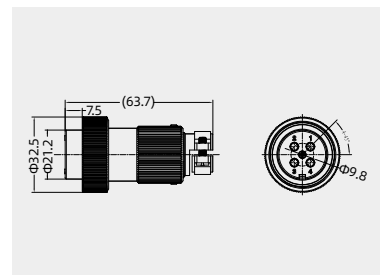
Insert	Designation	Order No.
Male	HY-Z2504-S01E0-GM	169 004 313 1001



## Solder terminal



Insert	Designation	Order No.
Female	HY-T2504-S01E1-GF	169 004 423 1001

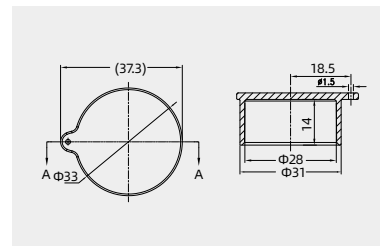


## Accessories

## Protection cover



Description	Designation	Order No.
for male	HY-Z25-CV	269 000 000 9001

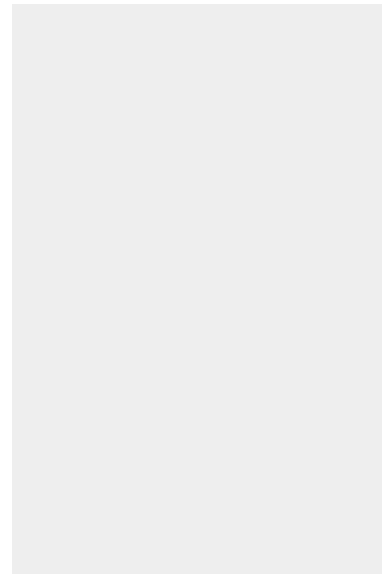


## Power connector

250V 20A

### Technical characteristics

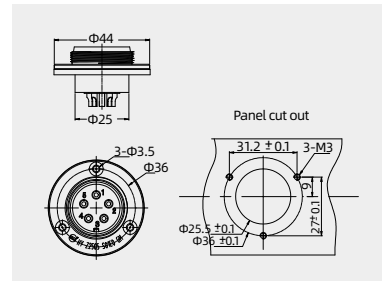
Specifications			
Specifications	DIN EN 60 664 DIN EN 61 984		
Approvals			
Electrical data		Mechanical properties	
Number of contacts	5	-Vibration	frequency 10~2000Hz, accelerated speed 147m/s <sup>2</sup> , instant break ≤ 1us
Electrical properties		-Shock	accelerated speed 490m/s <sup>2</sup> , instant break ≤ 1us
-Rated current	20A	-Mechanical working life	≥ 500
-Rated voltage	250V (AC)	-Lock mode	Thread locking
-Rated impulse voltage	2.0kV(normal temperature) 1.0kV(muggy)	-Cable and outlet diameter	10.5mm
-Insulation resistance	≥ 2000MΩ(normal temperature) ≥ 50 MΩ(muggy)	Environmental performance	
-Contact resistance	≤ 2 mΩ	-Relative humidity	90%~95% (40°C ±2°C)
-Welding wire specifications	Diameter φ1.8mm	-Working temperature	-40°C—+105°C
Material and finish		-Salt mist test requirements	5% NaCl neutral steady salt mist 96 h
-Hoods/Housings	The copper alloy plating nickel	-Degree of Protection	IP65
-contact	Gold-plated copper alloy		
-Insulating material	Thermosets		



### Solder terminal



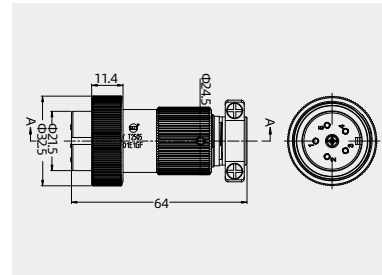
Insert	Designation	Order No.
Male	HY-Z2505-S01E0-GM	169 005 313 1001



### Solder terminal



Insert	Designation	Order No.
Female	HY-T2505-S01E1-GF	169 005 423 1001

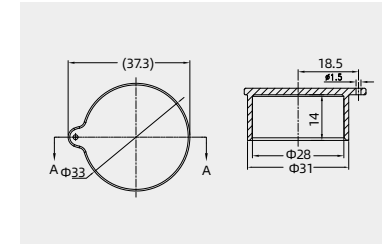


## Accessories

### Protection cover



Description	Designation	Order No.
for male	HY-Z25-CV	269 000 000 9001



## Power connector

250V 25A

## Technical characteristics

Specifications	
Specifications	DIN EN 60 664 DIN EN 61 984
Approvals	
Electrical data	
Number of contacts	6
Electrical properties	
-Rated current	25A
-Rated voltage	250V (AC)
-Rated impulse voltage	2kV (AC)
-Insulation resistance	$\geq 2000\text{M}\Omega$ (normal temperature)
-Contact resistance	$\leq 1\text{m}\Omega$
Material and finish	
-Hoods/Housings	Copper alloy
-contact	Gold-plated copper alloy
-Insulating material	Thermosets
-Sealing element	Rubber
Mechanical properties	
-Vibration	frequency 10~2000Hz, accelerated speed 147m/s <sup>2</sup> , instant break $\leq 1\mu\text{s}$
-Shock	accelerated speed 490m/s <sup>2</sup> , instant break $\leq 1\mu\text{s}$
-Mechanical working life	$\geq 500$
-Lock mode	Thread locking
-Cable and outlet diameter	$\Phi 12.5\text{mm}$
Environmental performance	
-Relative humidity	90%~95% (40°C $\pm 2^\circ\text{C}$ )
-Working temperature	-40°C—+105°C
-Salt mist test requirements	5% NaCl neutral steady salt mist 96 h
-Degree of Protection	IP65

## Crimp terminal

Order crimp contacts separately



Insert	Designation	Order No.
Male	HY-T3006-S01E1-GMC	169 006 410 1001

## Crimp terminal

Order crimp contacts separately

Can match the Protection cover:HY-Z30-CV



Insert	Designation	Order No.
Female	HY-Z3006-S01E0-GFC	169 006 320 1001

## Accessories

## Crimp contacts 25A

Contact resistance  $\leq 1\text{ m}\Omega$   
gold plated

NO.	Male	Order No.	Female	Order No.
①	CYGM25-0.5	101 021 210 0401	CYGF25-0.5	101 021 220 0401
②	CYGM25-0.75	101 021 210 0601	CYGF25-0.75	101 021 220 0601
③	CYGM25-1.0	101 021 210 0801	CYGF25-1.0	101 021 220 0801
④	CYGM25-1.5	101 021 210 0901	CYGF25-1.5	101 021 220 0901
⑤	CYGM25-2.5	101 021 210 1001	CYGF25-2.5	101 021 220 1001
⑥	CYGM25-3.0	101 021 210 1101	CYGF25-3.0	101 021 220 1101

## Tools

## Crimping tool

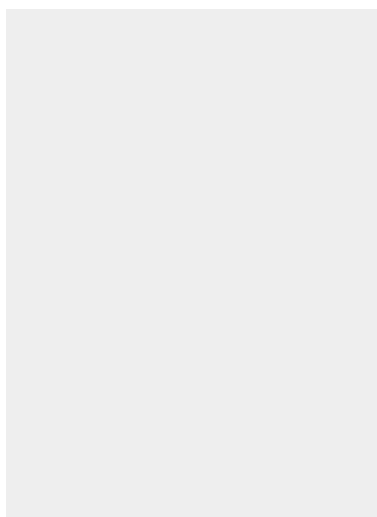


## Contact removal tool

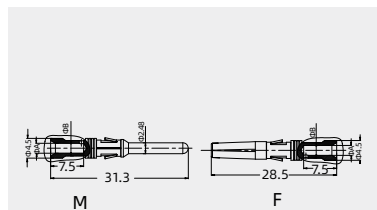
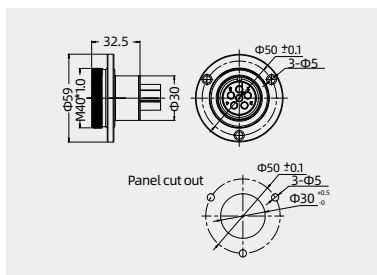
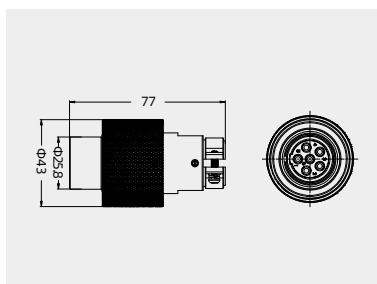


Wire gauge	Designation	Order No.
0.14-4mm <sup>2</sup>	TL02G	198 002 000 0011

Application	Designation	Order No.
for crimp contacts 25A	HY-TL01	198 001 000 0020



power



NO.	Identification	$\Phi A/\text{mm}$	$\Phi B/\text{mm}$	Wire gauge
①	no groove	1.15	2.60	0.5 mm <sup>2</sup> AWG20
②	1 groove	1.30	2.60	0.75 mm <sup>2</sup> AWG18
③	1 groove	1.45	2.60	1.0mm <sup>2</sup> AWG18
④	2 groove	1.75	3.00	1.5 mm <sup>2</sup> AWG16
⑤	3 groove	2.25	3.50	2.5 mm <sup>2</sup> AWG14
⑥	2 groove	2.55	3.75	3.0mm <sup>2</sup> AWG12

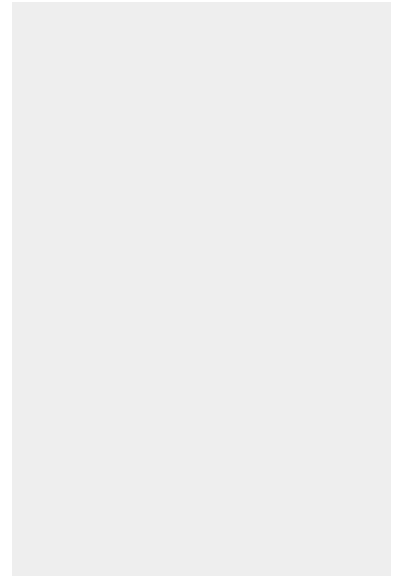
Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## Power connector

250V 40A

## Technical characteristics

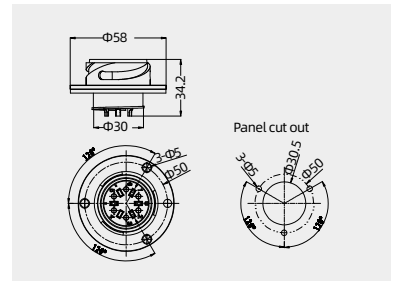
Specifications	
Specifications	DIN EN 60 664 DIN EN 61 984
Approvals	
Electrical data	
Number of contacts	6(The open circuit)
Electrical properties	
-Rated current	40A
-Rated voltage	250V (AC)
-Rated impulse voltage	2kV
-Insulation resistance	$\geq 2000M\Omega$ (normal temperature)
-Contact resistance	$\leq 1m\Omega$
Material and finish	
-Hoods/Housings	The copper alloy plating nickel
-contact	Gold-plated copper alloy
-Insulating material	PA
-Sealing element	Silicone rubber, FKM
Mechanical properties	
-Vibration	frequency10~2000Hz,accelerated speed147m/s <sup>2</sup> , instant break $\leq 1\mu s$
-Shock	accelerated speed 490m/s <sup>2</sup> , instant break $\leq 1\mu s$
-Mechanical working life	$\geq 500$
-Lock mode	Bayonet locking
-Cable and outlet diameter	$\Phi 13mm$
Environmental performance	
-Relative humidity	90%~95% (40°C $\pm 2^\circ C$ )
-Working temperature	-40°C—+105°C
-Salt mist test requirements	5% NaCl neutral steady salt mist 96 h
-Degree of Protection	IP65



## Solder terminal



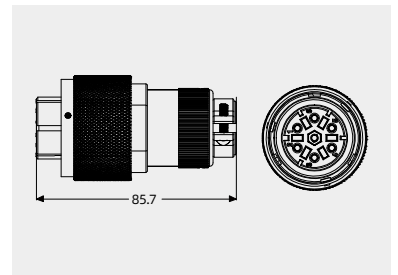
Insert	Designation	Order No.
Male	HY-PZ3006-S01E0-GM	169 006 313 1001



## Solder terminal



Insert	Designation	Order No.
Female	HY-PT3006-S01E1-GF	169 006 423 1001

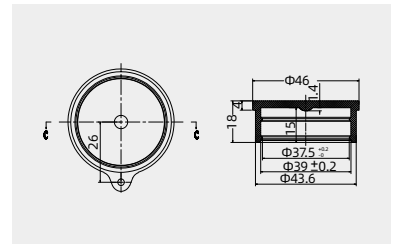


## Accessories

## Protection cover



Description	Designation	Order No.
for male	HY-Z30-CV	269 000 000 9002

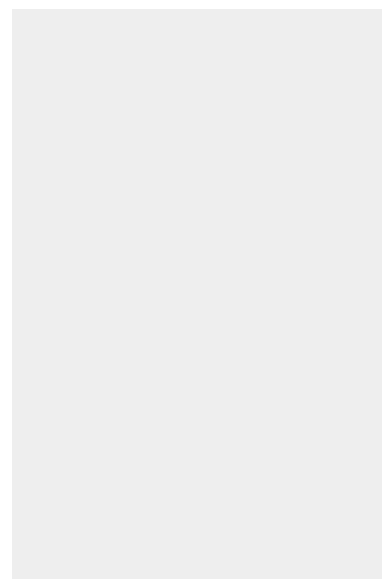


## Power connector

250V 13/20A

## Technical characteristics

Specifications			
Specifications	DIN EN 60 664 DIN EN 61 984		
Approvals			
Electrical data		Mechanical properties	
Number of contacts	10(4+6)	-Vibration	frequency10~2000Hz,accelerated speed147m/s2, instant break ≤ 1us
Electrical properties		-Shock	accelerated speed 490m/s2, instant break ≤ 1us
-Rated current	6X $\phi$ 1.59 : 13A 4X $\phi$ 2 : 20A	-Mechanical working life	≥ 500
-Rated voltage	250V (AC)	-Lock mode	Thread locking
-Rated impulse voltage	2kV	-Cable and outlet diameter	$\phi$ 13mm
-Insulation resistance	≥ 2000M $\Omega$ (normal temperature)	Environmental performance	
-Contact resistance	$\phi$ 1.59 : ≤ 3 m $\Omega$ $\phi$ 2 : ≤ 2 m $\Omega$	-Relative humidity	90%~95% (40°C ±2°C)
-Welding wire specifications	Diameter $\phi$ 1.8mm	-Working temperature	-40°C—+105°C
Material and finish		-Salt mist test requirements	5% NaCl neutral steady salt mist 96 h
-Hoods/Housings	The copper alloy plating nickel	-Degree of Protection	IP65
-contact	Gold-plated copper alloy		
-Insulating material	Thermosets		

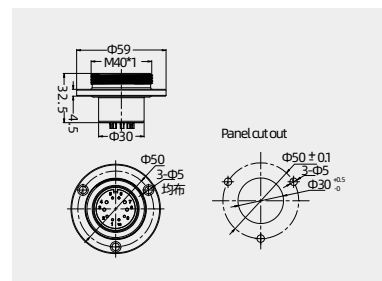


power

## Solder terminal



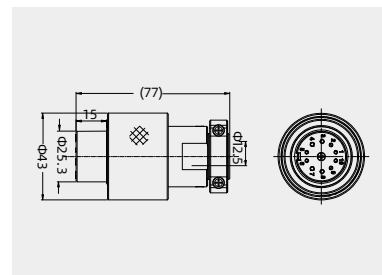
Insert	Designation	Order No.
Male	HY-Z3010-S01E0-GM	169 010 313 1001



## Solder terminal



Insert	Designation	Order No.
Female	HY-T3010-S01E1-GF	169 010 423 1001

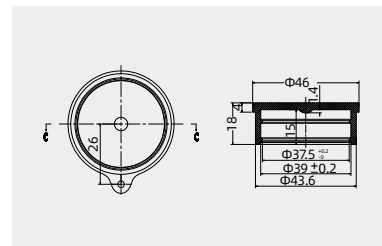


## Accessories

## Protection cover



Description	Designation	Order No.
for male	HY-Z30-CV	269 000 000 9002

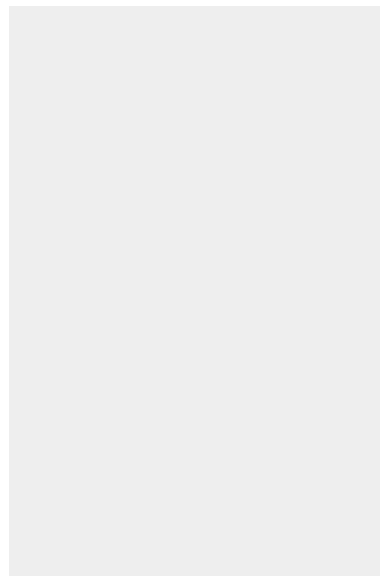


## Power connector

250V 20A

## Technical characteristics

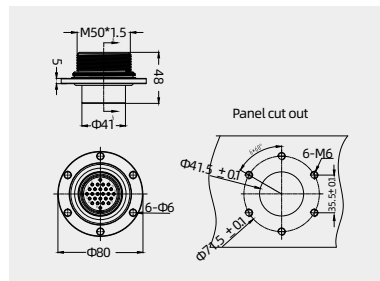
Specifications			
Specifications	DIN EN 60 664		
	DIN EN 61 984		
Approvals			
Electrical data		Mechanical properties	
Number of contacts	26	-Vibration	1frequency10~2000Hz,accelerated speed147m/s <sup>2</sup> , instant break ≤ 1us
Electrical properties		-Shock	accelerated speed 490m/s <sup>2</sup> , instant break ≤ 1us
-Rated current	20A	-Mechanical working life	≥ 500
-Rated voltage	250V (AC)	-Lock mode	Thread locking
-Rated impulse voltage	2kV	-Cable and outlet diameter	Cable duo2*12mm
-Insulation resistance	≥ 2000MΩ(normal temperature)	Environmental performance	
-Contact resistance	≤ 2mΩ	-Relative humidity	90%-95% (40°C ±2°C)
-Welding wire specifications	Diameter φ1.8mm	-Working temperature	-40°C—+105°C
Material and finish		-Salt mist test requirements	5% NaCl neutral steady salt mist
-Hoods/Housings	The copper alloy plating nickel		96 h
-contact	Gold-plated copper alloy	-Degree of Protection	IP65
-Insulating material	Thermosets		
-Insulating material	Silicone rubber, FKM		



## Solder terminal



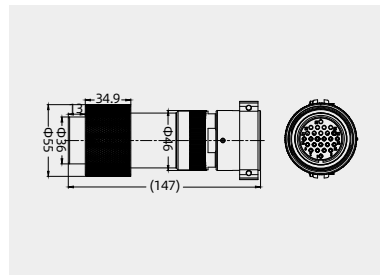
Insert	Designation	Order No.
Male	HY-Z4126-S01E0-GM	169 026 313 1001



## Solder terminal



Insert	Designation	Order No.
Female	HY-T4126-S01E2/12-GF	169 026 423 1001





## Ethernet-Power connector

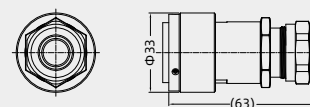
## Technical characteristics

Specifications	
Specifications	DIN EN 60 664 DIN EN 61 984
Approvals	
Electrical data	
Number of contacts	Two sides RJ-45/3pins
Electrical properties	
-Rated current	-/1A
-Rated voltage	-/220V(AC)
-Rated impulse voltage	500V(AC)/1500V(AC)
-Insulation resistance	≥ 500MΩ(normal temperature)
-Contact resistance	≤ 20mΩ/ ≤ 7.5mΩ
-Wire splice	Power line: 1 mm <sup>2</sup>
specification	Reticle: 24 AWG
Material and finish	
-Hoods/Housings	The copper alloy plating chromium
-contact	Gold-plated copper alloy
-Insulating material	Thermosets
Mechanical properties	
-Vibration	1frequency10~2000Hz,accelerated speed147m/s <sup>2</sup> , instant break ≤ 1us
-Shock	accelerated speed 490m/s <sup>2</sup> , instant break ≤ 1us
-Mechanical working life	≥ 500
-Lock mode	Bayonet locking
-Cable and outlet diameter	Φ11.5 mm
Environmental performance	
-Relative humidity	90%-95% (40°C ±2°C)
-Working temperature	-40°C—+105°C
-Salt mist test requirements	5% NaCl neutral steady salt mist 96 h
-Degree of Protection	IP65

## Solder terminal



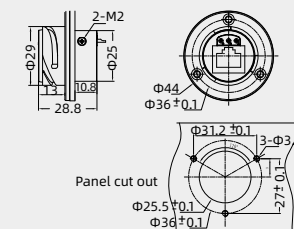
Insert	Designation	Order No.
Male	HY-ET2511-S02E1-GM	169 011 410 1001



## Solder terminal



Insert	Designation	Order No.
Female	HY-EZ2511-S02E0-GF	169 011 323 1001

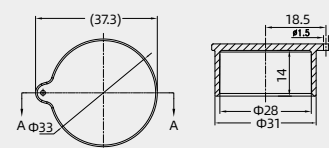


## Accessories

## Protection cover



Description	Designation	Order No.
for male	HY-Z25-CV	269 000 000 9001



## Heavy-current cable butting connector



### Advantages:

- The male plug is provided with a quick-connect nut anti-rotation device to play the role of nut anti-rotation.
- Increase the assembly clearance of pin to prevent damage of connector caused by thermal expansion and cold contraction.
- Add a variety of coding to the insertion of male and female plugs to avoid wrong insertion.
- Color codes distinguish three - phase cables.
- Double crown spring is adopted to increase the contact area of male and female pins.
- Protection against electric shock.
- Add the wire size mark to the pin.

