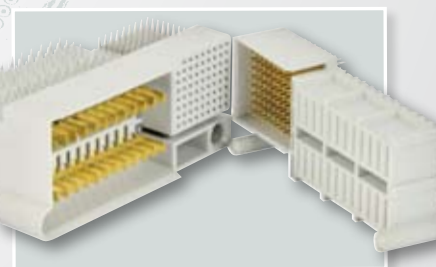
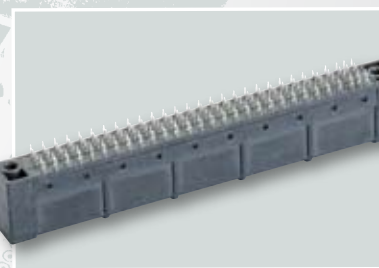




TECHNOLOGY IN CONNECTORS™

μTCA™ CONNECTOR PRODUCT RANGE



HIGH-POWER AND RELIABLE SIGNALS – EVEN WHEN THINGS GET A BIT TIGHT: CONEC CONNECTORS FOR MicroTCA APPLICATIONS

As in former standards, the PICMG®-consortium strongly focuses in the MicroTCA specification, on the reliability of systems in combination with a high flexibility of the platform to be constructed for a wide range of applications in a short time.

Quality and flexibility of a system are more and more defined by the choice of components which are used to build-up these platforms. Therefore, standardization groups define minimum requirements and describe standards for components which shall be used in standard platforms. On this basis flexible and cost-effective systems can be designed to meet current and future requirements.

CONEC is a member of the PICMG®-consortium, playing an active role in defining future connection technology for reliable systems. CONEC, a manufacturer of precision connectors now offers the full range of interface defined in the Micro-TCA.0 specification.

The MicroTCA system uses a modular system which in the standard configuration can consist of up to two power supply modules, two MicroTCA Carrier Hubs (MCH) and up to 12 Advanced Mezzanine Cards (AMC). These modules are connected to the backplane in a MicroTCA shelf using the MicroTCA connectors.

Power supply modules require one interface to connect to external energy on the front side and a second connector to distribute the power in a defined way from the power module into the backplane.

MCH and AMC modules use a special PCB design and are directly plug in compatible into the special connector mounted on the systems backplane.

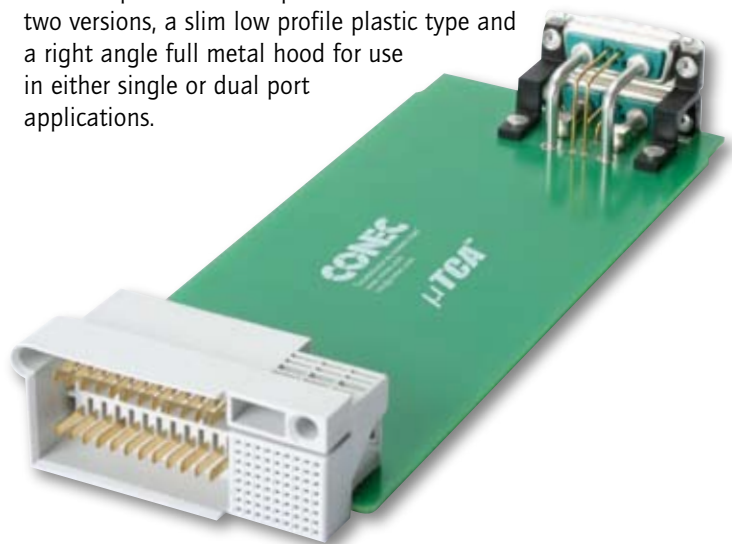
POWER INPUT CONNECTORS FOR POWER MODULES

Micro-TCA.0 specification defines Combination D-SUB connectors type 7W2 and 9W4 as interfaces for the external power input for power supply modules.

The connectors have two power contacts each with a current carrying capacity of 24A per power pin for the 7W2 version (for use in power modules with 48/60V) and 49A for the 9W4 version (module with 24V) and 2 signal contacts.

The suitable socket connector for the cable side also consists of two power and two signal contacts, but these signal contacts should be bridged. The bridged contacts signal the power module that the external power source cable is connected to the module.

