

HR23 SERIES

M23 Circular connector-Signal Connection

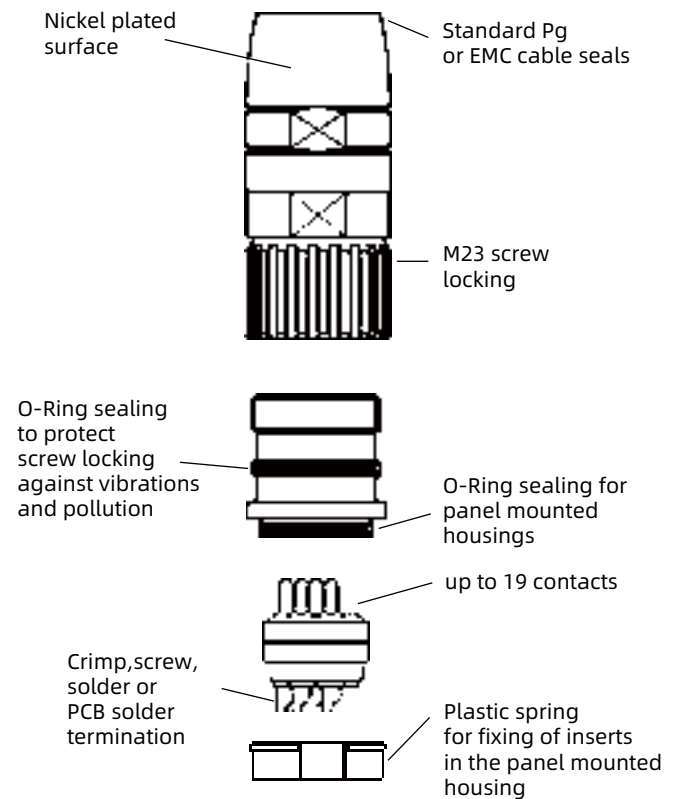


HR23 Circular connector

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	
Number of contacts	6
Electrical data acc. to EN 61 984	
Rated current	
-power contact	15A
Rated voltage	25 V~/60 V-
Pollution degree	3
Rated impulse voltage	1.5 kV
Insulation resistance	$\geq 10^{12} \Omega$
Material	PBT
Temperature range	-40°C ...+130°C
Flammability acc. to UL 94	V0
Contacts	
Material	copper alloy
Surface	gold plated
Contact resistance	$\leq 5 \text{ m}\Omega$
Screw termination	
-power contact	0.14-1.0 mm ² / AWG 26-16
Solder termination	
-power contact	0.14-2.5 mm ² / AWG 26-14
PCB solder termination	
-power contact	$\Phi 1.5 \text{ mm}$
-reference to	3.5 mm
bulkhead mounted housing	

Remark: SPQ is 10pcs

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



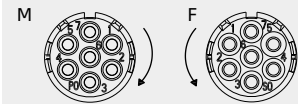
Inserts	Designation	Order No.
Male	HR23-006-MST	181 006 013 0001
Female	HR23-006-FST	181 006 023 0001
Reverse coding		
Male	HR23-006R-MST	181 006 013 0101
Female	HR23-006R-FST	181 006 023 0101

PCB solder termination

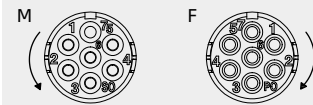


Inserts	Designation	Order No.
Male	HR23-006-MTHT ²⁾	181 006 014 0001
Female	HR23-006-FTHT ²⁾	181 006 024 0001
Reverse coding		
Male	HR23-006R-MTHT ²⁾	181 006 014 0101
Female	HR23-006R-FTHT ²⁾	181 006 024 0101

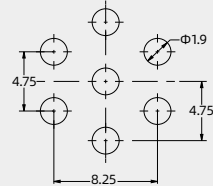
Contact arrangement: mating side



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

HR23-007 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	$\leq 5 \text{ m}\Omega$
-power contact	15A	Screw termination	
Rated voltage	25 V~/60 V-	-power contact	$0.14\text{-}1.0 \text{ mm}^2$ / AWG 26-16
Pollution degree	3	Solder terminal	
Rated impulse voltage	1.5 kV	-power contact	$0.14\text{-}2.5 \text{ mm}^2$ / AWG 26-14
Insulation resistance	$\geq 10^{12} \Omega$		
Material	PBT		
Temperature range	$-40^\circ\text{C} \dots +130^\circ\text{C}$		
Flammability acc. to UL 94	V0		