# Heavy-current cable butting connector

1000V 800A

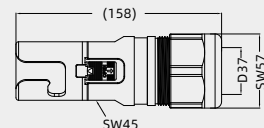
## Technical characteristics

Specifications		Mechanical data	
Specifications	DIN EN 60 664 DIN EN 61 984	Housing material	PA
Approvals		Contact material	Copper alloy
Number of contacts		surface	Hard-gold plated
Electrical parameters:	1	Terminal	Crimp version
Rated current		Gasket and O ring	FPM
Rated voltage	800A	Ambient temperature	-40°C ...+125°C
Test voltage Urms (AC)	1000V	Locking type	Quick lock
Wire gauge	12kV	Mechanical working life	> 100
Surge voltage category	240mm <sup>2</sup>	Degree of protection	IP65
Pollution degree	III	Cable diameter	32-37mm
Pollution degree	3		

### Male,Crimp terminal



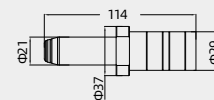
Insert	Designation	Order No.
Male	HW-MC01-T-D37	182 000 410 3001



### Male,Crimp contacts



Wire gauge(mm <sup>2</sup> )	Designation	Order No.
240	HW-MC800S-240	101 035 110 2401



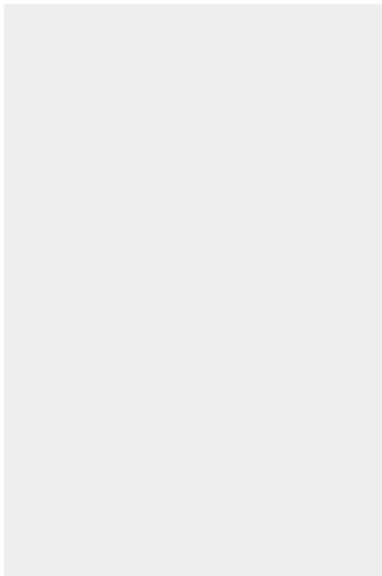
HW

# Heavy-current cable butting connector

1000V 800A

## Technical characteristics

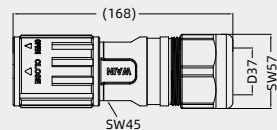
Specifications	
Specifications	DIN EN 60 664 DIN EN 61 984
Approvals	
Electrical data	
Number of contacts	1
Electrical parameters:	
Rated current	800A
Rated voltage	1000V
Test voltage Urms (AC)	12kV
Wire gauge	240mm <sup>2</sup>
Surge voltage category	III
Pollution degree	3
Mechanical data	
Housing material	PA
Contact material	Copper alloy
surface	Hard-gold plated
Terminal	Crimp version
Gasket and O ring	FPM
Ambient temperature	-40°C ...+125°C
Locking type	Quick lock
Mechanical working life	> 100
Degree of protection	IP65
Cable diameter	32-37mm



HW

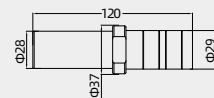
### Female,Crimp terminal

Insert	Designation	Order No.
Female	HW-FC01-T-D37	182 000 420 3001



### Female,Crimp contacts

Wire gauge(mm <sup>2</sup> )	Designation	Order No.
240	HW-FC800S-240	101 035 120 2401



# Assembly instructions

## Installation steps



### Step 1



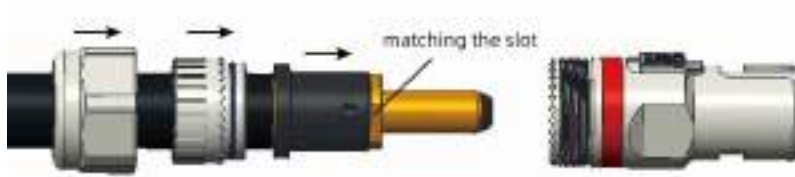
### Step 2: Crimping



### Step 3: fastening



### Step 4: matching the slot



### Step 5: installation complete



HW

## MI mini connector



## MI mini connector

400/30V 6/1A

## Technical characteristics

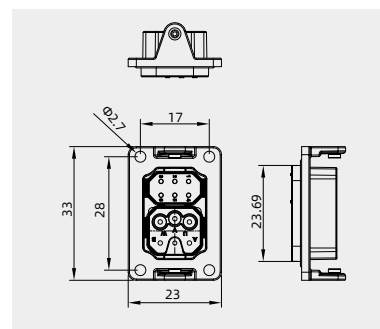
Number of contacts	6+6(5+PE)
Rated current (40°C)	6A(power), 1A(signal)
Rated voltage	400V(power), 30V(signal)
Rated impulse voltage	4000V(power), 500V(signal)
Pollution degree	3
Contact resistance	≤ 5 mΩ
Termination	crimp terminal
Wire gauge	MAX0.75mm <sup>2</sup>
Degree of protection	IP67(Acc. to EN60529 for coupled connector)
Limiting temperature	-40°C ...+130°C
Flammability acc. to UL 94	V0
Contact plating	Au

## Angeled double zone double cable shielded connector

Male, Shielded, Crimp terminal

Order crimp contacts separately

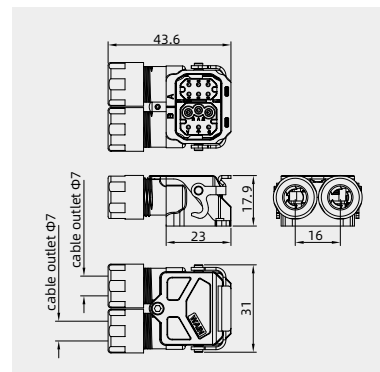
Contacts	Cable outlet	Designation	Order No.
6+6(5+PE)	7.5mm	MI-MC06/6-BK-OD2.7	173 012 310 4001



Female, Shielded, Crimp terminal

Order crimp contacts separately

Contacts	Cable outlet	Designation	Order No.
6+6(5+PE)	7.5mm	MI-FC06/6-SE-2D7.5-SH	173 012 520 2001

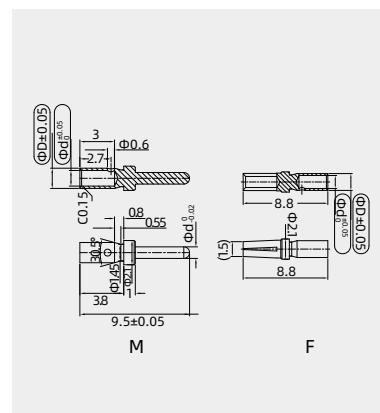


## Crimp contacts

Crimp contacts

Contact resistance ≤ 3mΩ  
gold plated

Wire gauge(mm <sup>2</sup> )	Male	Order No.
0.09-0.25	MI-MC6G2-0.25	101 040 210 0101
0.13-0.52	MI-MC6G-0.38	101 040 210 3801
0.52-0.75	MI-MC6G-0.75	101 040 210 0601
Wire gauge(mm <sup>2</sup> )	Female	Order No.
0.09-0.25	MI-FC6G2-0.25	101 040 220 0101
0.13-0.52	MI-FC6G-0.38	101 040 220 3801
0.52-0.75	MI-FC6G-0.75	101 040 220 0601



Tools

Crimping tool



Wire gauge	Designation	Order No.
0.09-0.82mm <sup>2</sup>	TL03	198 001 001 0002

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

## HCC SERIES

Single row connector



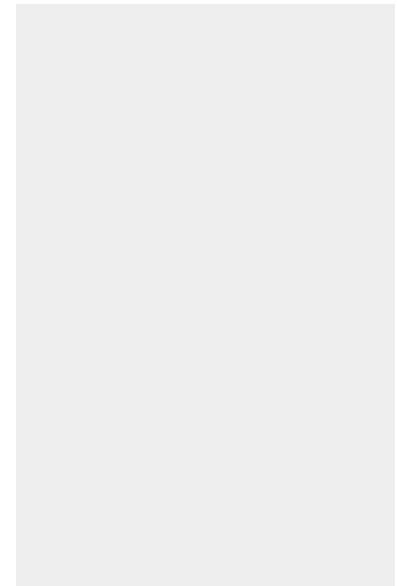


## HCC single row inserts



## Technical characteristics

Specifications	
Specifications	DIN EN 60 664 DIN EN 61 984
Approvals	ERC
Inserts	
Rated current	30A
Rated voltage	500V
Rated impulse voltage	6kV
Pollution degree	3
Limiting temperatures	-40°C ...+125°C
Flammability	V0
Mechanical working life(mating cycles)	≥ 500
Contacts	
Number of contacts	10
Terminal	screw terminal
Wire gauge	0.32~4mm <sup>2</sup>
Material	copper alloy
Surface	silver plated

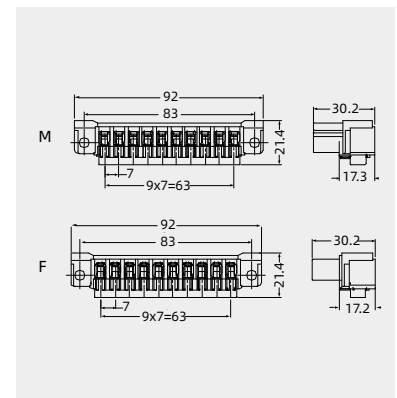


HCC

## Inserts



Inserts	Designation	Order No.
Male	HCC-010-M	133 010 011 0001
Female	HCC-010-F	133 010 021 0001



# HV SERIES

Single row connector



## HV single row inserts

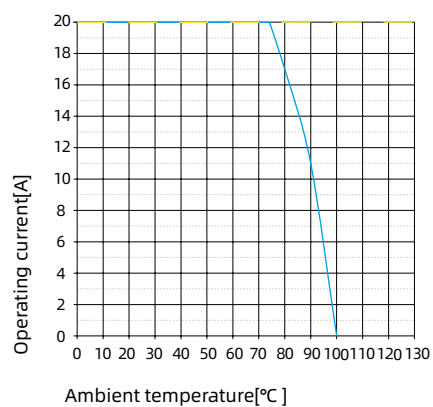


## Technical characteristics

Specifications/Approvals	
Specifications	DIN EN 60 664 DIN EN 61 984
Approvals	FR
Inserts	
Number of contacts	8 +PE
Rated current	20A
Rated voltage	400V
Rated impulse voltage	6kV
Pollution degree	3
Insulation resistance	$\geq 10^{10}\Omega$
Flammability (UL94)	V0
Mechanical working life(mating cycles)	$\geq 500$
Material	PA
Limiting temperature	-40°C ...+100°C
Contacts	
Material	copper alloy
Surface	tin plating
Contact resistance	$\leq 1m\Omega$
Terminal	
-Screw terminal	
-Wire gauge	0.2—4.0mm <sup>2</sup>
-Tightening torque	0.5~0.6Nm
-Stripping length	7.0mm
Hoods/Housings	
Material	Zine-alloy
Surface	nickel plating
Locking element	Screw locking
Sealing element	NBR
Limiting temperatures	-40°C ~+125°C
Degree of protection	IP67

## Current carrying capacity

The current carrying is limited by maximum temperature of materials for inserts and contacts including terminals  
Control and test procedures according to DIN EN 60512-5



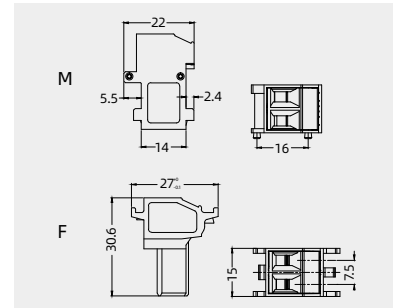
## HV single row inserts

400V 20A 8+

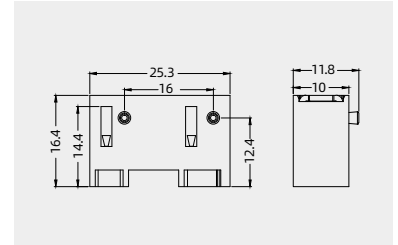
### Inserts



Inserts	Designation	Order No.
Male	HV-S02-M	232 002 011 0002
Female	HV-S02-F	232 002 021 0002



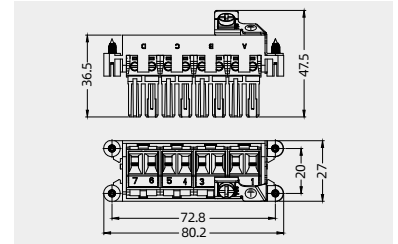
Description	Designation	Order No.
Panel ground	HV-A-PEA	132 000 000 0001



External member 1  
with female inserts and frame



Description	Designation	Order No.
hoods/housings frame external member	HV-HF3/4M-PEA-S2222	132 008 021 0001

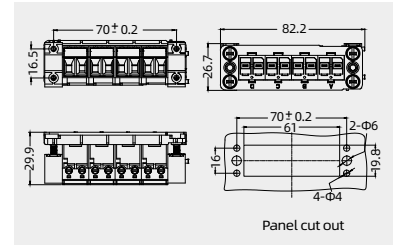


HV

External member 2  
with male inserts and frame



Description	Designation	Order No.
Panel frame external member	HV-AF3/4M-PEA-S2222	132 008 011 0001




Plug piece



Description	Designation	Order No.
Preventing interpolation	CODE-V	198 002 005 0012

# HV single row inserts

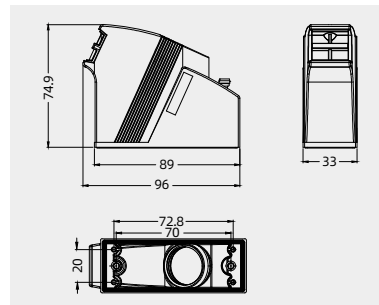
400V 20A 8+ 

## Inserts

Hoods/Housings, nickel plating



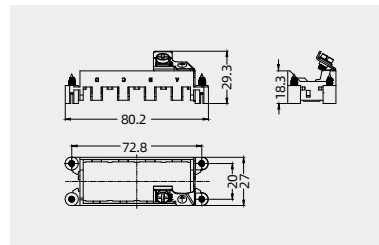
screw	Designation	Order No.
M25	EMC.HV-PM-H3/C-M25	132 604 420 1003



## Frame



Description	Designation	Order No.
with 4 module hoods/housings frame	HV-HF3/4M-PEA	132 004 000 0002



# The State Grid Anti-Open Connector

32 pin DTU anti-open circuit connector



32 pin

## The State Grid Anti-Open Connector



### Technical characteristics

Specifications/Approvals	
Specifications	DIN EN 60 664 DIN EN 61 984
Approvals	
Inserts	
Number of contacts	24+8(anti-open circuit)+1(grounding)
Rated current	10A
Rated voltage	250V
Rated impulse voltage	4kV
Pollution degree	3
Insulation resistance	$\geq 10^{10}\Omega$
Flammability (UL94)	V0
Mechanical working life(mating cycles)	$\geq 500$
Material	PC
Limiting temperature	-40°C ...+125°C
Contacts	
Material	copper alloy
Surface	silver plated
Contact resistance	$\leq 5m\Omega$
Terminal	crimp terminal / Screw terminal
-crimp terminal	0.14-2.5mm <sup>2</sup> (26-14AWG)
-Screw terminal	0.75-2.5mm <sup>2</sup> (18-14AWG)
-solde terminal	Φ1.6/Φ2.4(grounding) Welding pin
Hoods/Housings	
Material	PC
Sealing element	NBR
Flammability acc. to UL 94	V0
Limiting temperatures	-40°C ...+125°C
Degree of protection	IP65

32 pin

## 32 pin DTU anti-open circuit connector

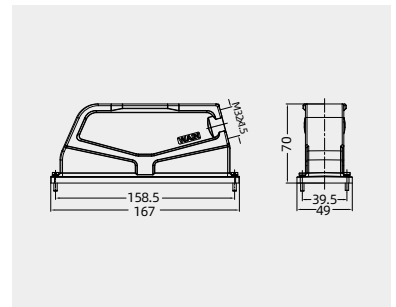
250V 10A 24+8 (anti-open circuit) +1

### Inserts

#### Hoods/Housings



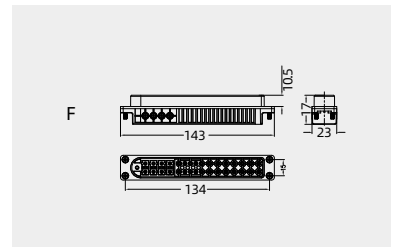
screw	Designation	Order No.
M32	HDC.P-DTU-SE-4S-M32	119 000 520 1001



#### Inserts



Inserts	Designation	Order No.
Female	HDC-DTU-008/10/14-FC	125 032 020 0001



### Crimp contacts

#### Crimp contacts 10A

Contact resistance  $\leq 3m\Omega$   
silver plated



Female (silver plated)	Order No.	Female (gold plated)	Order No.
CDSF-0.25	101 017 120 0101	CDGF-0.25	101 017 220 0101
CDSF-0.37	101 017 120 0301	CDGF-0.37	101 017 220 0301
CDSF-0.50	101 017 120 0401	CDGF-0.50	101 017 220 0401
CDSF-0.75	101 017 120 0601	CDGF-0.75	101 017 220 0601
CDSF-1.0	101 017 120 0801	CDGF-1.0	101 017 220 0801
CDSF-1.5	101 017 120 0901	CDGF-1.5	101 017 220 0901
CDSF-2.5	101 017 120 1001	CDGF-2.5	101 017 220 1001

gold plated



More crimp contacts 10A  
see P13-02,P13-03.

#### Tools

##### Crimping tool



Wire gauge	Designation	Order No.
0.14-4mm <sup>2</sup>	TL02G	198 001 001 0011

##### Contact removal tool



Application	Designation	Order No.
for crimp contacts 10A	TL00	198 001 000 0001

More tools detail please find the page32-03~32-06.

F


Wire gauge		$\Phi$	Stripping length
0.14-0.37 mm <sup>2</sup>	AWG 26-22	0.9	8 mm
0.5 mm <sup>2</sup>	AWG 20	1.1	8 mm
0.75 mm <sup>2</sup>	AWG 18	1.3	8 mm
1 mm <sup>2</sup>	AWG 18	1.45	8 mm
1.5 mm <sup>2</sup>	AWG 16	1.75	8 mm
2.5 mm <sup>2</sup>	AWG 14	2.25	6 mm

When the wire gauge is less than 0.75mm<sup>2</sup>, it's better to use the auxiliary pin assembly tool TL15.

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.