The CONEC range for power module input connectors includes single and dual port versions with through hole and SMT termination. This includes connectors for cable connection with crimp and solder cup contacts. Hoods are available in two versions, a slim low profile plastic type and a right angle full metal hood for use in either single or dual port applications.



POWER OUTPUT CONNECTOR FOR POWER MODULE AND BACKPLANE

The hybrid connector with 24 power contacts in two rows and 72 signal contacts in 8 rows is used to distribute the power from the power module into the system. An angled version is applied to the PCB for the power module while the straight version is designed for mounting to the backplane.

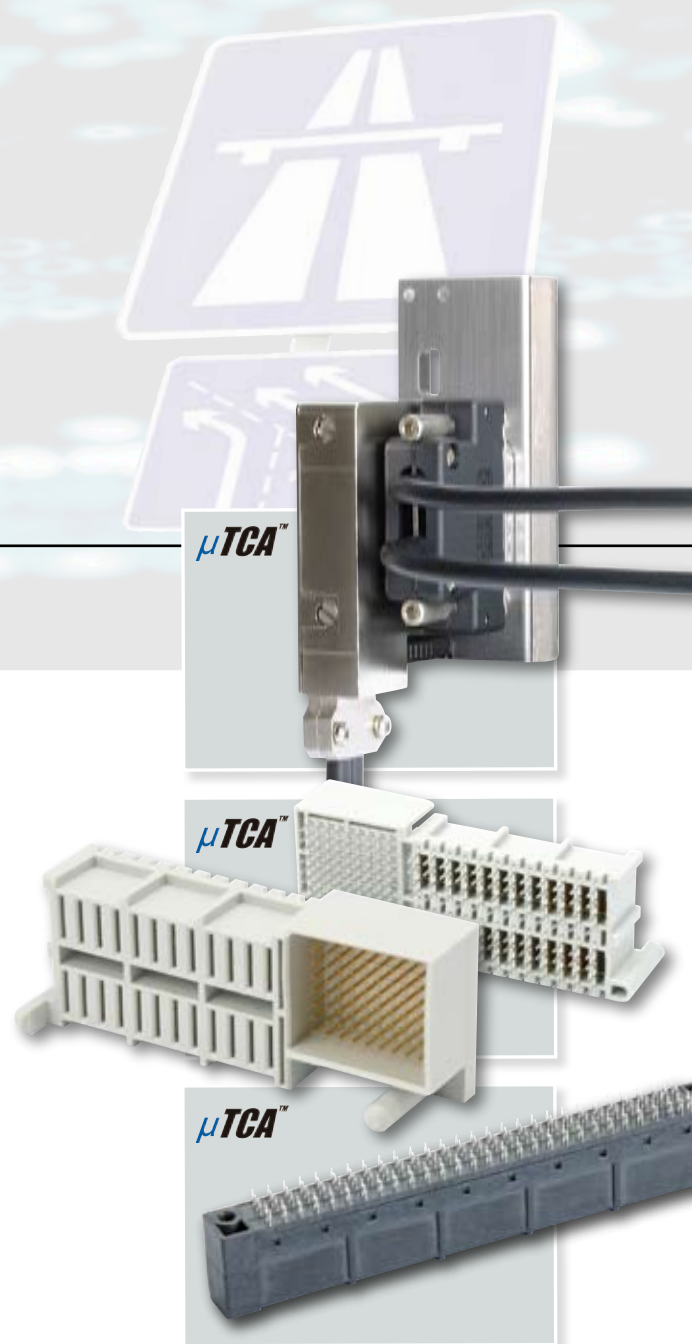
Alignment pins on the connector insulator allow the module to be mated safely and with precision aligning. In order to meet the system's high availability, "hot swap" is possible to exchange a power module while power is on.

The power module output connectors feature what are known as "hot plug" contacts, that allow the exchange of power modules. As with all power connectors the current carrying capacity of the power contacts is very important. It is specified as 9.3A per pin, with a derating in accordance with IEC 60512. CONEC supplies this connector with a patent-free symmetrical footprint in press-fit termination.

CARD EDGE CONNECTORS FOR AMC AND MCH

The CONEC MicroTCA features 170-pin high speed signal connector which is used for the interconnection of AMC and MCH modules into the backplane. These connectors are characterized by their ability to transfer high data rates of up to 12.5 Gbps. The AMC backplane connector features press-fit (eye of the needle) contacts and is designed to allow up to 200 mating cycles.