Remark: SPQ is 10pcs

Screw termination



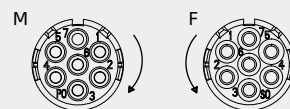
Inserts	Designation	Order No.
Male	HR23-007-M	181 007 011 0001
Female	HR23-007-F	181 007 021 0001
	Reverse coding	
Male	HR23-007R-M	181 007 011 0101
Female	HR23-007R-F	181 007 021 0101

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	Material	copper alloy
Electrical data acc. to EN 61 984		Surface	gold plated
Rated current		Contact resistance	≤ 5 mΩ
-power contact	1x15A	Screw termination	
-signal contact	8x7A	-power contact	0.14-1.0 mm ² / AWG 26-16
Rated voltage	25 V~/60 V-	-signal contact	0.14-0.75 mm ² / AWG 26-18
Pollution degree	3	Solder terminal	
Rated impulse voltage	1.5 kV	-power contact	0.14-2.5 mm ² / AWG 26-14
Insulation resistance	≥ 10 ¹² Ω	-signal contact	0.14-1.0 mm ² / AWG 26-16
Material	PBT		
Temperature range	-40°C ...+130°C		
Flammability acc. to UL 94	V0		

Remark: SPQ is 10pcs

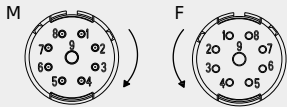
Screw termination

	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	
Number of contacts	12
Electrical data acc. to EN 61 984	
Rated current	
-signal contact	7A
Rated voltage	25 V~/60 V-
Pollution degree	3
Rated impulse voltage	1.5 kV
Insulation resistance	$\geq 10^{12} \Omega$
Material	PBT
Temperature range	-40°C ...+130°C
Flammability acc. to UL 94	V0
Contacts	
Material	copper alloy
Surface	gold plated
Contact resistance	$\leq 5 \text{ m}\Omega$
Crimp termination	
- D-Sub contact	0.09-0.82 mm ² / AWG 28-18
Solder termination	
- signal contact	0.14-1.0 mm ² / AWG 26-16
PCB solder termination	
- signal contact	$\Phi 0.6 \text{ mm}$
- reference to	3.5 mm
bulkhead mounted	
housing	



Remark: SPQ is 10pcs

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

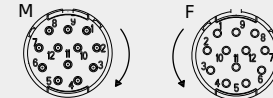


Inserts	Designation	Order No.
Male	HR23-012-MST	181 012 013 0001
Female	HR23-012-FST	181 012 023 0001
Reverse coding		
Male	HR23-012R-MST	181 012 013 0101
Female	HR23-012R-FST	181 012 023 0101

PCB solder termination ²⁾

Inserts	Designation	Order No.
Male	HR23-012-MTHT ²⁾	181 012 014 0001
Female	HR23-012-FTHT ²⁾	181 012 024 0001
Reverse coding		
Male	HR23-012R-MTHT ²⁾	181 012 014 0101
Female	HR23-012R-FTHT ²⁾	181 012 024 0101

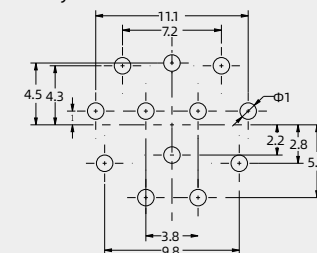
Contact arrangement: mating side



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

Accessories

Crimp contacts 5A

Contact resistance $\leq 3 \text{ m}\Omega$
gold plated

Wire gauge(mm ²)	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.