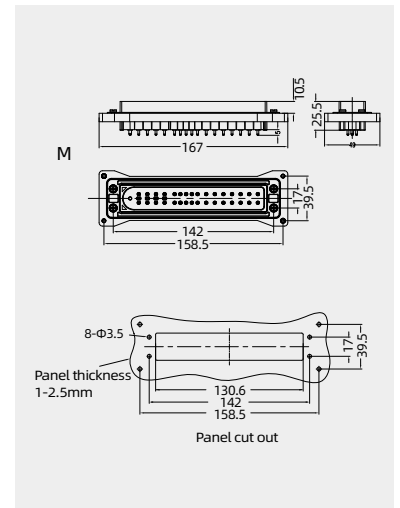
32 pin DTU anti-open circuit connector

250V 10A 24+8 (anti-open circuit) +1 

### Inserts

Inserts

Inserts	Designation	Order No.
Male	HDC-DTU-008/10/14-MC-4H	125 032 010 0001



32 pin

## The State Grid Anti-Open Connector

56 pin TTU anti-open circuit connector



56 pin

## The State Grid Anti-Open Connector



### Technical characteristics

<b>Specifications/Approvals</b>	
Specifications	DIN EN 60 664 DIN EN 61 984
<b>Approvals</b>	
<b>Inserts</b>	
Number of contacts	8+8 (anti-open circuit) +40
Rated current	10A
Rated voltage	250V
Rated impulse voltage	4kV
Pollution degree	3
Insulation resistance	$\geq 10^{10}\Omega$
Flammability acc. to UL 94	V0
Mechanical working life(mating cycles)	$\geq 500$
Material	PC
Limiting temperatures	-40°C ...+125°C
<b>Contacts</b>	
Material	copper alloy
Surface	silver plated/gold plated
Contact resistance	$\leq 3m\Omega$
<b>Anti open circuit contact:</b>	
-Terminal	Screw terminal
-Wire gauge	0.75-2.5mm <sup>2</sup> (18-14AWG)
<b>voltage wire contact:</b>	
-Terminal	Crimp terminal
-Wire gauge	0.14-2.5mm <sup>2</sup> (26-14AWG)
<b>signal contact:</b>	
-Terminal	Crimp terminal
-Wire gauge	0.09-0.52mm <sup>2</sup> (28-20AWG)
<b>Hoods/Housings</b>	
Material	PC
Sealing element	NBR
Flammability acc. to UL 94	V0
Limiting temperatures	-40°C ...+125°C
Degree of protection	IP65

56 pin

# 56 pin TTU anti-open circuit connector

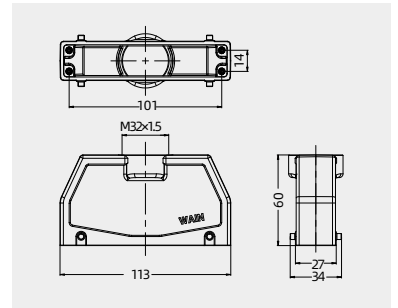
250V 10A 8+8 (anti-open circuit) +40

## Inserts

### Hoods, side entry



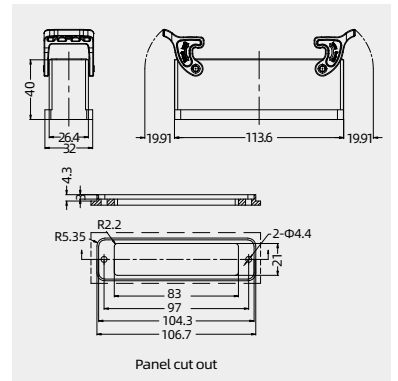
screw	Designation	Order No.
M32	HDC.P-TEH-4B-M32	119 000 430 5001



### Housings, bulkhead mounting



Inserts	Designation	Order No.
Female	HDC.P-BKH-2L	119 000 349 5001



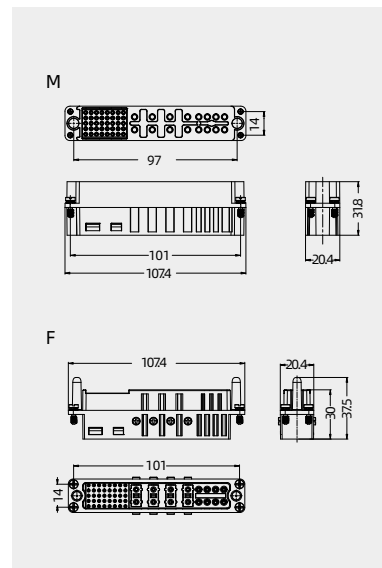
## 56 pin TTU anti-open circuit connector

250V 10A 8+8 (anti-open circuit) +40

### Inserts

Screw terminal/Crimp terminal  
Order crimp contacts separately

Inserts	Designation	Order No.
Male	HDC-008/8/40-MC	125 056 010 0001
Male	HDC-008/8/40-FC	125 056 020 0001



### Crimp contacts

#### Crimp contacts 5A

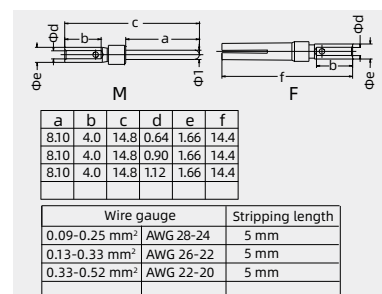
Contact resistance  $\leq 3m\Omega$   
silver plated



gold plated



Male	Order No.	Female	Order No.
CSSM-0.25	101 014 110 0101	CSSF-0.25	101 014 120 0101
CSSM-0.33	101 014 110 0201	CSSF-0.33	101 014 120 0201
CSSM-0.52	101 014 110 0501	CSSF-0.52	101 014 120 0501
CSGM-0.25	101 014 210 0101	CSGF-0.25	101 014 220 0101
CSGM-0.33	101 014 210 0201	CSGF-0.33	101 014 220 0201
CSGM-0.52	101 014 210 0501	CSGF-0.52	101 014 220 0501



56 pin

#### Crimp contacts 10A

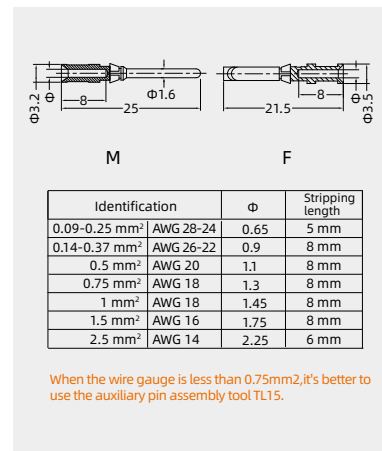
Contact resistance  $\leq 3m\Omega$   
silver plated



gold plated



Male	Order No.	Female	Order No.
CDSM-0.25	101 017 110 0101	CDSF-0.25	101 017 120 0101
CDSM-0.37	101 017 110 0301	CDSF-0.37	101 017 120 0301
CDSM-0.50	101 017 110 0401	CDSF-0.50	101 017 120 0401
CDSM-0.75	101 017 110 0601	CDSF-0.75	101 017 120 0601
CDSM-1.0	101 017 110 0801	CDSF-1.0	101 017 120 0801
CDSM-1.5	101 017 110 0901	CDSF-1.5	101 017 120 0901
CDSM-2.5	101 017 110 1001	CDSF-2.5	101 017 120 1001
CDGM-0.25	101 017 210 0101	CDGF-0.25	101 017 220 0101
CDGM-0.37	101 017 210 0301	CDGF-0.37	101 017 220 0301
CDGM-0.50	101 017 210 0401	CDGF-0.50	101 017 220 0401
CDGM-0.75	101 017 210 0601	CDGF-0.75	101 017 220 0601
CDGM-1.0	101 017 210 0801	CDGF-1.0	101 017 220 0801
CDGM-1.5	101 017 210 0901	CDGF-1.5	101 017 220 0901
CDGM-2.5	101 017 210 1001	CDGF-2.5	101 017 220 1001



More crimp contacts 10A  
see P13-02, P13-03.

#### Tools

Crimping tool



Wire gauge	Designation	Order No.
0.09-0.82mm <sup>2</sup>	TL03	198 001 001 0002

Contact removal tool



Application	Designation	Order No.
for 5A crimp contact	TL08	198 001 000 0006

#### Tools

Crimping tool



Wire gauge	Designation	Order No.
0.14-4mm <sup>2</sup>	TL02G	198 001 001 0011

Contact removal tool



Application	Designation	Order No.
for 10A crimp contact	TL00	198 001 000 0001

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

More tools detail please find the page 32-03~32-06.

# The State Grid Anti-Open Connector

## 6 pins Anti-Open Connector



### Technical characteristics

<b>Specifications/Approvals</b>	
Specifications	DIN EN 60 664 DIN EN 61 984
<b>Approvals</b>	
<b>Inserts</b>	
Number of contacts	6+PE
Three Groups of Preventive Opening	1-2, 3-4, 5-6
Rated current	40A
Rated voltage	500V
Rated impulse voltage	6kV
Pollution degree	3
Insulation resistance	$\geq 10^{10}\Omega$
Material	PC
Colour	RAL 7032(light grey)
Temperature range	-40°C ...+125°C
Flammability acc. to UL 94	V0
Mechanical working life(mating cycles)	$\geq 500$
<b>Contacts</b>	
Terminal	screw terminal
Material	copper alloy
Surface	silver plated/gold plated
Contact resistance	$\leq 5m\Omega$
<b>Wire</b>	
-gauge	1.5-6mm <sup>2</sup>
-AWG	(16-10)
Tightening torque	0.8N.m
Stripping length	10mm

# The State Grid Anti-Open Connector

500V 40A 6+PE

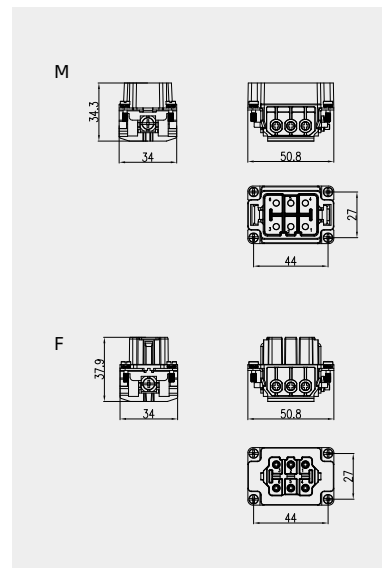
## Inserts

Hoods/Housings: size **WV6B/HV6B**

Screw terminal



Inserts	Designation	Order No.
Male	HSC-006-M	127 006 011 0511
Female	HSC-006-F	127 006 021 0512



6 pin

6 pin

## D-Sub-044 SERIES

### D-Sub-044







## Technical characteristics

<b>Specifications/Approvals</b>	
Specifications	DIN EN 60 664 DIN EN 61 984
<b>Approvals</b>	
<b>Inserts</b>	
Number of contacts	44
Rated current	3A
Rated voltage	40V
Rated impulse voltage	0.5kV
Pollution degree	3
Insulation resistance	$\geq 10^{10}\Omega$
Flammability (UL94)	V0
Mechanical working life(mating cycles)	$\geq 500$
Material	PBT+copper alloy
Limiting temperature	-40°C ...+105°C
<b>Contacts</b>	
Material	copper alloy
Surface	Nickel plated floating gold
Contact resistance	$\leq 3m\Omega$
Rated current	3A
Wire gauge	0.09-0.25mm <sup>2</sup> (28-24 AWG)
Mechanical working life(mating cycles)	$\geq 500$
<b>Hoods/Housings</b>	
Material	Zinc die-cast
Surface	nickel plating
<b>Locking element</b>	
Locking element	1 lever
Material	Stainless steel
<b>Sealing element</b>	
Sealing element	NBR
Flammability acc. to UL 94	V0
Limiting temperatures	-40°C ~+125°C
Degree of protection	IP65

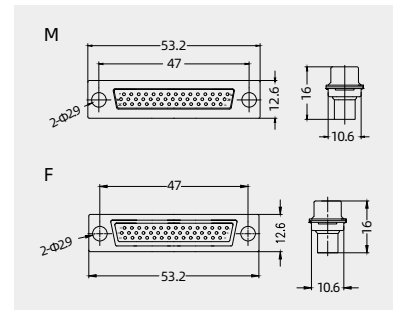
D-Sub-044

Inserts

Inserts



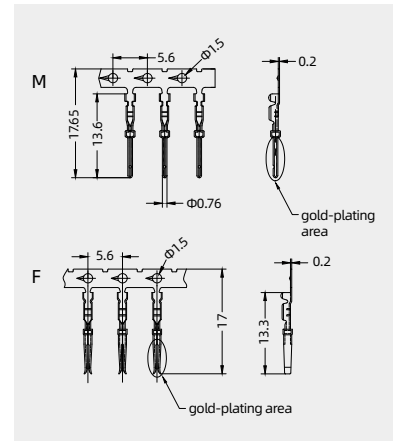
Inserts	Designation	Order No.
Male	DB-A044MC	998 002 099 0007
Female	DB-A044FC	998 002 099 0008



Contacts



Description	Designation	Order No.
Male	CSNM/DB-0.25P	998 002 099 0009
Female	CSNF/DB-0.25P	998 002 099 0010



Note: pin roll material 15000pcs / roll

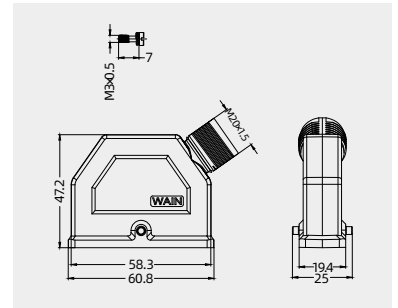
D-Sub-044

Hoods/Housings

Hoods/Housings, nickel plating



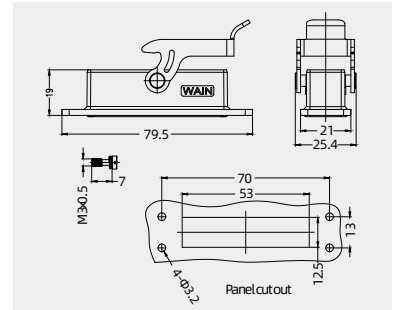
screw	Designation	Order No.
OM20	EMC.DS-044-SE-2B-OM20	112 300 510 1001



Bulkhead mounted housings



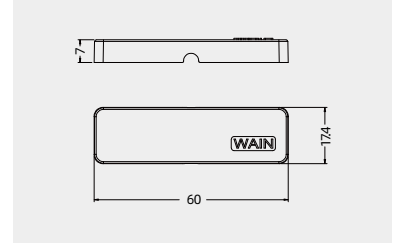
screw	Designation	Order No.
---	EMC.DS-044-BK-1L	112 300 320 1001



Protection covers, plastic(IP54)



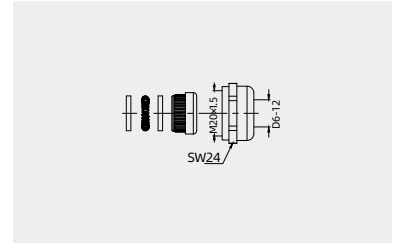
Description for housings	Designation	Order No.
	DS-044-CV/C	137 500 000 9001



Cable gland



Description	Designation	Order No.
---	EMC.WNAMC-M20(D6-12)	102 118 015 1001



Charging socket



# Charging socket



## Technical characteristics

<b>Specifications/Approvals</b>	
Specifications	DIN EN 60 664 DIN EN 61 984
<b>Approvals</b>	
<b>Inserts</b>	
Number of contacts	8/2
<b>Rated current</b>	
-Power area	150A
-Signal area	2A
<b>Rated voltage</b>	
-Power area	500V
-Signal area	12V
<b>Rated impulse voltage</b>	
-Power area	6kV
-Signal area	2kV
Pollution degree	3
Insulation resistance	$\geq 10^{10}\Omega$
Flammability (UL94)	V0
Mechanical working life(mating cycles)	$\geq 10000$
Material	polyamide
Limiting temperature	-40°C ...+60°C
<b>Contacts</b>	
Material	copper alloy
Surface	silver plated
<b>Crimp terminal</b>	
-Power area	$\leq 1m\Omega$
-Signal area	$\leq 3m\Omega$
<b>Wire gauge</b>	
-Power area	40mm <sup>2</sup> (1 AWG)
-Signal area	0.75mm <sup>2</sup> (18 AWG)

## Charging socket

12V/500V 2A/150A 8/2

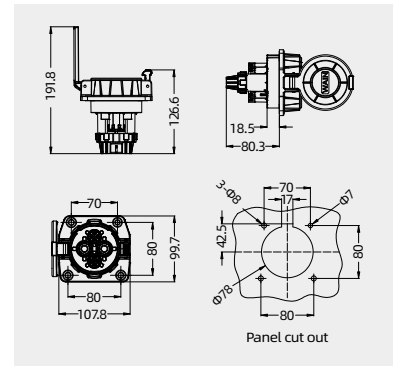
### Inserts



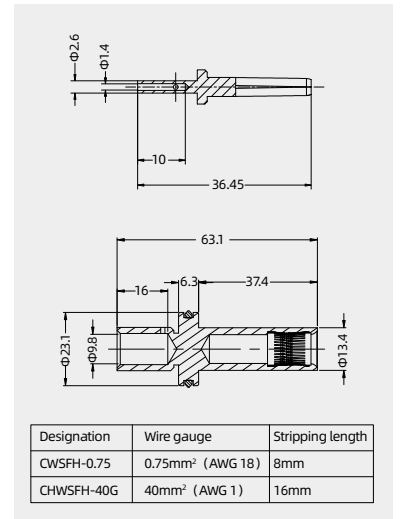
Other cable lengths can be customized.

screw	Designation	Order No.
	CHADM-S	103 010 220 0001
	CHADM-S-S1.0 <sup>1)</sup>	103 010 220 1001

1)Products with wire harness (1 meter length).



Inserts	Designation	Order No.
	CWSFH-0.75	101 012 120 0401
	CHWSFH-40G	101 036 120 3501



## TL-DZ Contact retention test tool

### TL-DZ Contact retention test tool

#### Contact retention test tool

Includes 1 handle +3 standard contact tester

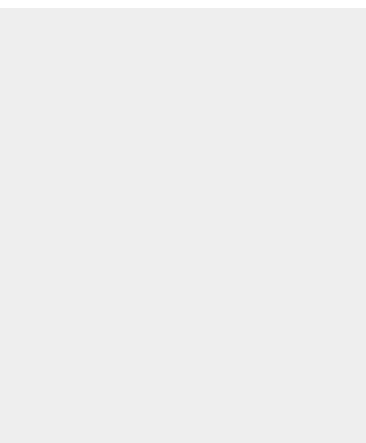
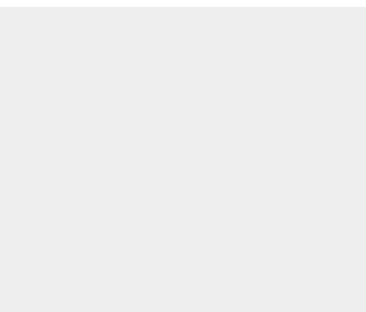


Description	Designation	Order No.
Detect whether the turning contacts be assembled in place.	TL-DZ	198 001 003 0022

#### 16A female contact tester (optional)



Description	Designation	Order No.
Detect whether the turning contacts be assembled in place.	TL-DZ-FT/16A	298 001 003 0015



## Instruction Manual for Contact Retention Test Tool (TL-DZ)

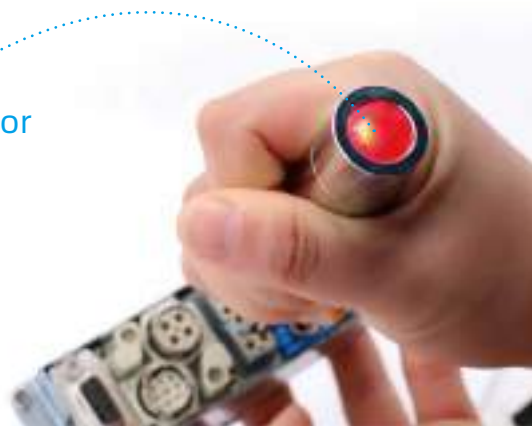
TL-DZ is a tool used to detect the contact retention force. It solves the problem that the detection result is not intuitive by using the function of LED indicator. Compact structure, easy operation, chrome plated surface, beautiful appearance, service life  $\geq 100,000$  times, a variety of contact tester can be freely replaced, compatible with a variety of contact detection, and the detection force value can be customized by customers.

Function: Check whether the contacts be assembled in place.

Principle: The ejection force is controlled by the spring compression inside the handle, force range is 20-30N. If the indicator light is on and contacts do not exit, it indicates that the contacts have been assembled in place. If the contacts exit, it indicates that it has not been assembled in place.

Components: handle (1pc) +standard contact tester (3pcs) +optional contact tester (1pc) (tighten the contact tester on the handle during using)

The indicator



### Usage and Precautions:

1. According to the testing requirements, select the corresponding contact tester.
2. Hold the test tool by hand (Avoid obscuring the top red lampshade), align contact tester with the head of the contact, and push it forward to see that the indicator light is on (when the indicator light is on, do not force the contact tester again), and ensure that the test tool is perpendicular to the contacts;
3. Please check whether the contacts is bent or deformed after the contact tester detection. If the contact tester is not in the vertical state, the contact may be bent or deformed;
4. As the contact tester for 5A female contacts is thin, it is easy to break during operation. If it breaks, be sure to remove the broken tip from the pin hole; If the test tool is not used, please remove the tips and keep it well to avoid breakage;
5. The test tool shall regularly detect if the spring compression force in 20-30N, if the LED light works normally, if the battery power is insufficient, etc. (Note: if any above point is not satisfied, it shall be submitted for inspection);
6. The battery can be replaced independently when the battery power is insufficient. When replacing, unscrew the back cover of handle, pay attention to the installation direction of the positive and negative poles of the battery. (battery P/N: CR 1220; voltage 3V);
7. Do not use other unverified test tools to avoid damage to the contacts and connectors due to improper operations.

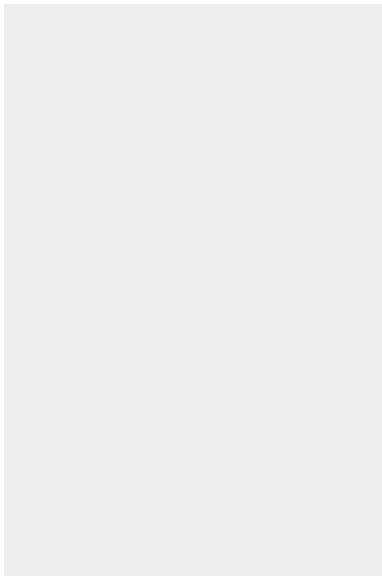


## Metallic outlet boxes

### Technical characteristics

可根据要求定制开孔方案

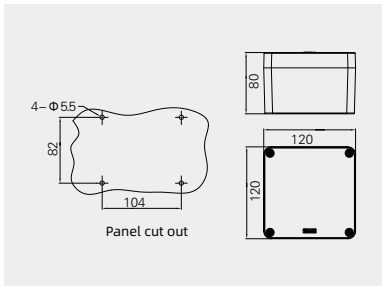
Specifications	
Specifications	DIN EN 60 664 DIN EN 61 984
Approvals	
Metallic outlet boxes	
Material	aluminium die-cast
Surface	powder-coated
Colour	RAL 7037 (grey)
Temperature range	-40°C ... +125°C
Degree of protection	IP65
Hoods/Housings sealing	NBR



#### Metallic outlet boxes



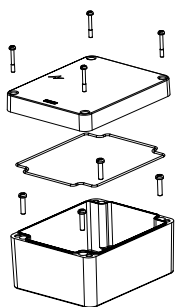
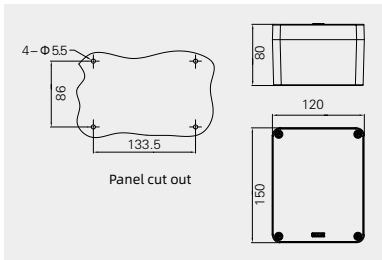
Description	Designation	Order No.
	MTB-120x120x80	139 500 000 9001



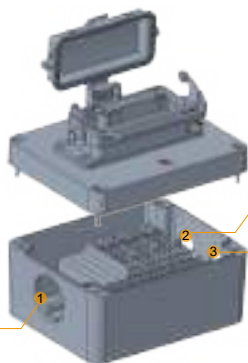
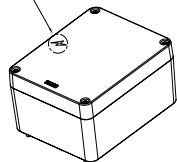
#### Metallic outlet boxes



Description	Designation	Order No.
	MTB-150x120x80	139 500 000 9002



Lightning sign  
Red (RAL3003)



Hole opening①

Hole opening②

Hole opening③

Designation  
MTB-120x120x80  
MTB-150x120x80

Note: Hole opening can be customized according to requirements.

# I/O connector



## I/O connector

100V 0.5A



## Inserts

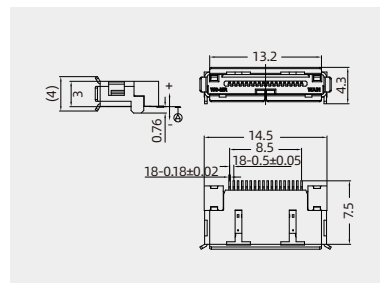
## Technical characteristics

Specifications	DIN EN 60 664 DIN EN 61 984
Approvals	
Inserts	
Number of contacts	25
Electrical data acc. to EN 61 984	
- Rated current	0.5A
- Rated voltage	100V AC
- Rated impulse voltage	350V
Insulation resistance	$\geq 10^9 \Omega$
Material	LCP, Copper alloy, stainless steel
Limiting temperatures	-30°C ... +80°C
Salt spray requirements	48H
Flammability acc. to UL 94	V0
Mechanical working life	
- mating cycles	$\geq 10000$
Insertion and Extraction Force	29.4N max
Locking force	49N max

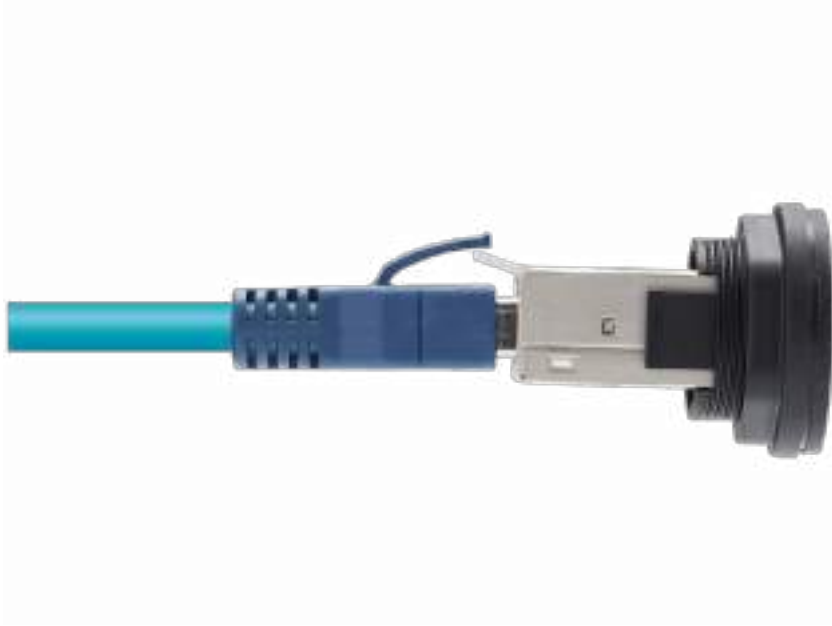
## I/O connector



Description	Designation	Order No.
-	WS-MR-18	141 010 180 0001



# WP connector



## WP connector



## Technical characteristics

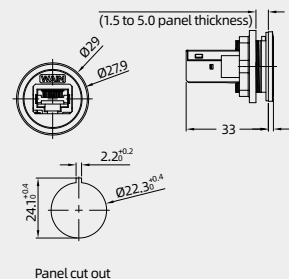
## Specifications

Specifications	ISO/IEC 24 702 ISO/IEC 11 801 ISO/IEC 61 935-2	
Cat.6a RJ45 female seat		Cat.6A RJ45 Patch cables
Transmission performance	Category 6 /Class E up to 500 MHz; acc. to ISO/IEC 11 801:2002 and EN 50 173-1	Cable type EIA/TIA 568 B,8 poles
		Material cables PUR (RAL5021)
		Cable Length 0.8m
Transmission rate	10/100/1000Mbit/10Gbit/s	
Shielding	fully shielded,360° shielding contact	
Cable material	S/FTP,PUR, blue	
Limiting temperatures	-25°C ...+70°C	
Material(Hoods/Housings)	polyamine(RAL9005)	
-fixed	-40°C ...+80°C	
Degree of protection	IP20	
Mechanical working life		
- mating cycle	≥ 750	

## For wiring cables



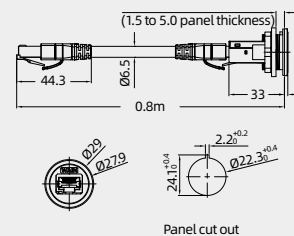
Description	Designation	Order No.
--	WP-RJ45-JACK	135 001 112 0001



## Including cables



Description	Designation	Order No.
--	WP-RJ45-JACK/M08-T-0.8-Cat.6a	135 001 332 0001



Please refer to page 10-50.1 for matching cable

## Wiring Harness

Wiring harness customization



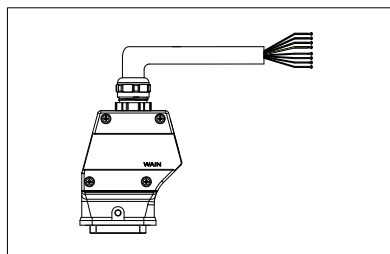
## Overview of wiring harness

Wiring harness which is composed of insulating sheath, terminal blocks, wires and insulating banding materials is a connecting part linking all electrical appliances within the same circuit.

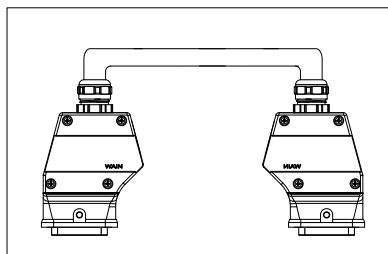
WAIN customized wiring harness: Process and assemble the shells, cores, pins, cable glands, wire rods and other related parts of our company to manufacture customized wiring harness meeting the clients' requirements.

### I、 Classification of wiring harness

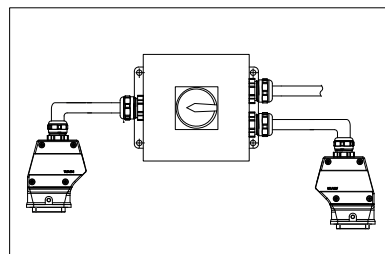
According to the quantity of connectors linking with the wiring harness, customized wiring harness can be classified into three categories, namely, single-ended wiring harness, double-ended wiring harness and multi-ended wiring harness.



【drawing-1】



【drawing-2】



【drawing-3】

Single-ended wiring harness: One end of the wiring harness is equipped with connector of our Company, while the tail end can be crimped with terminals, equipped with cable marker or handled by the clients on their own.

【drawing-1】

Double-ended wiring harness: Both ends of the wiring harness are equipped with connectors of our Company.

【drawing-2】

Multi-ended wiring harness: Divide the wiring harness into multiple ends via junction box or add wire outlets at the shell, and equip the wiring harness with more than two connectors. 【drawing-3】

### II. Wire rods of wiring harness

According to the different operating environment, wire rods of wiring harness can be divided into the following types in accordance with the requirements of clients.:

1、 Standard electric wire: Applicable to clients who have no special requirements on the wire rods of wiring harness;

2、 Electric installation cable: Applicable to dry or humid indoor environment, especially for various kinds of electrical installation in industrial environment. Such cable with a cross section of 0.5mm<sup>2</sup> or above can be used as control and connecting flexible wire, which is especially applicable to machine tool manufacturing, complete equipment installation, power station, heating installation and air conditioner installation. (It can be equipped with signal shielding functions according to clients' requirements.)

3、 Fixed installation cable for lift shaft: Applicable to the installation and fixed laying in lift shaft; however, it can not be used as traveling cable of lift.

4、 Control cable: Applicable to control, signal, protection and measuring circuits with DC or AC 50-60 Hz and with rated voltage of 600/1000V and below. It is usually used in electrical control system and power distribution unit. (It can be equipped with signal shielding functions according to clients' requirements.)

5、 Oil-resistant cable: With oil-resistant feature, it is applicable to dry or humid indoor environment, installation with occasional moving but without slow release of strong stress or forced guiding. It also can be used in industrial environment with occasional bending and moving, such as machine tool, wood-working machine and grinding machine. (It can be equipped with signal shielding functions according to clients' requirements.)

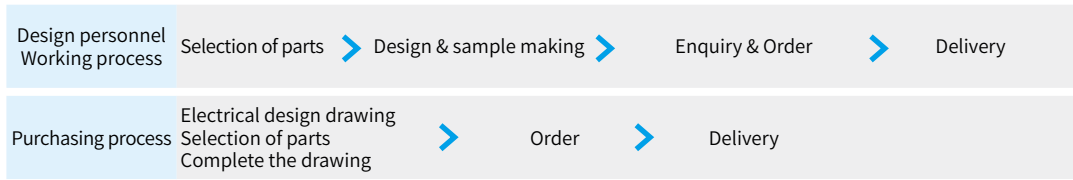
6、 Standard power wire: inapplicable to power supply and illuminating system. In general, it can be categorized into rubber power wire and PVC power wire. According to the different using conditions, the power wire must conform to relevant national certification standards. (The power wire shall conform to China Compulsory Certification in China, VDE certification and CE certification in Europe and UL certification in USA, etc.)

7、 Towline cable: With the features of high flexibility and anti-bending ability, the cable is applicable to the installation with frequent bending but without slow release of strong stress or free continuous reciprocating movement which is forcedly guided.

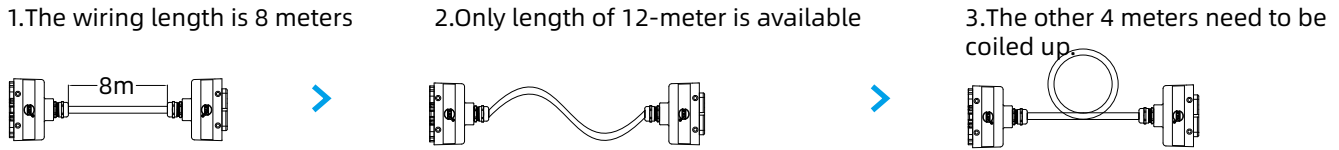
In particular, it can be used in industrial environment with frequent bending, such as wood-working machine, machine tool, logistics transport system, crane, etc. (It can be equipped with signal shielding functions according to clients' requirements.)

Traveling control cable of lift: Applicable to traveling control of lift and long-distance hanging.

## Ordering process for wiring harness products

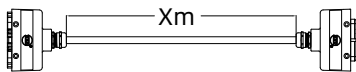


Free selection of wiring harness length  
The situation of using products of other suppliers:



The situation of using WIAN products:

As WAIN products are manufactured according to the clients' requirements, the length can be designated with the unit as 0.1m.



## Guide on model selection of wiring harness

### Five simple steps for model selection

	Type of inserts	Number of contacts	Type	Diagrammatic drawing	Type of cable	Designated unit
1. Select insert	GCHA(HE, HVE, HEE, HD, HK, HM, HQ, HC) Crimp terminal HA, HE... ...Series GLHA(HE, HVE, HSB, HK, HEAV, HM, HQ, HC) Screw terminal HA, HE... ...Series GTHA(HE, HVES, HM) HA, HE... ...Series	2 3 46 ... Select the number of contacts as required. See P00-03	M (male)		CCC	0.2-50m Designated unit 0.1m
2. Select number of contacts			F (female)		CE	
3. Select specification of insert			MM (male-male)		UL	
4. Appearance of wiring harness			FF (female-female)		VD	
5. Select length			MF (male-female)		According to the cable designated by clients!	
	YCHR23 Crimp terminal HR23 Series YLHR23(M8, M12) Screw terminal HR23, M8, M12 Series YHR23(M8, M12) Spring terminal HR23, M8, M12 Series	2 3 46 ... Select the number of contacts as required. See P00-03	M (male)		CCC	0.2-50m Designated unit 0.1m
			F (female)		CE	
			MM (male-male)		UL	
			FF (female-female)		VD	
			MF (male-female)		According to the cable designated by clients!	



## Quality assurance

### Control on welding process

#### 1, Temperature management

The welding temperature shall be maintained at 350°C and records shall be kept.



2, The welding operation shall be conducted by professional staff.

People conducting welding operation must pass examination before engaging in such work, and onsite examination shall be carried out.

3, Judgment criterion for welding process.

Key points of inspection for welding process & examples of bad processing.

Key points of inspection:

- ① .The pin position shall be welded correctly.
- ② .The welding spot shall be smooth, glossy and without such defects as cold joint, icicle, short circuit and tin peeling.
- ③ .The wire core shall be intact without bare wire or wound caused by burning or pinching.
- ④ .The connector shall not be scalded.
- ⑤ .The butt contact of connector shall not have any displacement.

### Control on welding process

#### 1. Crimping tools



#### 2. Judgment criterion

Crimping requirements:

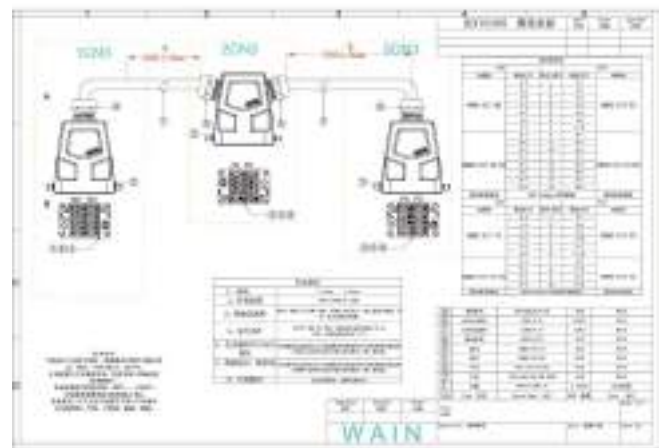
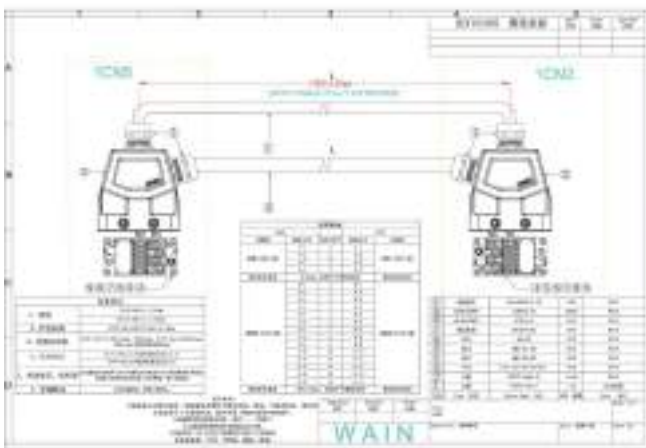
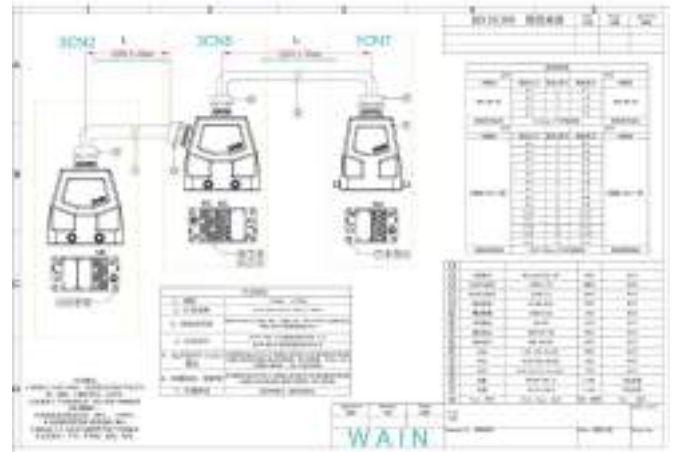
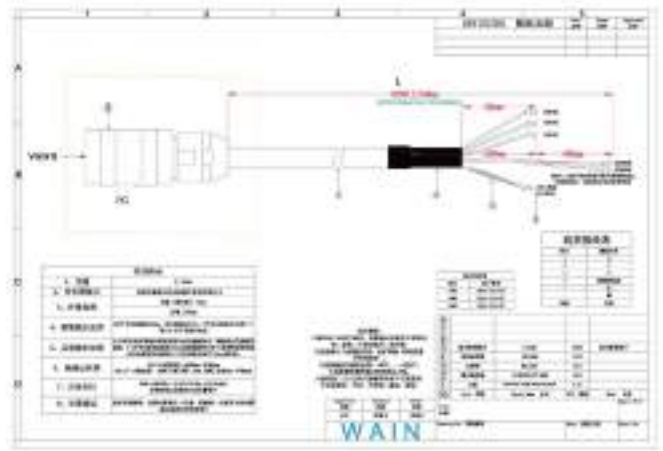
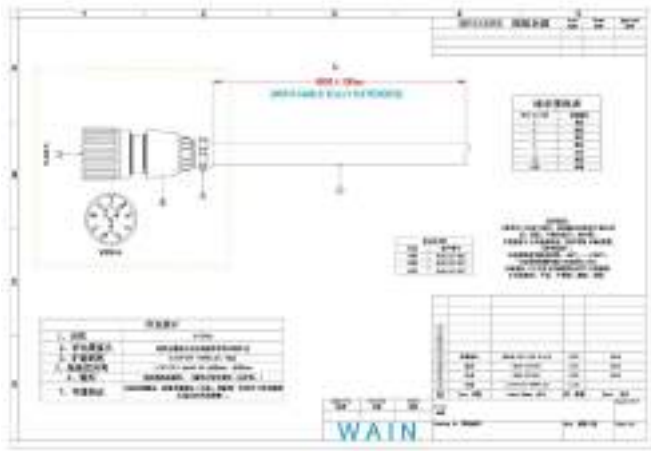
- ① . Before assembling the shell, check the intermediate crimping between the inspection hole and the terminal through which the wire enters into.
- ② .The indentation after crimping shall surround the pin with enough depth.