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	$\leq 5 \text{ m}\Omega$
Insulation resistance	Crimp termination
Material	- D-Sub contact
Temperature range	0.09-0.82 mm ² / AWG 28-18
Flammability acc. to UL 94	Solder termination
	- signal contact
	0.14-1.0 mm ² / AWG 26-16
	PCB solder termination
	- signal contact
	$\Phi 0.6 \text{ mm}$
	- reference to
	3.5 mm
	bulkhead mounted
	housing



Remark: SPQ is 10pcs

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

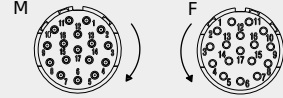


Inserts	Designation	Order No.
Male	HR23-017-MST	181 017 013 0001
Female	HR23-017-FST	181 017 023 0001
	Reverse coding	
Male	HR23-017R-MST	181 017 013 0101
Female	HR23-017R-FST	181 017 023 0101

PCB solder termination ²⁾

Inserts	Designation	Order No.
Male	HR23-017-MTHT ²⁾	181 017 014 0001
Female	HR23-017-FTHT ²⁾	181 017 024 0001
	Reverse coding	
Male	HR23-017R-MTHT ²⁾	181 017 014 0101
Female	HR23-017R-FTHT ²⁾	181 017 024 0101

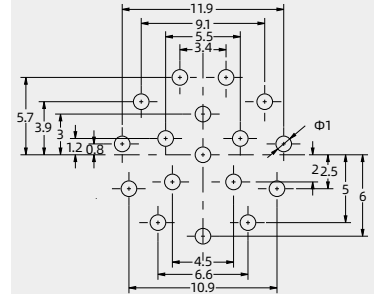
Contact arrangement: mating side



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

Accessories

Crimp contacts 5A

Contact resistance $\leq 3 \text{ m}\Omega$
gold plated

Remark: SPQ is 100pcs

Wire gauge(mm ²)	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.

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	$\leq 5 \text{ m}\Omega$
-power contact	3x10A	Solder terminal	
-signal contact	16x7A	-power contact	0.14-2.5 mm ² / AWG 26-14
Rated voltage	25 V~/60 V-	-signal contact	0.14-1.0 mm ² / AWG 26-16
Pollution degree	3		
Rated impulse voltage	1.5 kV		
Insulation resistance	$\geq 10^{12} \Omega$		
Material	PBT		
Temperature range	-40°C ...+130°C		
Flammability acc. to UL 94	V0		

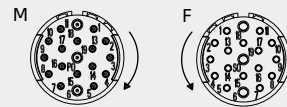
Remark: SPQ is 10pcs

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

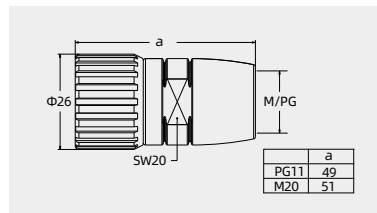
Install or remove this kind of product need to use the HR23-TL02/N tools.



Remark: SPQ is 5pcs

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.

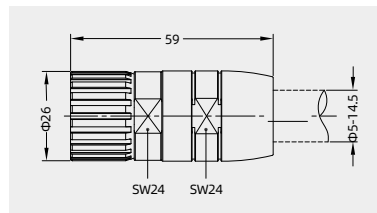


Hoods, top-entry, EMC version



Remark: SPQ is 5pcs

screw	Designation	Order No.
	HR23-TE-EMC	181 000 410 2003



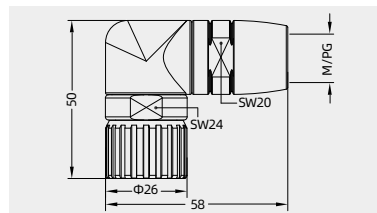
Hood, entry 90°



Remark: SPQ is 5pcs

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.

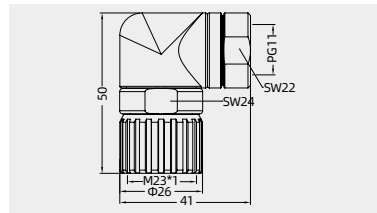


Hood, entry 90°



Remark: SPQ is 5pcs

screw	Designation	Order No.
PG11	HR23-SES-PG11	181 000 510 1102

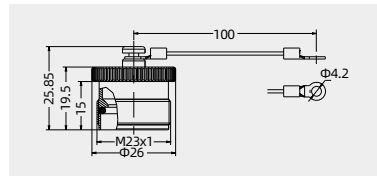


Screw cover , for hoods with rope



Remark: SPQ is 5pcs

screw	Designation	Order No.
	HR23-MCV-M2	181 000 010 9001

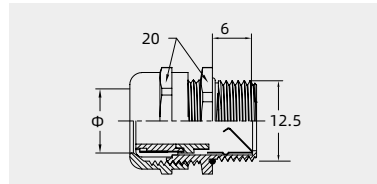


Cable gland



Remark: SPQ is 1pc

screw	Designation	Order No.
PG11	WNAC-PG11(D5.5-10)	102 117 003 1001
M20	WNAC-M20(D6-12)	102 117 015 1001