#### Inspection stations

- ① Inspection before assembling the shell
- ② . Inspection after assembling the shell
- ③ . Inspection before delivery

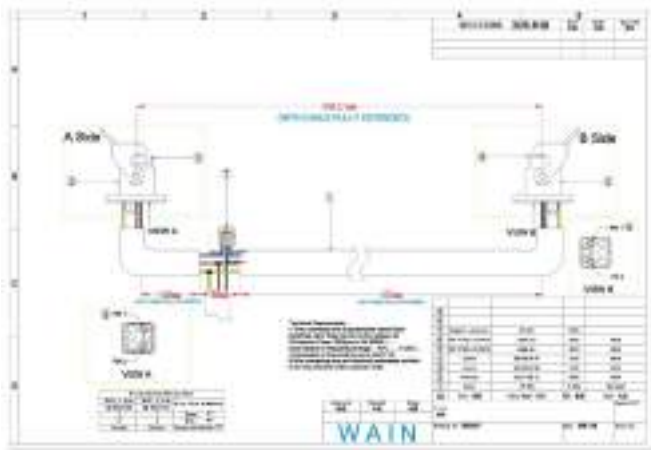
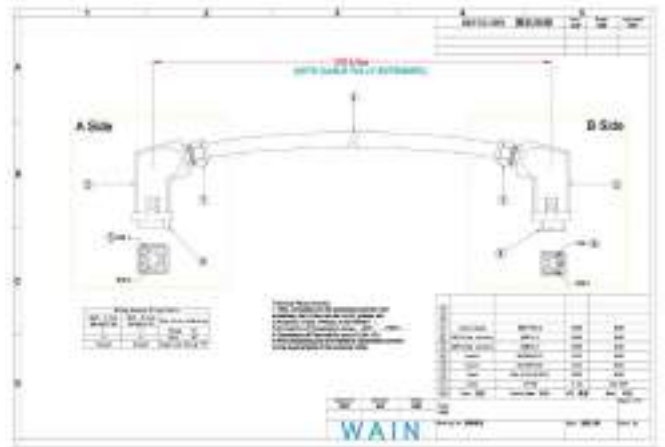
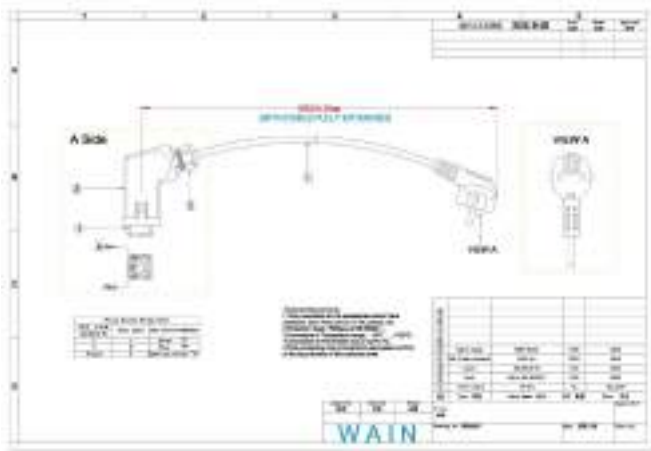
Project Cases

Wind power project



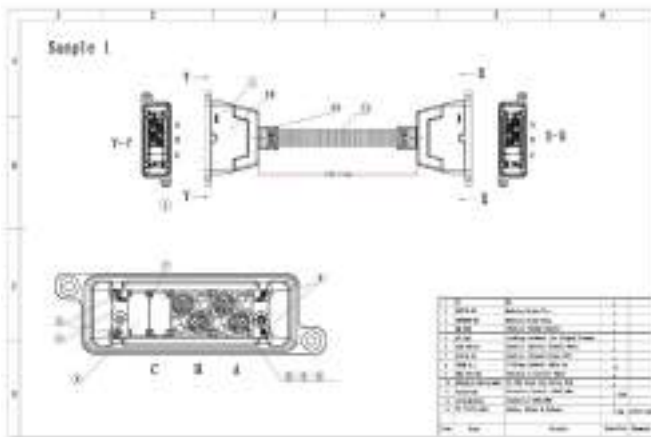
Project Cases

Electrical appliance connecting wire project



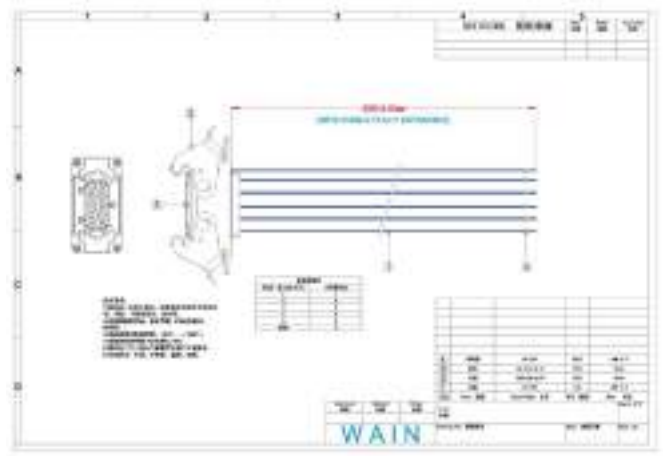
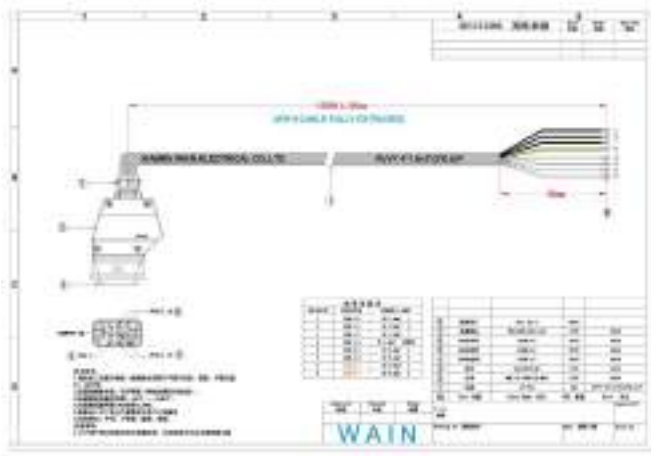
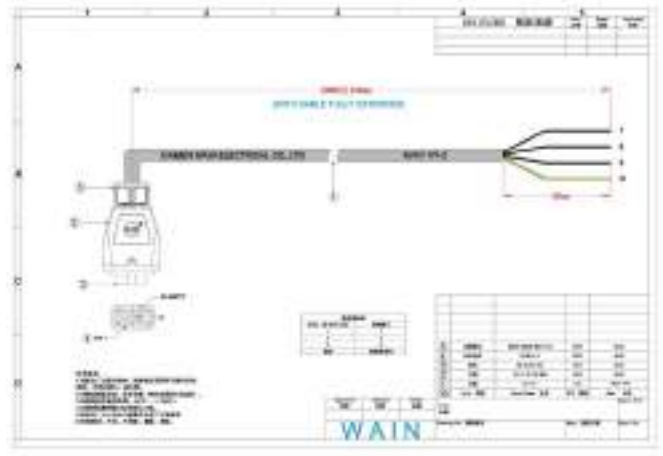
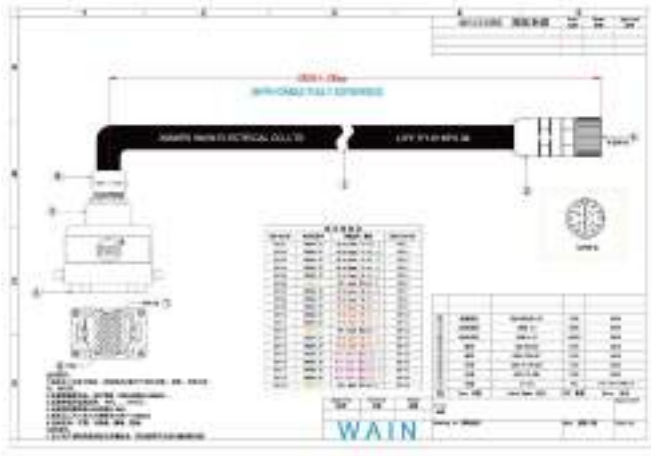
Project Cases

Railway jumper wire project



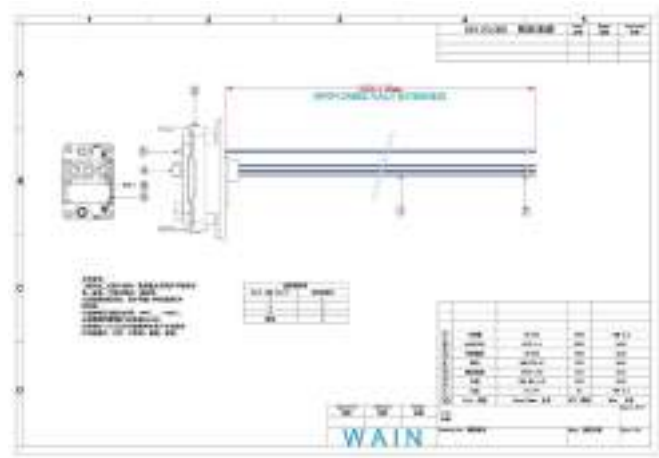
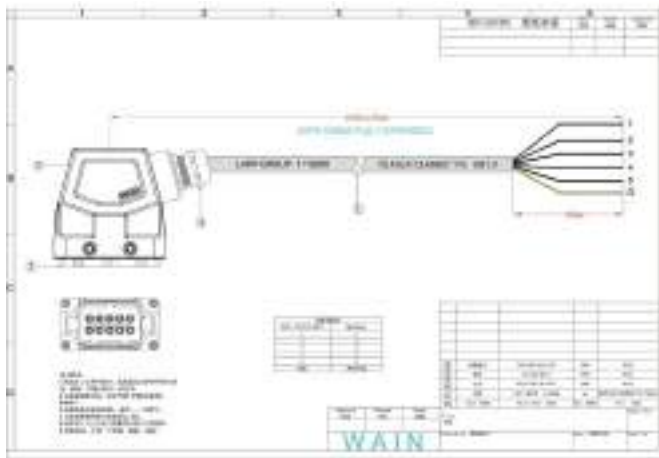
Project Cases

Automobile production line



# Project Cases

## Automobile production line



## Rectangular crimping type

Customized service Crimping Inter-cabinet wire

### Free length

Selection of connector: Firstly, select the insert; secondly, select the suitable hood; lastly, select the cable gland.

#### Identification



Type of inserts	Number of contacts	Diagrammatic drawing	Hoods&Housings <sup>1)</sup>	Type of cable	Designated unit		
GCHA Rectangular-crimping HA Series	3 4 46 ... Select the number of contacts as required. See P00-01		MC1D male · 1 lever top-entry MC2D male · 2 lever top-entry FC1D female · 1 lever top-entry FC2D female · 2 lever top-entry MCHD male · tight top-entry				
GCHE Rectangular-crimping HE Series							
GCHVE Rectangular-crimping HVE Series							
GCHEE Rectangular-crimping HEE Series					MT1D male · 1 lever top-entry MT2D male · 2 lever top-entry FT1D female · 1 lever top-entry FT2D female · 2 lever top-entry MTHD male · tight top-entry	CCC	
GCHD Rectangular-crimping HD&HDD Series						CE	
GCHK Rectangular-crimping HK Series						UL	
GCHM Rectangular-crimpingHM Series					MC1C male · 1 lever side-entry MC2C male · 2 lever side-entry FC1C female · 1 lever side-entry FC2C female · 2 lever side-entry MCHC female · tight side-entry	VDE	0.2-50m Designated unit 0.1m
GCHQ Rectangular-crimping HQ Series						According to the cable designated by clients!	
GCHC Rectangular-crimpingHC Series							
					MT1C male · 1 lever side-entry MT2C male · 2 lever side-entry FT1C female · 1 lever side-entry FT2C female · 2 lever side-entry MTHC female · tight side-entry		
			Select right shell size and cable gland according to the core!				

1) Double-ended wiring harness: MC1D: male 1 lever top-entry, MMC1D: male · male 1 lever top-entry, MFC1D: male · female 1 lever top-entry; for multi-ended wiring harness or special products, please directly contact the wiring harness department of our company.

## Rectangular screwing type

Customized service Crimping Inter-cabinet wire

### Free length

Selection of connector: Firstly, select the insert; secondly, select the suitable hood; lastly, select the cable gland.

#### Identification



Type of inserts	Number of contacts	Diagrammatic drawing	Hoods&Housings <sup>1)</sup>	Type of cable	Designated unit		
GLHA Rectangular screwing HA Series	Select the number of contacts as required. See P00-01		MC1D male · 1 lever top-entry MC2D male · 2 lever top-entry FC1D female · 1 lever top-entry FC2D female · 2 lever top-entry MCHD male · tight top-entry	CCC CE UL VDE	0.2-50m Designated unit 0.1m		
GLHE Rectangular screwing HE Series							
GLHVE Rectangular screwing HVE Series			MT1D male · 1 lever top-entry MT2D male · 2 lever top-entry FT1D female · 1 lever top-entry FT2D female · 2 lever top-entry MTHD male · tight top-entry				
GLHSB Rectangular screwing HSB Series			3 6 46				
GLHK Rectangular screwing HK Series			...				
GLHEAV Rectangular screwing HEAV Series			MC1C male · 1 lever side-entry MC2C male · 2 lever side-entry FC1C female · 1 lever side-entry FC2C female · 2 lever side-entry MCHC female · tight side-entry			According to the cable designated by clients!	
GLHM Rectangular screwing HM Series						MT1C male · 1 lever side-entry MT2C male · 2 lever side-entry FT1C female · 1 lever side-entry FT2C female · 2 lever side-entry MTHC female · tight side-entry	Select right shell size and cable gland according to the core!
GLHQ Rectangular screwing HQ Series							
GLHC Rectangular screwing HC Series							

1) Double-ended wiring harness: MC1D: male 1 lever top-entry, MMC1D: male · male 1 lever top-entry, MFC1D: male · female 1 lever top-entry; for multi-ended wiring harness or special products, please directly contact the wiring harness department of our company.

## Rectangular spring type

Customized service spring Inter-cabinet wire

### Free length

Selection of connector: Firstly, select the insert; secondly, select the suitable hood; lastly, select the cable gland.

#### Identification



Type of inserts	Number of contacts	Diagrammatic drawing	Hoods&Housings <sup>1)</sup>	Type of cable	Designated unit	
GTHA Rectangular-spring HA Series	3 4 46 ... Select the number of contacts as required. See P00-01		MC1D male-1 lever top-entry MC2D male-2 lever top-entry FC1D female-1 lever top-entry FC2D female-2 lever top-entry MCHD male-tight top-entry	CCC CE UL VDE	0.2-50m Designated unit 0.1m	
GTHE Rectangular-spring HE Series			MT1D male-1 lever top-entry MT2D male-2 lever top-entry FT1D female-1 lever top-entry FT2D female-2 lever top-entry MTHD male-tight top-entry			
GTHVE Rectangular-spring HVE Series			MC1C male-1 leverside-entry MC2C male-2 lever side-entry FC1C female-1 lever side-entry FC2C female-2 lever side-entry MCHC female-tight side-entry			According to the cable designated by clients!
GTHVES Rectangular-spring HVES Series			MT1C male-1 leverside-entry MT2C male-2 lever side-entry FT1C female-1 lever side-entry FT2C female-2 lever side-entry MTHC female-tight side-entry			
GTHM Rectangular-spring HM Series			Select right shell size and cable gland according to the core!			

1) Double-ended wiring harness: MC1D: male 1 lever top-entry, MMC1D: male • male 1 lever top-entry, MFC1D: male • female 1 lever top-entry; for multi-ended wiring harness or special products, please directly contact the wiring harness department of our company.



Circular crimping type

Customized service Crimping Inter-cabinet wire

Free length

Selection of connector: Firstly, select the insert; secondly, select the suitable hood; lastly, select the cable gland.

Identification



Type of inserts	Number of contacts	Diagrammatic drawing	Hoods&Housings <sup>1)</sup>	Type of cable	Designated unit
YCHR23 circular crimping HR23 Series	12 17		MCD male top-entry FCD female top-entry	CCC CE UL VDE  According to the cable designated by clients!	0.2-50m Designated unit 0.1m
			MTD male top-entry FTD female top-entry		
			MCS male 90°C entry FCS female 90°C entry		
			MTS male 90°C entry FTS female 90°C entry		
			Select right shell size and cable gland according to the core!		

1) Double-ended wiring harness: MC1D: male 1 lever top-entry, MMC1D: male • male 1 lever top-entry, MFC1D: male • female 1 lever top-entry; for multi-ended wiring harness or special products, please directly contact the wiring harness department of our company.


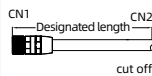
## Circular spring type

Customized service screwing Inter-cabinet wire

## Free length

Selection of connector: Firstly, select the insert; secondly, select the suitable hood; lastly, select the cable gland.

## Identification

Identification	Type of inserts	Number of contacts	Diagrammatic drawing	Hoods&Housings <sup>1)</sup>	Type of cable	Designated unit
	YLHR23 Circular-screwing HR23 Series	3 4 12 ...		MCD male·top-entry FCD female·top-entry	CCC CE UL VDE  According to the cable designated by clients!	0.2-50m Designated unit 0.1m
	YLM8 Circular-screwing M8 Series	...		MTD male·top-entry FTD female·top-entry		
	YLM12 Circular-screwing M12 Series	...		MCS male90°C entry FCS female90°C entry		
		...		MTS male90°C entry FTS female90°C entry		
		Select the number of contacts as required. See P00-02				
						Select right shell size and cable gland according to the core!

1) Double-ended wiring harness: MC1D: male 1 lever top-entry, MMC1D: male • male 1 lever top-entry, MFC1D: male • female 1 lever top-entry; for multi-ended wiring harness or special products, please directly contact the wiring harness department of our company.

Circular welding type

Customized service welding Inter-cabinet wire

Free length

Selection of connector: Firstly, select the insert; secondly, select the suitable hood; lastly, select the cable gland.

Identification



Type of inserts	Number of contacts	Diagrammatic drawing	Hoods&Housings <sup>1)</sup>	Type of cable	Designated unit
			MCD male·top-entry FCD female·top-entry		
YTHR23 Circular-welding HR23 Series	3		MTD male·top-entry FTD female·top-entry	CCC	0.2-50m Designated unit 0.1m
YTM8 Circular-welding M8 Series	6			CE	
YTM12 Circular-welding M12 Series	12			UL	
	...	VDE			
	Select the number of contacts as required. See P00-02		MCS male90°C entry FCS female90°C entry	According to the cable designated by clients!	
			MTS male90°C entry FTS female90°C entry		
			Select right shell size and cable gland according to the core!		

1)Double-ended wiring harness: MC1D:male 1 lever top-entry, MMC1D: male • male 1 lever top-entry, MFC1D: male • female 1 lever top-entry; for multi-ended wiring harness or special products, please directly contact the wiring harness department of our company.

## Optical fiber SERIES



# ODC

## Optical fiber connector



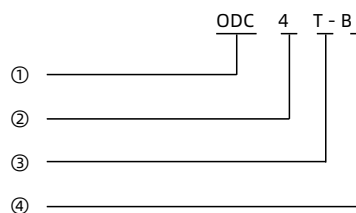
Technical characteristics	
Insertion loss	$\leq 0.70$ dB (typical value 0.4dB)
Return loss	40dB
Number of optical fiber cores	4, 8, 12, 24
Mechanical working life (mating cycles)	$\geq 500$
Vibrate	10-50HZ, 10g
Shock	100g
Limiting temperatures	Normal -20°C ... +75°C
	Special -40°C ... +85°C
Degree of protection	IP67

### Technical characteristics

ODC series of outdoor optical fiber connector has solid structure and reliable connection, and is waterproof and dustproof. It is extensively used in the optical transmission and connection under severe outdoor environment like sensing and power.

1. Screw-threaded locking mechanism guarantees long-term and reliable connection.
2. Guide mechanism enables blind insertion with single hand, making the installation easy and quick.
3. Sealing design makes the connector waterproof, dustproof (IP67) and anti-corrosive.
4. Compact, easy to operate, solid and durable.
5. Applicable to single-mode or multimode optical fiber.

### Naming Rule



- ① (ODC): Name of Series
- ② (4): Number of pins of optical fiber plug (4, 8, 12, 24)
- ③ (T): T: Plug, Z: Socket
- ④ (B): B- Aluminum alloy oxidized into black  
N- Chemical nickel-plating of aluminum alloy  
K- Passivation of stainless steel

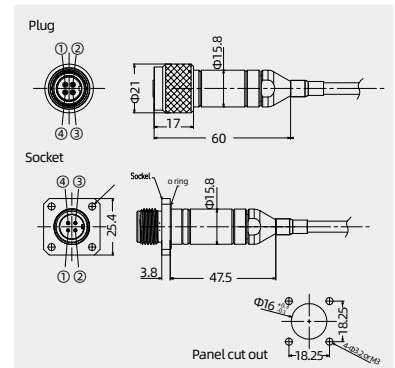
## Optical fiber SERIES

### Optical fiber SERIES

#### 4 pins Optical fiber connector

Multiple kinds of optical fiber plug can be connected at the end, for example, FC, SC, ST, LC, etc. or optical plug or socket.

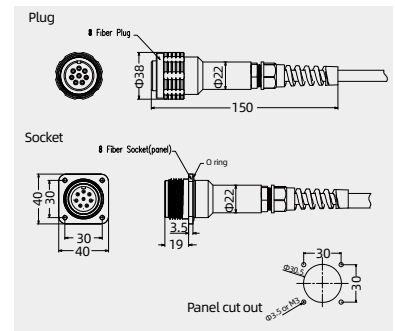
Connector	Description	Designation
Plug	Aluminum alloy oxidized into black	ODC4T-B
	Chemical nickel-plating of aluminum alloy	ODC4T-N
	Passivation of stainless steel	ODC4T-K
Socket	Aluminum alloy oxidized into black	ODC4Z-B
	Chemical nickel-plating of aluminum alloy	ODC4Z-N
	Passivation of stainless steel	ODC4Z-K



#### 8 pins Optical fiber connector

Multiple kinds of optical fiber plug can be connected at the end, for example, FC, SC, ST, LC, etc. or optical plug or socket.

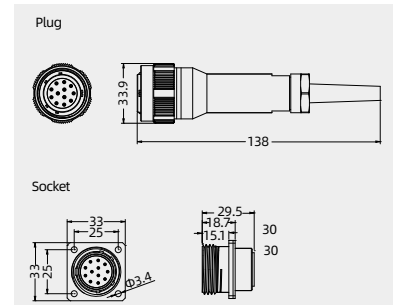
Connector	Description	Designation
Plug	Aluminum alloy oxidized into black	ODC8T-B
	Chemical nickel-plating of aluminum alloy	ODC8T-N
	Passivation of stainless steel	ODC8T-K
Socket	Aluminum alloy oxidized into black	ODC8Z-B
	Chemical nickel-plating of aluminum alloy	ODC8Z-N
	Passivation of stainless steel	ODC8Z-K



#### 12 pins Optical fiber connector

Multiple kinds of optical fiber plug can be connected at the end, for example, FC, SC, ST, LC, etc. or optical plug or socket.

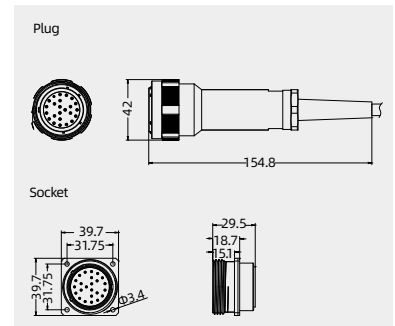
Connector	Description	Designation
Plug	Aluminum alloy oxidized into black	ODC12T-B
	Chemical nickel-plating of aluminum alloy	ODC12T-N
	Passivation of stainless steel	ODC12T-K
Socket	Aluminum alloy oxidized into black	ODC12Z-B
	Chemical nickel-plating of aluminum alloy	ODC12Z-N
	Passivation of stainless steel	ODC12Z-K



#### 24 pins Optical fiber connector

Multiple kinds of optical fiber plug can be connected at the end, for example, FC, SC, ST, LC, etc. or optical plug or socket.

Connector	Description	Designation
Plug	Aluminum alloy oxidized into black	ODC24T-B
	Chemical nickel-plating of aluminum alloy	ODC24T-N
	Passivation of stainless steel	ODC24T-K
Socket	Aluminum alloy oxidized into black	ODC24Z-B
	Chemical nickel-plating of aluminum alloy	ODC24Z-N
	Passivation of stainless steel	ODC24Z-K

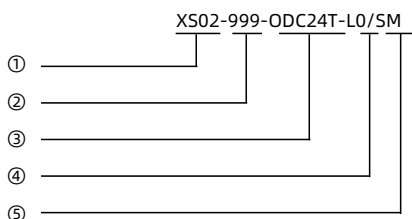


## Prefabricated optical cable

Optical fiber connector is generally ordered as the component of prefabricated optical cable. Our standard configuration is non-metal mouseproof cable (62.5/125) reinforced with glass fiber. Other customized cables are also available.

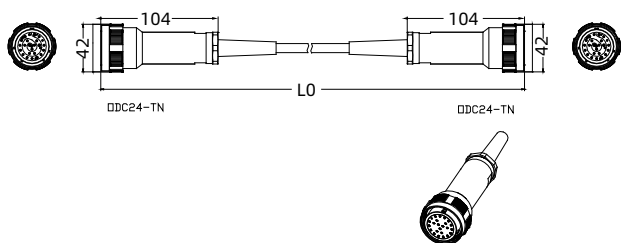


### Naming Rule

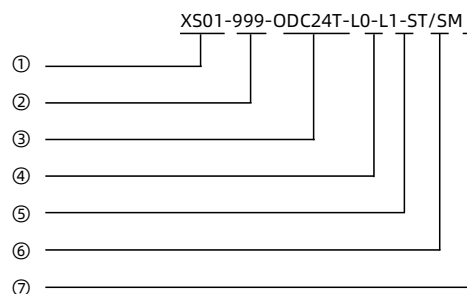


- ① XS02: Double-end prefabrication
- ② 999: Feature flow number, with 999 means no special requirement
- ③ ODC24TN: Model of optical fiber connector
- ④ L0: Length of prefabricated optical fiber
- ⑤ SM: Single-mode optical fiber 9/125

### Drawing

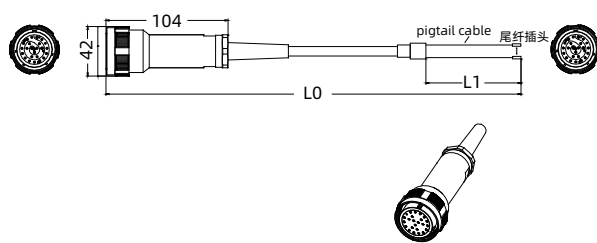


### Naming Rule



- ① XS01: Single-end prefabrication
- ② 999: Feature flow number, with 999 means no special requirement
- ③ ODC24TN: Model of optical fiber connector
- ④ L0: Length of prefabricated optical fiber
- ⑤ L1: Length of pigtail cable
- ⑥ ST: means that ST flange base is configured
- ⑦ SM: Single-mode optical fiber 9/125

### Drawing



## Tools/Cable glands



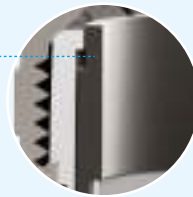


## Production Recommendations: Aluminium Alloy Cable Gland



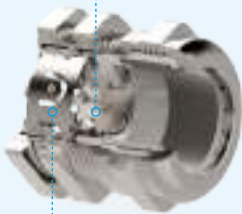
### Advantages of Aluminium Alloy Cable Gland :

1. Light weight
2. Low material costs
3. Anti-oxidation and anti-corrosion



#### Variable sealing ring

One model of variable sealing ring could cover a wide range of cables with different diameter.



#### Low contact resistance

The jaw on the spring strip has several contact, larger contact area maximizes the shielded area.



#### Flexible wiring methods

If 360 degree contact is necessary, the shielding layer should be trimmed before being wrapped with copper foil or aluminium foil , such assembly process could guarantee reliable contact under shielding layer.

More information about aluminium alloy cable gland, please refer to P32-12.

Tools

Contact removal tools

D-sub Contact removal tools



Application	Designation	Order NO.
for 5A crimp contacts	TL08	198 001 000 0006

HD Contact removal tools



Application	Designation	Order NO.
for 10A crimp contacts and 16A male contacts (with spring clip retention)	TL00	198 001 000 0001

HD Contact removal tools

Origin: Germany



Application	Designation	Order NO.
for 10A crimp contacts and 16A male contacts (with spring clip retention)	TL00G	198 001 000 0016

HEE Contact removal tools



Application	Designation	Order NO.
for 16A crimp contacts	TL01	198 001 000 0002

HEE Contact removal tools

Origin: Germany



Application	Designation	Order NO.
for 16A crimp contacts	TL01G	198 001 000 0017

HEE Contact removal tools



Application	Designation	Order NO.
16A female contacts (with spring clip retention)	TL09	198 001 000 0015

Contact Insertion Tool

Contact Insertion Tool



Application	Designation	Order NO.
the auxiliary pin assembly tool of 10A/16A	TL15	198 001 000 0026

## Tools

## Contact removal tools

## Contact removal tools



Application	Designation	Order NO.
for 10A female contacts	TL13	198 001 000 0025

## Contact removal tools

Origin: Germany



Application	Designation	Order NO.
for 40A crimp contacts	TL06G	198 001 000 0009

## Contact removal tools



Application	Designation	Order NO.
H2MK-002 inserts	TL07	198 001 000 0011

## Contact removal tools



Application	Designation	Order NO.
HMK-001 inserts	TL11	198 001 000 0018

## Contact removal tools



Application	Designation	Order NO.
for locking sleeve, H2MVC-002 inserts , H2ME-002 inserts	TL10	198 001 000 0014

## Contact removal tools



Application	Designation	Order NO.
for HK-004/4 inserts	TL12	198 001 000 0024

## Contact removal tools



Application	Designation	Order NO.
for HMP-003-V2 Metal Pneumatic Module	TL26	198 001 000 0030

## Tools

## Crimping tools

## 5A Crimping tool



Wire gauge	Designation	Order NO.
0.09-0.82mm <sup>2</sup>	TL03	198 001 001 0002

## 10A/16A Crimping tool



Wire gauge	Designation	Order NO.
0.14-4mm <sup>2</sup>	TL02	198 001 001 0001
1.5-6mm <sup>2</sup>	TL02-0	198 001 001 0006

## 10A/16A/40A Crimping tool

Origin: Germany



Wire gauge	Designation	Order NO.
0.14-4mm <sup>2</sup>	TL02G	198 001 001 0011
1.5-6mm <sup>2</sup>	TL02-0G	198 001 001 0012
4/6/10mm <sup>2</sup>	TL02-3G	198 001 001 0013

Not suitable for contact with 16A,0.37mm<sup>2</sup>

## 10A/16A/40A Crimping tool with digital display

Origin: Germany



Wire gauge	Designation	Order NO.
0.14-6mm <sup>2</sup>	TL02-2G	198 001 001 0014

## 100A-650A manual hydraulic clamp



Description	Wire gauge	Designation	Order NO.
Output: automatic pressure release	10-240mm <sup>2</sup>	TL05	198 001 001 0005
Output: 13T			
Weight: 6.2kg			

## 100A-650A High current electro-hydraulic pliers



Wire gauge	Designation	Order NO.
10-300mm <sup>2</sup>	TL05-EA	198 001 001 0020

## 100A-650A manual hydraulic clamp

Origin: Sweden



Wire gauge	Designation	Order NO.
10-240mm <sup>2</sup>	TL05G	198 001 001 0019

## 100A-650A High current electro-hydraulic pliers

Origin: Sweden



Wire gauge	Designation	Order NO.
10-240mm <sup>2</sup>	TL05G-EA	198 001 001 0021

## Tools

## Crimping tools

## 10A/16A/40A Crimping tool



Wire gauge	Designation	Order NO.
0.14-4mm <sup>2</sup>	TL28-2	198 001 001 0039
1.5-10mm <sup>2</sup>	TL28-3	198 001 001 0040

Semi-automatic crimping machine  
origin: Germany

Wire gauge	Designation	Order NO.
0.14-6.0mm <sup>2</sup>	CM25-3	198 001 002 0002

## HE B spring open machine



Description	Designation	Order NO.
for all HE B spring inserts	SOM01	198 001 003 0008

## 5A Pneumatic cold pressing pliers

Suitable for mass pressure welding and improve the efficiency of field wiring greatly.



Wire gauge	Designation	Order NO.
0.25-0.82mm <sup>2</sup>	TL03-W7Q	198 001 001 0018

## 10A/16A Pneumatic cold pressing

pliers Suitable for mass pressure welding and improve the efficiency of field wiring greatly.



Wire gauge	Designation	Order NO.
0.37-4.0mm <sup>2</sup>	TL02-WA27F	198 001 001 0016

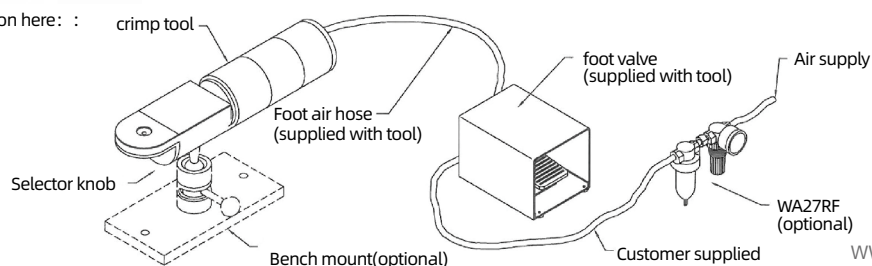
## 40A Pneumatic cold pressing pliers

Suitable for mass pressure welding and improve the efficiency of field wiring greatly.



Wire gauge	Designation	Order NO.
1.5-10mm <sup>2</sup>	TL02-W4Q	198 001 001 0017

Install the connection here: :



## Cable glands

## Metal cable gland

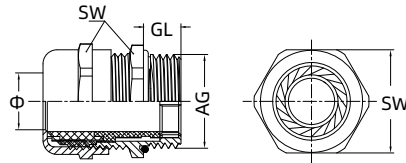
Material: Nickel-plate brass

Sealing: Nylon and NBR

Degree of protection: IP68(with O-sealing)

Temperature range: Stat: -40°C ...+100°C

Dyn: -20°C ...+80°C



Unit: mm

Thread side	Clamping range(Φ)	Thread diameter(AG)	Wrench size(SW)	Thread length(GL)	Designation	Order NO.
PG Thread						
PG7	3-6.5	12.5	14	6	WNA-PG7(D3-6.5) <sup>1)</sup>	102 107 001 1001
PG9	4-8	15.2	17	6.5	WNA-PG9(D4-8) <sup>1)</sup>	102 107 002 1001
PG11	4-8	18.6	20	7	WNA-PG11(D4-8)	102 107 018 1504
PG11	5-10	18.6	20	7	WNA-PG11(D5-10)	102 107 003 1001
PG13.5	6-12	20.4	22	7.5	WNA-PG13.5(D6-12)	102 107 004 1001
PG16	8-14	22.5	24	7	WNA-PG16(D8-14)	102 107 005 1001
PG21	13-18	28.3	30	8	WNA-PG21(D13-18)	102 107 006 1001
PG29	18-25	37.0	40	9	WNA-PG29(D18-25)	102 107 007 1001
PG36	22-32	47.0	50	12	WNA-PG36(D22-32)	102 107 008 1001
PG42	31-38	54.0	57	12	WNA-PG42(D31-38)	102 107 009 1001
PG48	37-44	59.3	65	12	WNA-PG48(D37-44) <sup>3)</sup>	102 107 010 1001
Metric Thread						
M12x1.5	3-6.5	12	14	6	WNA-M12(D3-6.5) <sup>1)</sup>	102 107 011 1001
M14x1.5	3-6.5	14	14	6	WNA-M14(D3-6.5) <sup>1)</sup>	102 107 012 1001
M16x1.5	4-8	16	17	6.5	WNA-M16(D4-8) <sup>1)</sup>	102 107 013 1001
M16x1.5	5-10	16	20	6	WNA-M16(D5-10) <sup>1)</sup>	102 107 013 1002
M18x1.5	5-10	18	20	7	WNA-M18(D5-10) <sup>1)</sup>	102 107 014 1001
M20x1.5	4-8	20	22	8	WNA-M20(D4-8)	102 107 018 1503
M20x1.5	6-12	20	22	8	WNA-M20(D6-12)	102 107 015 1001
M20x1.5	8-14	20	24	8	WNA-M20(D8-14)	102 107 015 1002
M22x1.5	8-14	22	24	7.5	WNA-M22(D8-14)	102 107 016 1001
M25x1.5	9-16	25	27	7.5	WNA-M25(D9-16)	102 107 018 1002
M25x1.5	13-18	25	30	7.5	WNA-M25(D13-18)	102 107 018 1001
M32x1.5	15-22	32	35	8.5	WNA-M32(D15-22)	102 107 019 1002
M32x1.5	18-25	32	40	8.0	WNA-M32(D18-25)	102 107 019 1001
M40x1.5	18-25	40	45	12	WNA-M40(D18-25)	102 107 020 1002
M40x1.5	22-32	40	50	12	WNA-M40(D22-32)	102 107 020 1001
M50x1.5	22-32	50	57	12	WNA-M50(D22-32)	102 107 046 1002
M50x1.5	31-38	50	57	12	WNA-M50(D31-38)	102 107 046 1001
M63x1.5	37-44	63	65	12	WNA-M63(D37-44)	102 107 048 1001

1).MOQ 100 pcs. 2).MOQ 200 pcs. 3).MOQ 50 pcs. 4).MOQ 20 pcs.

## Cable glands

## Metal cable gland



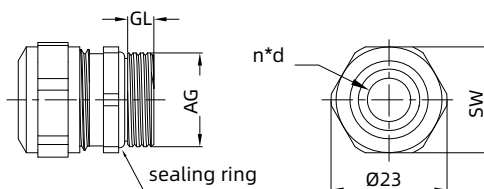
Material: Nickel-plate brass

Sealing: TPR

Degree of protection: IP68(with O-sealing)

Temperature range: Stat: -40°C ...+100°C

Dyn: -40°C ...+120°C



Unit: mm

Thread side	Clamping range( $\Phi$ )	Thread diameter(AG)	Wrench size(SW)	Thread length(GL)	Designation	Order NO.
PG Thread						
PG11	1 $\times$ $\Phi$ 5.5	18.6	21	5.2	WNA/A-PG11(D4-5.5)	102 100 003 0500
PG11	1 $\times$ $\Phi$ 8.6	18.6	21	5.2	WNA/A-PG11(D5.5-12)	102 100 003 0502
PG11	2 $\times$ $\Phi$ 5	18.6	21	5.2	WNAM/A-PG11(2* $D$ 3.5-5)	102 100 003 0501
PG11	2 $\times$ $\Phi$ 6	18.6	21	5.2	WNAM/A-PG11/(2* $D$ 4.5-6)	102 100 004 0500
PG11	2 $\times$ $\Phi$ 7.5	18.6	24	5.2	WNAM/A-PG11(2* $D$ 5.5-7.5)	102 100 003 1502
PG11	3 $\times$ $\Phi$ 5	18.6	21	5.2	WNAM/A-PG11/(3* $D$ 3.5-5.0)	102 100 003 1503

1).MOQ 100 pcs. 2).MOQ 200 pcs. 3).MOQ 50 pcs. 4).MOQ 20 pcs.

## Cable glands

## Metal cable gland-extra length

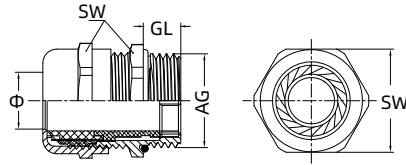
Material: Nickel-plate brass

Sealing: Nylon and NBR

Degree of protection: IP68(with O-sealing)

Temperature range: Stat: -40°C ...+100°C

Dyn: -20°C ...+80°C



Unit: mm

Thread side	Clamping range( $\Phi$ )	Thread diameter(AG)	Wrench size(SW)	Thread length(GL)	Designation	Order NO.
Metric Thread						
M25x1.5	9-16	25	27	12	WNA-M25L(D9-16) <sup>3)</sup>	102 107 018 1102
M25x1.5	13-18	25	30	12	WNA-M25L(D13-18) <sup>3)</sup>	102 107 018 1101
M32x1.5	15-22	32	35	12	WNA-M32L(D15-22) <sup>3)</sup>	102 107 019 1102
M32x1.5	18-25	32	40	12	WNA-M32L(D18-25) <sup>3)</sup>	102 107 019 1101
M40x1.5	22-32	40	50	15	WNA-M40L(D22-32) <sup>3)</sup>	102 107 020 1101

1).MOQ 100 pcs. 2).MOQ 200 pcs. 3).MOQ 50 pcs. 4).MOQ 20 pcs.



## Cable glands

## Plastic cable gland

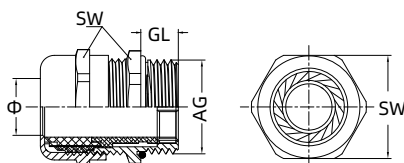
Material: Nylon

Sealing: NBR

Degree of protection: IP68(with O-sealing)

Temperature range: Stat: -40°C ...+100°C

Dyn: -20°C ...+80°C



Unit: mm

Thread side	Clamping range(Φ)	Thread diameter(AG)	Wrench size(SW)	Thread length(GL)	Designation(Grey)	Order NO.	Designation(Black)	Order NO.
<b>PG Thread</b>								
PG7	3-6.5	12.5	15	8.5	WNAP-PG7G(D3-6.5) <sup>1)</sup>	102 108 001 2001	WNAP-PG7B(D3-6.5) <sup>1)</sup>	102 108 001 2002
PG9	4-8	15.2	19	8.0	WNAP-PG9G(D4-8) <sup>1)</sup>	102 108 002 2001	WNAP-PG9B(D4-8) <sup>1)</sup>	102 108 002 2002
PG11	5-10	18.6	22	8.0	WNAP-PG11G(D5-10)	102 108 003 2001	WNAP-PG11B(D5-10)	102 108 003 2002
PG13.5	6-12	20.4	24	10	WNAP-PG13.5G(D6-12)	102 108 004 2001	WNAP-PG13.5B(D6-12)	102 108 004 2002
PG16	8-14	22.5	27	10	WNAP-PG16G(D8-14)	102 108 005 2001	WNAP-PG16B(D8-14)	102 108 005 2002
PG21	13-18	28.3	33	11	WNAP-PG21G(D13-18)	102 108 006 2001	WNAP-PG21B(D13-18)	102 108 006 2002
PG29	18-25	37.0	42	11	WNAP-PG29G(D18-25)	102 108 007 2001	WNAP-PG29B(D18-25)	102 108 007 2002
PG36	22-32	47.0	52	13	WNAP-PG36G(D22-32)	102 108 008 2001	WNAP-PG36B(D22-32)	102 108 008 2002
PG42	32-38	54.0	60	15	WNAP-PG42G(D32-38)	102 108 009 2001	WNAP-PG42B(D32-38)	102 108 009 2002
PG48	37-44	59.3	65	14.0	WNAP-PG48G(D37-44) <sup>1)</sup>	102 108 010 2001	WNAP-PG48B(D37-44) <sup>1)</sup>	102 108 010 2002
<b>Metric Thread</b>								
M12x1.5	3-6.5	12	15	8	WNAP-M12G(D3-6.5) <sup>1)</sup>	102 108 011 2001	WNAP-M12B(D3-6.5) <sup>1)</sup>	102 108 011 2002
M16x1.5	4-8	16	19	8	WNAP-M16G(D4-8) <sup>1)</sup>	102 108 013 2001	WNAP-M16B(D4-8) <sup>1)</sup>	102 108 013 2002
M20x1.5	5-10	20	24	9	WNAP-M20G(D5-10)	102 108 015 2003	WNAP-M20B(D5-10)	102 108 015 2004
M20x1.5	6-12	20	24	9	WNAP-M20G(D6-12)	102 108 015 2001	WNAP-M20B(D6-12)	102 108 015 2002
M22x1.5	8-14	22	27	10	WNAP-M22G(D8-14) <sup>1)</sup>	102 108 016 2001	WNAP-M22B(D8-14) <sup>1)</sup>	102 108 016 2002
M25x1.5	13-18	25	33	11	WNAP-M25G(D13-18)	102 108 018 2001	WNAP-M25B(D13-18)	102 108 018 2002
M32x1.5	18-25	32	42	11	WNAP-M32G(D18-25)	102 108 019 2001	WNAP-M32B(D18-25)	102 108 019 2002
M40x1.5	22-32	40	51	13	WNAP-M40G(D22-32)	102 108 020 2001	WNAP-M40B(D22-32)	102 108 020 2002
M50x1.5	31-38	50	60	13	WNAP-M50G(D31-38)	102 108 046 2001	WNAP-M50B(D31-38)	102 108 046 2002
M63x1.5	37-44	63	65	14	WNAP-M63G(D37-44)	102 108 048 2001	WNAP-M63B(D37-44) <sup>1)</sup>	102 108 048 2002

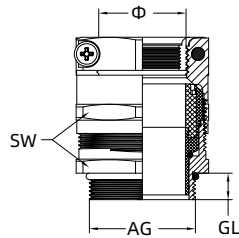
1).MOQ 100 pcs. 2).MOQ 200 pcs. 3).MOQ 50 pcs. 4).MOQ 20 pcs.