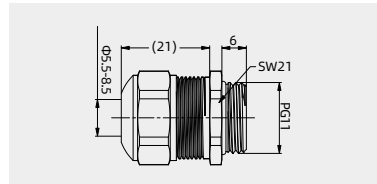
Cable gland

Recommended use



Remark: SPQ is 1pc

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



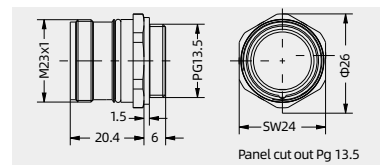
HR23 Housing material

Degree of protection: IP67 Remark: SPQ is 5pcs

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

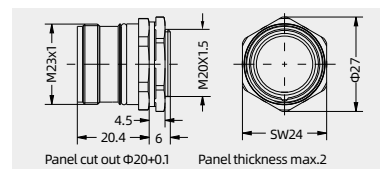


Housings, bulkhead mounting

front wall assembly,with central locking M20



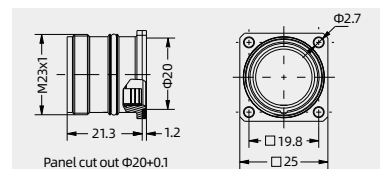
screw	Designation	Order No.
M20	HR23-BK-M20	181 000 310 1003



Housings, bulkhead mounting

front wall assembly,with flat sealing and
4 Ø2.7 holes

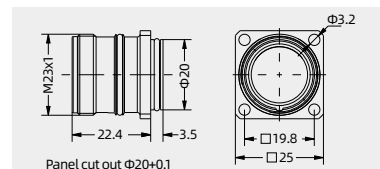
screw	Designation	Order No.
---	HR23-BK-D2.7	181 000 310 1001



Housings, bulkhead mounting

front wall assembly,with O-ring sealing
and 4 Ø3.2 holes

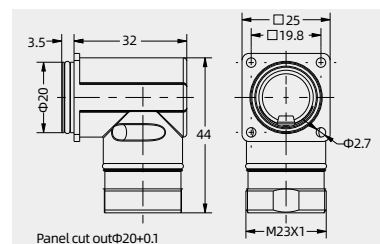
screw	Designation	Order No.
---	HR23-BK-OD3.2	181 000 310 1002



Housings, bulkhead mounting

front wall assembly,with O-ring sealing
and 4 Ø2.7 holesHR23-TL03 tools are needed for installation
and removal

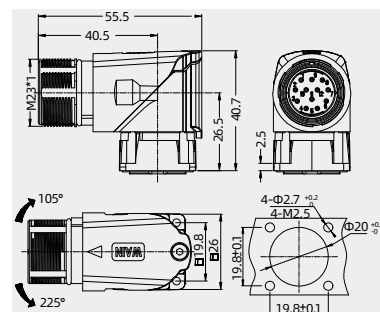
screw	Designation	Order No.
---	HR23-BK-SE-OD2.7	181 000 610 1001



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)

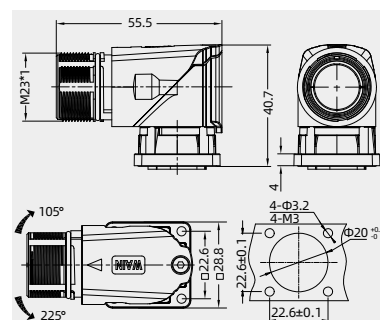
screw	Designation	Order No.
---	HR23-BKP-SE-OD2.7	181 000 610 1101