## Cable glands

## Gland with external strain relief via calmping jaws

Material: Nickel-plate brass,Nylon

Degree of protection: IP68(with O-sealing)



Unit: mm

Thread side	Clamping range(Φ)	Thread diameter(AG)	Wrench size(SW)	Thread length(GL)	Designation	Order NO.
PG Thread						
PG9	4-8	15.2	17	7	WNKS-PG9(4-8) <sup>3)</sup>	102 113 002 1001
PG11	5-10	18.6	22	7	WNKS-PG11(5-10)	102 113 003 1001
PG13.5	6-12	20.4	22	8	WNKS-PG13.5(6-12)	102 113 004 1001
PG16	10-14	22.5	24	7.5	WNKS-PG16(10-14)	102 113 005 1001
PG21	13-18	28.3	30	8	WNKS-PG21(13-18)	102 113 006 1001
PG29	18-25	37.0	40	9	WNKS-PG29(18-25)	102 113 007 1001
PG36	22-32	47.0	50	12	WNKS-PG36(22-32)	102 113 008 1001
PG42	30-38	54.0	57	12	WNKS-PG42(30-38)	102 113 009 1001
Metric Thread						
M16x1.5	4-8	16	18	6.5	WNKS-M16(4-8) <sup>3)</sup>	102 113 013 1001
M16x1.5	5-10	16	22	6	WNKS-M16(5-10) <sup>3)</sup>	102 113 013 1002
M20x1.5	6-12	20	22	7.5	WNKS-M20(6-12)	102 113 015 1001
M25x1.5	10-16	25	27	8	WNKS-M25(10-16)	102 113 018 1002
M25x1.5	13-18	25	30	7.5	WNKS-M25(13-18)	102 113 018 1001
M32x1.5	16-22	32	35	8.5	WNKS-M32(16-22)	102 113 019 1002
M32x1.5	18-25	32	40	8	WNKS-M32(18-25)	102 113 019 1001
M40x1.5	22-30	40	45	12	WNKS-M40(22-30)	102 113 020 1002
M40x1.5	22-32	40	50	12	WNKS-M40(22-32)	102 113 020 1001
M50x1.5	30-38	50	57	12	WNKS-M50(30-38)	102 113 046 1001

\*preferable product

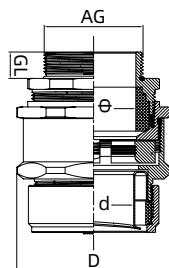
1).MOQ 100 pcs. 2).MOQ 200 pcs. 3).MOQ 50 pcs. 4).MOQ 20 pcs.

## Cable glands

## Gland with external strain relief via calmping jaws

Material: Nickel-plate brass,Nylon

Degree of protection: IP68(with O-sealing)



Unit: mm

Thread side	Clamping range( $\Phi$ )	Fits to tubing size(d)	Thread length(GL)	External diameter(D)	Designation	Order NO.
Metric Thread						
M25x1.5	13-18	25	8	46	WNKD-M25/D25(13-18)	102 123 018 1001
M40x1.5	22-32	38	10	70	WNKD-M40/D38(22-32)	102 123 020 1001
M45x1.5	30-38	38	10	70	WNKD-M45/D38(30-38)	102 123 041 1001

## Cable glands

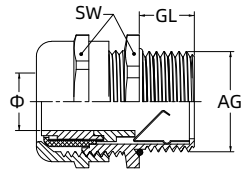
## Aluminum alloy EMC cable gland

Material: Aluminum alloy

Sealing: Nylon 66 and NBR

Degree of protection: IP67(with O-sealing)

Temperature range: -40°C ...+100°C



Unit: mm

Thread side	Clamping range( $\Phi$ )	Thread diameter(AG)	Wrench size(SW)	Thread length(GL)	Designation	Order NO.
Metric Thread						
M20x1.5	7-12	20	22	7	WNACAL-M20(D7-12)	102 117 015 4501
M25x1.5	7-14	25	27	9.5	WNACAL-M25(D7-14)	102 117 018 4001
M32x1.5	14-19	32	36	9.5	WNACAL-M32(D14-19)	102 117 019 4501
M32x1.5	15-22	32	36	9.5	WNACAL-M32(D15-22)	102 117 019 4502

## Cable glands

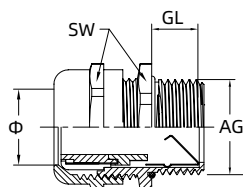
## EMC Cable gland

Material: Nickel-plate brass

Sealing: Nylon and NBR

Degree of protection: IP68(with O-sealing)

Temperature range: -40°C ...+100°C ,short-term 120°C



Unit: mm

Thread side	Clamping range( $\Phi$ )	Thread diameter(AG)	Wrench size(SW)	Thread length(GL)	Designation	Order NO.
PG Thread						
PG9	4-8	15.2	18	6	WNAC-PG9(D4-8) <sup>3)</sup>	102 117 002 1001
PG11	5-10	18.6	20	6	WNAC-PG11(D5-10)	102 117 003 1001
PG13.5	6-12	20.4	24	7	WNAC-PG13.5(D6-12)	102 117 004 1001
PG16	8-14	22.5	24	7	WNAC-PG16(D8-14)	102 117 005 1001
PG21	13-18	28.3	30	8	WNAC-PG21(D13-18)	102 117 006 1001
PG29	18-25	37.0	40	8	WNAC-PG29(D18-25)	102 117 007 1001
PG36	22-32	47.0	50	9	WNAC-PG36(D22-32)	102 117 008 1001
PG42	30-38	54.0	57	9	WNAC-PG42(D30-38)	102 117 009 1001
Metric Thread						
M12x1.5	3-6.5	12	14	5	WNAC-M12(D3-6.5) <sup>3)</sup>	102 117 011 1001
M16x1.5	4-8	16	20	6	WNAC-M16(D4-8) <sup>3)</sup>	102 117 013 1001
M16x1.5	5-10	18	20	6	WNAC-M18(D5-10) <sup>3)</sup>	102 117 014 1001
M20x1.5	6-12	20	24	7	WNAC-M20(D6-12)	102 117 015 1001
M24x1.5	8-14	24	27	7	WNAC-M24(D8-14) <sup>3)</sup>	102 117 017 1001
M25x1.5	10-16	25	27	12	WNAC-M25(D10-16)	102 117 018 1002
M25x1.5	13-18	25	30	13	WNAC-M25(D13-18)	102 117 018 1001
M30x1.5	13-18	30	35	8	WNAC-M30(D13-18) <sup>3)</sup>	102 117 038 1001
M32x1.5	15-22	32	40	13	WNAC-M32(D15-22)	102 117 019 1002
M32x1.5	18-25	32	40	13	WNAC-M32(D18-25)	102 117 019 1001
M36x2	18-25	36	40	8	WNAC-M36(D18-25) <sup>3)</sup>	102 117 040 1001
M40x1.5	21-30	40	45	9	WNAC-M40(D21-30)	102 117 020 1002
M40x1.5	22-32	40	50	9	WNAC-M40(D22-32)	102 117 020 1001
M48x2	22-32	48	50	9	WNAC-M48(D22-32) <sup>3)</sup>	102 117 045 1001
M50x1.5	30-38	50	57	9	WNAC-M50(D30-38) <sup>3)</sup>	102 117 046 1001
M56x2	30-38	56	57	9	WNAC-M56(D30-38) <sup>3)</sup>	102 117 047 1001
M63x1.5	37-44	63	65	10	WNAC-M63(D37-44)	102 117 048 1001

1).MOQ 100 pcs. 2).MOQ 200 pcs. 3).MOQ 50 pcs. 4).MOQ 20 pcs.

## Cable glands

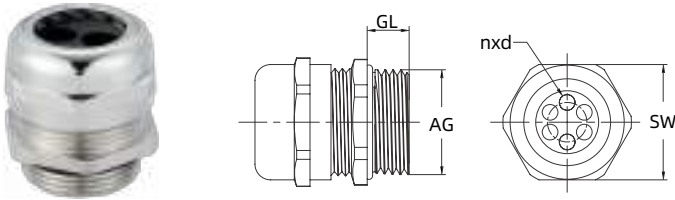
## Metal cable gland with multi-core

Material: Nickel-plate brass

Sealing: Nylon and NBR

Degree of protection: IP65(with O-sealing)

Temperature range: -40°C ...+100°C ,short-term 120°C



Unit: mm

Thread side	Clamping range(Φ)	Thread diameter(AG)	Wrench size(SW)	Thread length(GL)	Designation	Order NO.
PG Thread						
PG9	2x3	15.2	17	6.7	WNAM-PG9/(2*3) <sup>2)</sup>	102 109 002 1001
PG21	4x6	28.3	30	8	WNAM-PG21/(4*6)	102 109 006 1005
PG21	3x7	28.3	30	8	WNAM-PG21/(3*7) <sup>2)</sup>	102 109 006 1004
PG21	2x6	28.3	30	8	WNAM-PG21/(2*6)	102 109 006 1001
PG21	2x7	28.3	30	8	WNAM-PG21/(2*7) <sup>2)</sup>	102 109 006 1002
PG21	2x8	28.3	30	8	WNAM-PG21/(2*8)	102 109 006 1003
PG29	4x9	37	40	9	WNAM-PG29/(4*9)	102 109 007 1001
PG36	5x9	47	50	12	WNAM-PG36/(5*9)	102 109 008 1001
Metric Thread						
M16x1.5	2x3	16	17	6.5	WNAM-M16/(2*3) <sup>2)</sup>	102 109 013 1001
M20x1.5	6x3	20	22	8	WNAM-M20/(6*3)	102 109 015 1002
M20x1.5	2x5	20	22	8	WNAM-M20/(2*5)	102 109 015 1001
M25x1.5	2x7	25	30	7.5	WNAM-M25/(2*7)	102 109 018 1001
M25x1.5	4x6	25	30	7.5	WNAM-M25/(4*6)	102 109 018 1004
M25x1.5	3x7	25	30	7.5	WNAM-M25/(3*7) <sup>2)</sup>	102 109 018 1003
M25x1.5	2x8	25	30	7.5	WNAM-M25/(2*8)	102 109 018 1002
M32x1.5	4x9	32	40	8	WNAM-M32/(4*9)	102 109 019 1002
M40x1.5	5x9	40	50	12	WNAM-M40/(5*9)	102 109 020 1002
M40x1.5	2x15	40	50	12	WNAM-M40/(2*15)	102 109 020 1001

1).MOQ 100 pcs. 2).MOQ 200 pcs. 3).MOQ 50 pcs. 4).MOQ 20 pcs.

## Cable glands

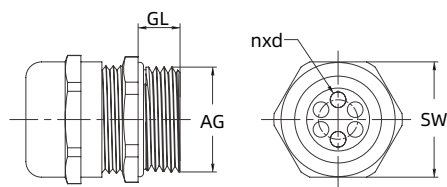
## Metal cable gland with multi-core - extra length

Material: Nickel-plate brass

Sealing: Nylon and NBR

Degree of protection: IP65(with O-sealing)

Temperature range: -40°C ...+100°C ,short-term 120°C



Unit: mm						
Thread side	Clamping range(nxd)	Thread diameter(AG)	Wrench size(SW)	Thread length(GL)	Designation	Order NO.
Metric Thread						
M25x1.5	4x6	25	30	12	WNAM-M25L/(4*6) <sup>2)</sup>	102 109 018 1101
M32x1.5	4x9	32	40	12	WNAM-M32L/(4*9) <sup>2)</sup>	102 109 019 1102
M40x1.5	5x9	40	50	15	WNAM-M40L/(5*9) <sup>2)</sup>	102 109 020 1102
M40x1.5	2x15	40	50	15	WNAM-M40L/(2*15) <sup>2)</sup>	102 109 020 1101

1).MOQ 100 pcs. 2).MOQ 200 pcs. 3).MOQ 50 pcs. 4).MOQ 20 pcs.

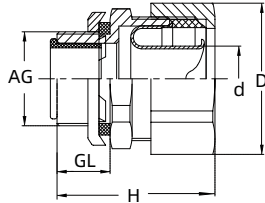
## Cable glands

## Outer thread tube connector

Material: Zinc alloy,Zinc plated

Specialty: one end is connected to the flexible tube, the other end with thread to the switch chest or the device. The structure is compact and the surface has anti-corrosion function.

Applications: Electromotor, Cable bridge frame, Electric engineering, Electric control etc.



Unit: mm

Thread side	Fits to tubing size(d)	Thread length(GL)	External diameter(D)	Height(H)	Designation	Order NO.
PG Thread						
PG9	10	8.5	26	30	WNC-PG9/D10 <sup>4)</sup>	102 114 002 5001
PG11	12	10.5	27.5	32	WNC-PG11/D12	102 114 003 5001
PG13.5	15	11.5	31.5	34	WNC-PG13.5/D15	102 114 004 5001
PG16	15	12.5	32	34	WNC-PG16/D15	102 114 005 5001
PG21	20	13.5	38	37	WNC-PG21/D20	102 114 006 5001
PG29	25	15	45.5	44	WNC-PG29/D25	102 114 007 5001
PG29	32	14	55	52	WNC-PG29/D32	102 114 007 5003
PG36	38	17	62	51	WNC-PG36/D38	102 114 008 5001
PG42	38	17	62	51	WNC-PG42/D38	102 114 009 5001
PG48	51	19	77.5	56	WNC-PG48/D51	102 114 010 5001
Metric Thread						
M16x1.5	8	8	24	28	WNC-M16/D8 <sup>4)</sup>	102 114 013 5001
M16x1.5	10	8	25.5	30	WNC-M16/D10 <sup>4)</sup>	102 114 013 5003
M20x1.5	12	10	27.5	32	WNC-M20/D12	102 114 015 5001
M24x1.5	15	11.5	32	34	WNC-M24/D15 <sup>4)</sup>	102 114 017 5001
M25x1.5	20	12	37.5	37	WNC-M25/D20	102 114 018 5001
M30x2.0	20	13	38	37	WNC-M30/D20 <sup>4)</sup>	102 114 038 5001
M32x1.5	20	12.5	37.5	37	WNC-M32/D20	102 114 019 5005
M32x1.5	25	15	46	41	WNC-M32/D25	102 114 019 5001
M36x2.0	25	13	45	44	WNC-M36/D25 <sup>4)</sup>	102 114 040 5001
M40x1.5	32	15	55	47	WNC-M40/D32	102 114 020 5001

1).MOQ 100 pcs.    2).MOQ 200 pcs.    3).MOQ 50 pcs.    4).MOQ 20 pcs.

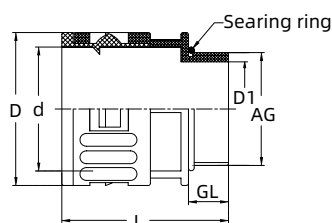


## Cable glands

## Quick tube connector

Material: Nylon 6

Temperature range: -40°C ...+120°C



Unit: mm

Thread side	Fits to tubing size(d)	Thread length(GL)	Bore(D1)	External diameter(D)	Total length(L)	Designation(Black)	Order NO.
<b>PG Thread</b>							
PG7	AD10.0	9.5	7.5	17.0	34.5	WNCP-PG7B/AD10.0 <sup>2)</sup>	102 115 001 2002
PG9	AD13.0	9.5	11.5	20.0	34.5	WNCP-PG9B/AD13.0 <sup>2)</sup>	102 115 002 2002
PG11	AD15.8	9.5	14.0	23.0	36.0	WNCP-PG11B/AD15.8	102 115 003 2002
PG13.5	AD18.5	11.0	16.0	26.0	39.0	WNCP-PG13.5B/AD18.5	102 115 004 2002
PG16	AD21.2	13.0	18.0	29.5	44.0	WNCP-PG16B/AD21.2	102 115 005 2002
PG21	AD28.5	13.0	23.5	37.0	47.0	WNCP-PG21B/AD28.5	102 115 006 2002
PG29	AD34.5	11.5	30.5	43.5	47.0	WNCP-PG29B/AD34.5	102 115 007 2002
PG36	AD42.5	13.5	40.0	51.0	52.0	WNCP-PG36B/AD42.5	102 115 008 2002
<b>Metric Thread</b>							
M12x1.5	AD10.0	10.0	8.0	17.0	34.5	WNCP-M12B/AD10.0 <sup>2)</sup>	102 115 011 2002
M16x1.5	AD13.0	9.5	11.5	20.0	34.5	WNCP-M16B/AD13.0 <sup>2)</sup>	102 115 013 2002
M18x1.5	AD15.8	9.5	14.0	23.0	36.0	WNCP-M18B/AD15.8 <sup>2)</sup>	102 115 014 2002
M20x1.5	AD18.5	11.0	16.0	26.0	39.0	WNCP-M20B/AD18.5	102 115 015 2002
M20x1.5	AD21.2	13.0	15.0	29.5	44.0	WNCP-M20B/AD21.2	102 115 015 2004
M25x1.5	AD21.2	13.0	18.0	29.5	44.5	WNCP-M25B/AD21.2	102 115 018 2002
M25x1.5	AD28.5	13.0	20.5	37.0	47.0	WNCP-M25B/AD28.5	102 115 018 2004
M32x1.5	AD28.5	13.0	24.0	37.0	47.0	WNCP-M32B/AD28.5	102 115 019 2002
M40x1.5	AD34.5	11.0	30.0	43.5	48.0	WNCP-M40B/AD34.5	102 115 020 2002
M40x1.5	AD42.5	13.5	33.5	51.0	52.0	WNCP-M40B/AD42.5	102 115 020 2004
M50x1.5	AD54.5	13.5	42.5	63.5	53.5	WNCP-M50B/AD54.5	102 115 046 2004
M63x1.5	AD54.5	14.0	55.0	63.5	53.5	WNCP-M63B/AD54.5	102 115 048 2002

1).MOQ 100 pcs. 2).MOQ 200 pcs. 3).MOQ 50 pcs. 4).MOQ 20 pcs.

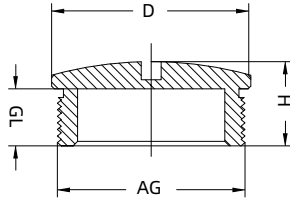
## Cable glands

## Nylon plug

Material: Nylon 6

Temperature range: -40°C ...+120°C

Degree of protection: IP68(with O-sealing)



Unit: mm

Thread side	Thread length(GL)	Height(H)	Thread diameter(AG)	External diameter(D)	Designation	Order NO.
PG Thread						
PG7	6.0	10.0	12.5	15.5	WNPP-PG7G/R <sup>1)</sup>	102 102 001 2101
PG9	6.0	10.0	15.2	18.5	WNPP-PG9G/R <sup>1)</sup>	102 102 002 2101
PG11	8.0	11.5	18.6	22.0	WNPP-PG11G/R <sup>1)</sup>	102 102 003 2101
PG13.5	8.0	11.5	20.4	24.0	WNPP-PG13.5G/R	102 102 004 2101
PG16	8.0	12.0	22.5	27.0	WNPP-PG16G/R	102 102 005 2101
PG21	7.5	12.0	28.3	33.0	WNPP-PG21G/R	102 102 006 2101
PG29	8.0	12.0	37.0	43.0	WNPP-PG29G/R	102 102 007 2101
PG36	10.5	14.0	47.0	55.0	WNPP-PG36G/R	102 102 008 2101
PG42	11.0	15.5	54.0	62.0	WNPP-PG42G/R	102 102 009 2101
PG48	13.0	17.0	59.3	68.5	WNPP-PG48G/R	102 102 010 2101
Metric Thread						
M12x1.5	6.0	10.0	12.0	15.0	WNPP-M12G/R <sup>1)</sup>	102 102 011 2101
M16x1.5	5.5	10.0	16.0	18.5	WNPP-M16G/R <sup>1)</sup>	102 102 013 2101
M20x1.5	8.0	11.5	20.0	25.0	WNPP-M20G/R	102 102 015 2101
M25x1.5	7.5	12.5	25.0	29.5	WNPP-M25G/R	102 102 018 2101
M32x1.5	9.0	13.5	32.0	39.0	WNPP-M32G/R	102 102 019 2101
M40x1.5	11.0	15.0	40.0	48.0	WNPP-M40G/R	102 102 020 2101
M50x1.5	12.0	18.0	50.0	61.5	WNPP-M50G/R	102 102 046 2101
M63x1.5	12.5	18.0	63.0	70.5	WNPP-M63G/R	102 102 048 2101

1).MOQ 100 pcs. 2).MOQ 200 pcs. 3).MOQ 50 pcs. 4).MOQ 20 pcs.