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



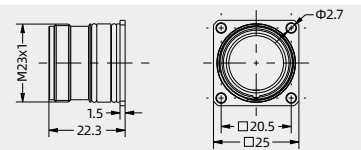
HR23 Housing material

Degree of protection: IP67 Remark: SPQ is 1pc

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

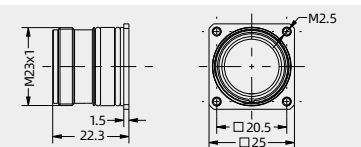
When using counter sunk screws, Panel cut out $\Phi 23+0.1$, Panel thickness: 2.7-3.5,

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

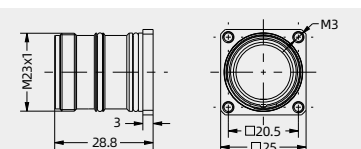
When using counter sunk screws, Panel cut out $\Phi 23+0.1$, Panel thickness: 2.7-3.5,

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

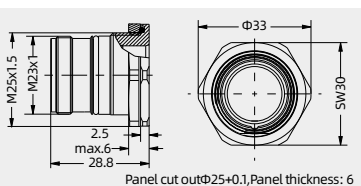
When using counter sunk screws, Panel cut out $\Phi 23+0.1$, Panel thickness: 3.5-8.5

Housings, bulkhead mounting

back wall assembly, with central locking M25



screw	Designation	Order No.
M25	HR23-BK/R-OM25	181 000 310 1104

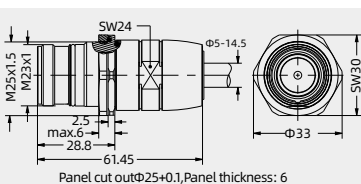
Panel cut out $\Phi 25+0.1$, Panel thickness: 6

EMC Housings, cable to cable

back wall assembly, with central locking M25



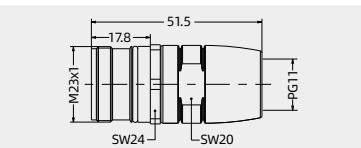
screw	Designation	Order No.
M25	HR23-CCT/R-OM25	181 000 710 1004

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

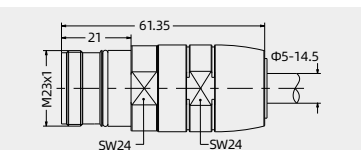


Housings, cable to cable, top entry

EMC version



screw	Designation	Order No.
---	HR23-CCT-EMC	181 000 710 2003



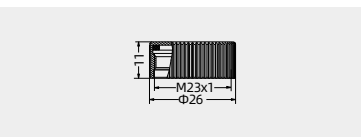
Install or remove this kind of product need to use the HR23-TL01 tools.

Screw cover

for bulkhead mounted and cable to cable housings

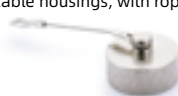


screw	Designation	Order No.
---	HR23-MCV-F	181 000 010 9003

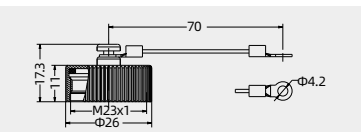


Screw cover

for bulkhead mounted and cable to cable housings, with rope



screw	Designation	Order No.
---	HR23-MCV-F2	181 000 010 9002

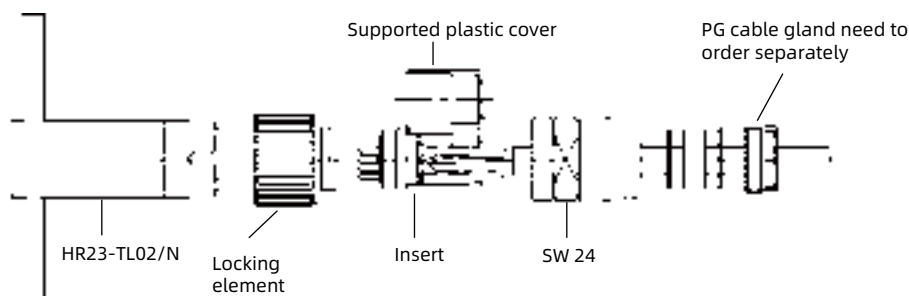


HR23 Assembly manuals

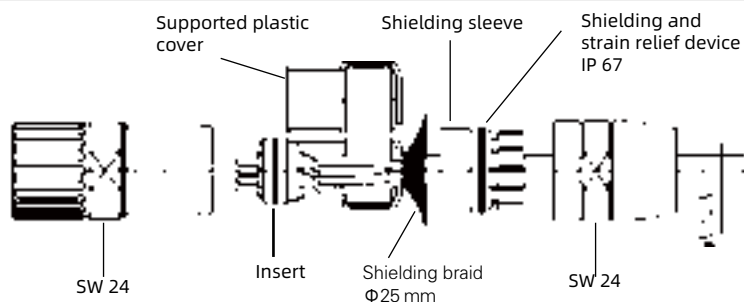
Hood and Housing	Cable stripping length x
HR23-CCT/R-OM25	26 mm
HR23-TE-PG11	20 mm
HR23-TE-EMC	26 mm
HR23-SE-PG11	30 mm
HR23-CCT-PG11	20 mm
HR23-CCT-EMC	26 mm
HR23-BK-SE-OD2.7	30 mm



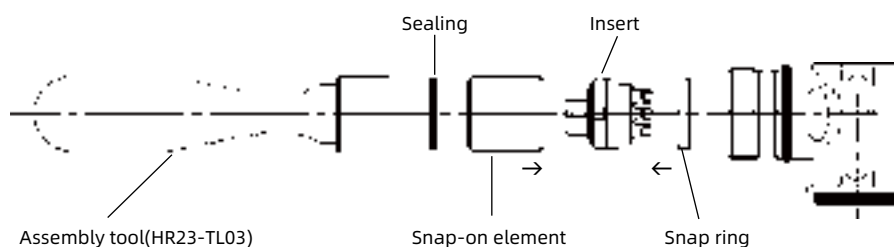
Standard hood and housing



EMC hoods

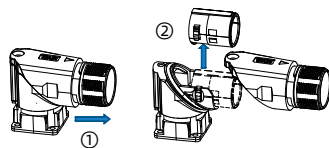


Right angled bulkhead mounted housing



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.

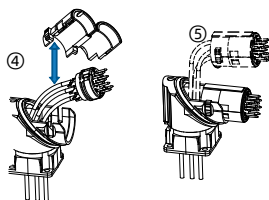


2: insert wiring

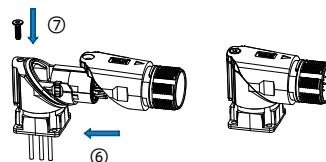
- The cable passes through the fixed base.
- Strip the wire insulation husk, and then weld it to the pins of the insert.



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.



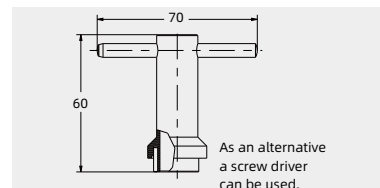
HR23 Tools

Remark: SPQ is 1pc

Tools



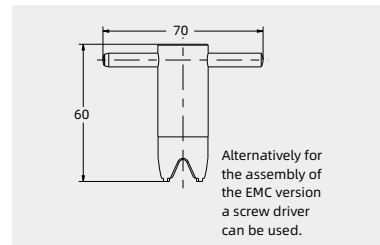
Application	Designation	Order No.
for bulkhead mounted and cable to cable housings and hoods: HR23-CCT-EMC	HR23-TL01/N	198 001 003 0004



Tools



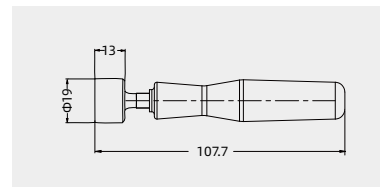
Description	Designation	Order No.
for hoods: HR23-TE-PG11 HR23-TE-M20	HR23-TL02/N	198 001 003 0005



Tools



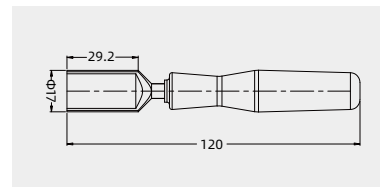
Description	Designation	Order No.
for angled bulkhead mounted housings: HR23-BK-SE-OD2.7	HR23-TL03	198 001 003 0006



Tools



Description	Designation	Order No.
for housings: (except angled bulkhead mounted and EMC housings)	HR23-TL04	198 001 003 0014





HR23