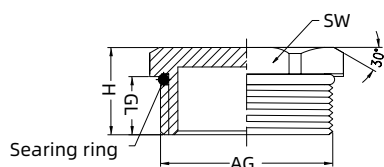
## Cable glands

## Metal plug

Material: Nickel-plate brass

Temperature range: -40°C ...+120°C

Degree of protection: IP68(with O-sealing)



Unit: mm

Thread side	Thread length(GL)	Height(H)	Thread diameter(AG)	Wrench size(SW)	Designation	Order NO.
PG Thread						
PG7	5	8	12.5	14	WNP-PG7 <sup>1)</sup>	102 101 001 1001
PG9	6	9	15.2	18	WNP-PG9 <sup>1)</sup>	102 101 002 1001
PG11	6	10	18.6	20	WNP-PG11	102 101 003 1001
PG13.5	7	10	20.4	22	WNP-PG13.5	102 101 004 1001
PG16	7	10	22.5	24	WNP-PG16	102 101 005 1001
PG21	7	11	28.3	30	WNP-PG21	102 101 006 1001
PG29	8	13	37.0	40	WNP-PG29	102 101 007 1001
PG36	8	13	47.0	50	WNP-PG36	102 101 008 1001
PG42	9	15	54.0	55	WNP-PG42	102 101 009 1001
PG48	10	17	59.3	65	WNP-PG48	102 101 010 1001
Metric Thread						
M12x1.5	5	8	12	14	WNP-M12 <sup>1)</sup>	102 101 011 1001
M16x1.5	6	9	16	18	WNP-M16 <sup>1)</sup>	102 101 013 1001
M18x1.5	6	10	18	20	WNP-M18 <sup>1)</sup>	102 101 014 1001
M20x1.5	6	9.5	20	22	WNP-M20	102 101 015 1001
M22x1.5	7	10	22	24	WNP-M22 <sup>1)</sup>	102 101 016 1001
M24x1.5	7	11	24	27	WNP-M24 <sup>1)</sup>	102 101 017 1001
M25x1.5	7	11	25	27	WNP-M25	102 101 018 1001
M32x1.5	7	11	32	35	WNP-M32	102 101 019 1001
M36x1.5	8	12	36	40	WNP-M36	102 101 040 1001
M40x1.5	8	13	40	45	WNP-M40	102 101 020 1001
M48x1.5	9	15	48	50	WNP-M48 <sup>3)</sup>	102 101 045 1001
M50x1.5	9	13	50	55	WNP-M50	102 101 046 1001
M63x1.5	10	17	63	70	WNP-M63	102 101 048 1001

1).MOQ 100 pcs. 2).MOQ 200 pcs. 3).MOQ 50 pcs. 4).MOQ 20 pcs.

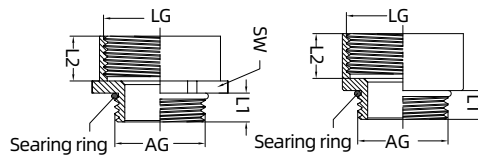
## Cable glands

## Metal enlargement

Material : Nickel-plate brass

Shape: Round, Hexagonal

Applications: Apply to the situation of the diameter need to be enlarged



Hexagonal metal enlargement    Round metal enlargement

Unit: mm

Outside thread(AG)	Inside thread(LG)	Outside thread length(L1)	Inside thread length(L2)	Wrench size(SW)	cDesignation (Hexagonal)	Order NO.	Designation(Round)	Order NO.
PG Thread		Round/ Hexagonal	Round/ Hexagonal	Hexagonal				
PG7	PG9	5.0/5.0	8.0/10.0	17	WNSC-PG7PG9 <sup>2)</sup>	102 103 001 1002	WNSC-PG7PG9R <sup>2)</sup>	102 103 001 1102
PG9	PG11	6.0/6.0	10.0/12.0	20	WNSC-PG9PG11 <sup>2)</sup>	102 103 002 1002	WNSC-PG9PG11R <sup>2)</sup>	102 103 002 1102
PG11	PG13.5	6.0/6.0	10.0/12.0	22	WNSC-PG11PG13.5 <sup>2)</sup>	102 103 003 1002	WNSC-PG11PG13.5R <sup>2)</sup>	102 103 003 1102
PG13.5	PG16	6.5/6.5	11.0/13.0	24	WNSC-PG13.5PG16	102 103 004 1002	WNSC-PG13.5PG16R	102 103 004 1102
PG16	PG21	6.5/6.5	12.0/14.0	30	WNSC-PG16PG21	102 103 005 1002	WNSC-PG16PG21R	102 103 005 1102
PG21	PG29	8.0/7.0	13.5/15.0	40	WNSC-PG21PG29	102 103 006 1002	WNSC-PG21PG29R	102 103 006 1102
PG29	PG36	8.0/8.0	15.5/17.0	50	WNSC-PG29PG36	102 103 007 1002	WNSC-PG29PG36R	102 103 007 1102
PG36	PG42	9.0/9.0	14.5/16.0	57	WNSC-PG36PG42	102 103 008 1002	WNSC-PG36PG42R	102 103 008 1102
PG42	PG48	10.0/10.0	14.5/16.0	65	WNSC-PG42PG48	102 103 009 1002	WNSC-PG42PG48R	102 103 009 1102
Metric Thread								
M12x1.5	M16x1.5	5.0/5.0	8.0/10.0	18	WNSC-M12M16 <sup>2)</sup>	102 103 011 1002	WNSC-M12M16R <sup>2)</sup>	102 103 011 1102
M16x1.5	M20x1.5	6.0/6.0	10.0/12.0	22	WNSC-M16M20 <sup>2)</sup>	102 103 013 1002	WNSC-M16M20R <sup>2)</sup>	102 103 013 1102
M20x1.5	M25x1.5	8.0/6.5	13.5/11.0	27	WNSC-M20M25	102 103 015 1002	WNSC-M20M25R	102 103 015 1102
M25x1.5	M32x1.5	7.5/6.5	13.5/12.0	35	WNSC-M25M32	102 103 018 1002	WNSC-M25M32R	102 103 018 1102
M32x1.5	M40x1.5	10.0/7.0	13.5/15.0	45	WNSC-M32M40	102 103 019 1002	WNSC-M32M40R	102 103 019 1102
M40x1.5	M50x1.5	10.0/9.0	14.5/18.0	55	WNSC-M40M50	102 103 020 1002	WNSC-M40M50R	102 103 020 1102
M50x1.5	M63x1.5	9.0/9.0	14.5/16.0	65	WNSC-M50M63 <sup>2)</sup>	102 103 046 1002	WNSC-M50M63R <sup>2)</sup>	102 103 046 1102

1).MOQ 100 pcs.

2).MOQ 200 pcs.

3).MOQ 50 pcs.

4).MOQ 20 pcs.

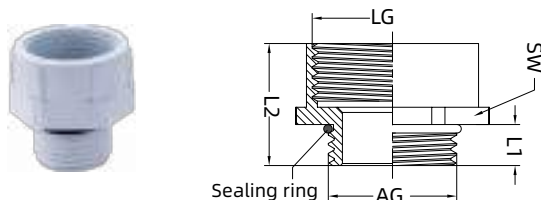
## Cable glands

## Polyamide enlargement

Material: Polyamide

Color: Grey

Temperature range: -40°C ...+100°C



Unit: mm

Outside thread(AG)	Inside thread(LG)	Thread length(L1)	Total length(L2)	Wrench size(SW)	Designation	Order NO.
<b>PG Thread</b>						
PG7	PG9	8	20	19	WNSCP-PG7PG9 <sup>2)</sup>	102 103 001 2002
PG9	PG11	10	24	22	WNSCP-PG9PG11 <sup>2)</sup>	102 103 002 2002
PG11	PG13.5	8	23	24	WNSCP-PG11PG13.5 <sup>2)</sup>	102 103 003 2002
PG13.5	PG16	8	25	27	WNSCP-PG13.5PG16	102 103 004 2002
PG16	PG21	10	27	30	WNSCP-PG16PG21	102 103 005 2002
PG21	PG29	11	32	42	WNSCP-PG21PG29	102 103 006 2002
PG29	PG36	11	35	52	WNSCP-PG29PG36	102 103 007 2002
PG36	PG42	13	42	60	WNSCP-PG36PG42	102 103 008 2002
PG42	PG48	15	65	65	WNSCP-PG42PG48	102 103 009 2002
<b>Metric Thread</b>						
M12x1.5	M16x1.5	8	22	20	WNSCP-M12M16 <sup>2)</sup>	102 103 011 2002
M16x1.5	M20x1.5	10	27	27	WNSCP-M16M20 <sup>2)</sup>	102 103 013 2002
M20x1.5	M25x1.5	8	25	30	WNSCP-M20M25	102 103 015 2002
M25x1.5	M32x1.5	11	30	36	WNSCP-M25M32	102 103 018 2002
M32x1.5	M40x1.5	15	34	45	WNSCP-M32M40	102 103 019 2002
M40x1.5	M50x1.5	13	37	55	WNSCP-M40M50	102 103 020 2002

1).MOQ 100 pcs. 2).MOQ 200 pcs. 3).MOQ 50 pcs. 4).MOQ 20 pcs.

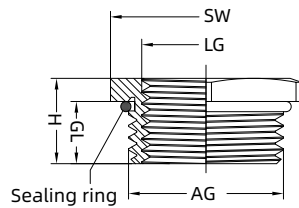
## Cable glands

## Metal reducer

Material: Nickel-plate brass

Shape: Round, Hexagonal

Applications: Apply to the situation of the diameter need to be reduced



Unit: mm

Outside thread(AG)	Inside thread(LG)	Thread length(GL)	Total length(H)	Wrench size(SW)	Designation (Hexagonal)	Order NO.
PG Thread						
PG9	PG7	6.0	9	17	WNSC-PG9PG7 <sup>2)</sup>	102 104 002 1001
PG11	PG9	7.0	11	20	WNSC-PG11PG9 <sup>2)</sup>	102 104 003 1001
PG13.5	PG11	7.0	10	22	WNSC-PG13.5PG11 <sup>2)</sup>	102 104 004 1001
PG16	PG13.5	7.0	11	24	WNSC-PG16PG13.5	102 104 005 1001
PG21	PG16	7.0	11	30	WNSC-PG21PG16	102 104 006 1001
PG29	PG21	8.0	13	40	WNSC-PG29PG21	102 104 007 1001
PG36	PG29	9.0	13	50	WNSC-PG36PG29	102 104 008 1001
PG42	PG36	9.0	15	57	WNSC-PG42PG36 <sup>2)</sup>	102 104 009 1001
PG48	PG42	10.0	15	65	WNSC-PG48PG42 <sup>2)</sup>	102 104 010 1001
Metric Thread						
M16x1.5	M12x1.5	6.0	9	17	WNSC-M16M12 <sup>2)</sup>	102 104 013 1001
M20x1.5	M16x1.5	7.0	10	22	WNSC-M20M16 <sup>2)</sup>	102 104 015 1001
M25x1.5	M20x1.5	7.0	10	27	WNSC-M25M20	102 104 018 1001
M32x1.5	M25x1.5	8.0	11.5	35	WNSC-M32M25	102 104 019 1001
M40x1.5	M32x1.5	9.0	13	42	WNSC-M40M32	102 104 020 1001
M50x1.5	M40x1.5	9.0	14	57	WNSC-M50M40 <sup>2)</sup>	102 104 046 1001
M63x1.5	M50x1.5	11.0	14	65	WNSC-M63M50 <sup>2)</sup>	102 104 048 1001

1).MOQ 100 pcs. 2).MOQ 200 pcs. 3).MOQ 50 pcs. 4).MOQ 20 pcs.

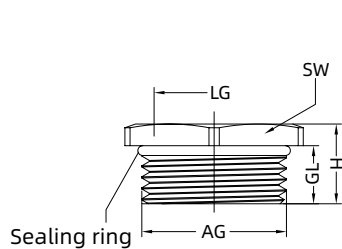
## Cable glands

## Polyamide reducer

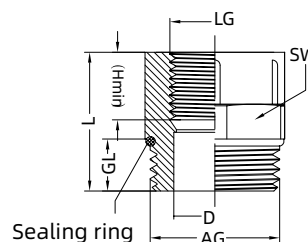
Material : Polyamide

Color: Grey

Temperature range: -40°C ...+100°C



Shape A



Shape B

Unit: mm

Outside thread(AG)	Inside thread(LG)	Thread length(GL)	Total length(H)	Wrench size(SW)	Shape	Designation	Order NO.
PG Thread							
PG11	PG9	9	15	24	A	WNSCP-PG11PG9 <sup>2)</sup>	102 104 003 2001
PG13.5	PG11	7.5	12	22	B	WNSCP-PG13.5PG11/H <sup>2)</sup>	102 127 004 2001
PG16	PG11	10	13	27	B	WNSCP-PG16PG11/H <sup>2)</sup>	102 127 005 2002
PG16	PG13.5	10.5	15	27	B	WNSCP-PG16PG13.5/H <sup>2)</sup>	102 127 005 2001
PG21	PG16	11	17	39	A	WNSCP-PG21PG16	102 104 006 2001
PG29	PG21	11.5	17	39	A	WNSCP-PG29PG21	102 104 007 2001
Metric Thread							
M20x1.5	M16x1.5	9.5	15	24	A	WNSCP-M20M16 <sup>2)</sup>	102 104 015 2001
M25x1.5	M20x1.5	10	17	27	A	WNSCP-M25M20	102 104 018 2001
M32x1.5	M20x1.5	11.5	17	39	A	WNSCP-M32M20	102 104 019 2002
M32x1.5	M25x1.5	11	17	39	A	WNSCP-M32M25	102 104 019 2001

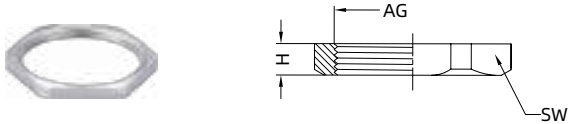
1).MOQ 100 pcs. 2).MOQ 200 pcs. 3).MOQ 50 pcs. 4).MOQ 20 pcs.

## Cable glands

## Metal lock nut

Material: Nickel-plate brass

Temperature range: -40°C ...+100°C



				Unit: mm
Thread side(AG)	Wrench size(SW)	Thickness(H)	Designation	Order NO.
PG Thread				
PG7	15	2.8	WNA-PG7/S <sup>1)</sup>	102 105 001 1101
PG9	18	2.8	WNA-PG9/S <sup>1)</sup>	102 105 002 1101
PG11	21	3.0	WNA-PG11/S	102 105 003 1101
PG13.5	22	3.0	WNA-PG13.5/S	102 105 004 1101
PG16	24	3.0	WNA-PG16/S	102 105 005 1101
PG21	30	3.5	WNA-PG21/S	102 105 006 1101
PG29	40	4.0	WNA-PG29/S	102 105 007 1101
PG36	50	4.5	WNA-PG36/S	102 105 008 1101
PG42	57	5.0	WNA-PG42/S	102 105 009 1101
PG48	65	5.5	WNA-PG48/S <sup>3)</sup>	102 105 010 1101
Metric Thread				
M12x1.5	15	2.8	WNA-M12/S <sup>1)</sup>	102 105 011 1101
M16x1.5	18	2.8	WNA-M16/S <sup>1)</sup>	102 105 013 1101
M20x1.5	22	3.0	WNA-M20/S	102 105 015 1101
M25x1.5	27	3.0	WNA-M25/S	102 105 018 1101
M32x1.5	35	3.5	WNA-M32/S	102 105 019 1101
M40x1.5	50	4.5	WNA-M40/S	102 105 020 1101
M50x1.5	57	5.0	WNA-M50/S <sup>1)</sup>	102 105 046 1101
M63x1.5	70	5.5	WNA-M63/S <sup>1)</sup>	102 105 048 1101

1).MOQ 100 pcs. 2).MOQ 200 pcs. 3).MOQ 50 pcs. 4).MOQ 20 pcs.



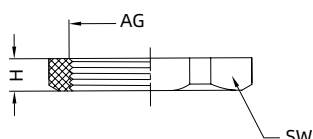
## Cable glands

## Polyamide lock nut

Material: Polyamide

Color: Grey,Black

Temperature range: -40°C ...+100°C



Unit: mm

Thread side(AG)	Wrench size(SW)	Thickness(H)	Designation( 灰色 )	Order NO.	Designation(Black)	Order NO.
PG Thread						
PG7	19	5.0	WNAP-PG7G/S <sup>1)</sup>	102 106 001 2101	WNAP-PG7B/S <sup>1)</sup>	102 106 001 2102
PG9	22	5.0	WNAP-PG9G/S <sup>1)</sup>	102 106 002 2101	WNAP-PG9B/S <sup>1)</sup>	102 106 002 2102
PG11	24	5.0	WNAP-PG11G/S	102 106 003 2101	WNAP-PG11B/S	102 106 003 2102
PG13.5	27	6.0	WNAP-PG13.5G/S	102 106 004 2101	WNAP-PG13.5B/S	102 106 004 2102
PG16	30	6.0	WNAP-PG16G/S	102 106 005 2101	WNAP-PG16B/S	102 106 005 2102
PG21	36	7.0	WNAP-PG21G/S	102 106 006 2101	WNAP-PG21B/S	102 106 006 2102
PG29	45	7.0	WNAP-PG29G/S	102 106 007 2101	WNAP-PG29B/S	102 106 007 2102
PG36	59	8.0	WNAP-PG36G/S	102 106 008 2101	WNAP-PG36B/S	102 106 008 2102
PG42	65	8.0	WNAP-PG42G/S <sup>1)</sup>	102 106 009 2101	WNAP-PG42B/S <sup>1)</sup>	102 106 009 2102
PG48	70	8.0	WNAP-PG48G/S <sup>1)</sup>	102 106 010 2101	WNAP-PG48B/S <sup>1)</sup>	102 106 010 2102
Metric Thread						
M12x1.5	19	5.0	WNAP-M12G/S <sup>1)</sup>	102 106 011 2101	WNAP-M12B/S <sup>1)</sup>	102 106 011 2102
M16x1.5	22	5.0	WNAP-M16G/S <sup>1)</sup>	102 106 013 2101	WNAP-M16B/S <sup>1)</sup>	102 106 013 2102
M18x1.5	24	5.0	WNAP-M18G/S <sup>1)</sup>	102 106 014 2101	WNAP-M18B/S <sup>1)</sup>	102 106 014 2102
M20x1.5	27	6.0	WNAP-M20G/S	102 106 015 2101	WNAP-M20B/S	102 106 015 2102
M22x1.5	30	6.0	WNAP-M22G/S <sup>1)</sup>	102 106 016 2101	WNAP-M22B/S <sup>1)</sup>	102 106 016 2102
M24x1.5	30	6.0	WNAP-M24G/S <sup>1)</sup>	102 106 017 2101	WNAP-M24B/S <sup>1)</sup>	102 106 017 2102
M25x1.5	32	7.0	WNAP-M25G/S	102 106 018 2101	WNAP-M25B/S	102 106 018 2102
M32x1.5	40	7.0	WNAP-M32G/S	102 106 019 2101	WNAP-M32B/S	102 106 019 2102
M40x1.5	49	8.0	WNAP-M40G/S	102 106 020 2101	WNAP-M40B/S	102 106 020 2102
M50x1.5	65	8.0	WNAP-M50G/S <sup>1)</sup>	102 106 046 2101	WNAP-M50B/S <sup>1)</sup>	102 106 046 2102
M63x1.5	74	8.0	WNAP-M63G/S <sup>1)</sup>	102 106 048 2101	WNAP-M63B/S <sup>1)</sup>	102 106 048 2102

1).MOQ 100 pcs. 2).MOQ 200 pcs. 3).MOQ 50 pcs. 4).MOQ 20 pcs.



**WAIN** connect the world  
connect the future

**XIAMEN WAIN ELECTRICAL CO.,LTD**

Add: No. 600, Shanting Road, Min'an Street,  
Xiang'an District, Xiamen

Tel: +86-592-7227565

+86-592-7227516

Fax: +86-592-7227569

Email: info@wainconnector.com

wainconnector@ wainconnector.com

Website: www.wainconnector.com

Free Call(in China): 400-882-5885



WAIN WeChat



WAIN Website



WAIN E-Shop