An integrated shield between the contact rows insure the connector performance in transferring high data rates. CONEC provides a complete interconnection package for the MicroTCA platform. The product offering consist of high performance power input and power output connectors and high speed backplane edge connectors.



MICROTCA POWER MODULE INPUT CONNECTOR

IN ACCORDANCE TO MICROTCA.O SPECIFICATION

Technical Data

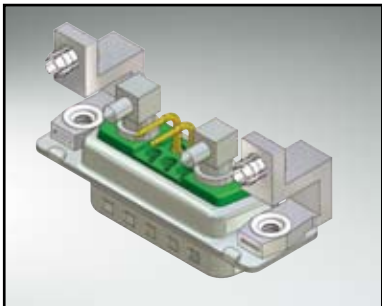
	Material	Finish
Insulator	PBT, UL 94-V0	
Power contacts	Copper alloy, screw machined contacts	Mating area Au over Ni
		Termination area Sn over Ni
Signal contacts	Copper alloy, screw machined contacts	Mating area Au over Ni
		Termination area Sn over Ni
Shell	Steel	Tin plated
Mounting brackets	Zinc diecast	Tin plated
Thread insert UNC4-40	Copper alloy	Tin plated
Hexagonal bolts with UNC4-40 thread and washers	Steel	Nickel plated
Boardlock for 1,6 mm PCB	Copper alloy	Tin plated
Electrical Characteristics		
Current rating	Power contacts	24 A per pin @ max. 30°C temperature rise
	Signal contacts	7,5 A nominal
Creepage and clearance distances	Power contacts	1,5 mm min.
	Signal contacts	0,4 mm min.
	Signal and power contacts	1,5 mm min.
	Power contacts and shell	1,5 mm min.
	Signal contacts and shell	1,5 mm min.
Insulation withstanding between	Power contacts	5000 MOhm min.
	Signal contacts	5000 MOhm min.
	Signal and power contacts	5000 MOhm min.
	Power contacts and shell	5000 MOhm min.
	Signal contacts and shell	5000 MOhm min.
Voltage proof	100 V r.m.s.	
Mechanical Characteristics		
Mating cycles	250	
Mating force	100 N max.	
Withdrawal force	65 N max.	

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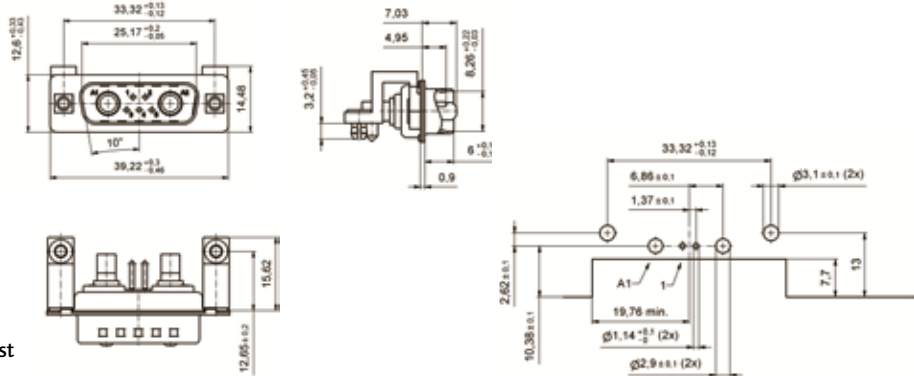
POWER MODULE INPUT CONNECTOR - SINGLE PORT

Solder Version with and without Filter



- Standard and filter version
- 7W2 type for 48/60V power modules
- 9W4 type for 24V power modules on request

TECHNICAL DATA

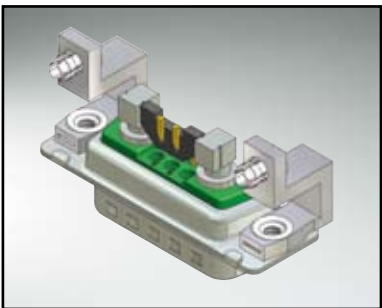


ORDERING OPTIONS

Mounting options shell	Filter options	Part numbers
with UNC 4-40 thread and hex bolts UNC 4-40	-	13-000051
with UNC 4-40 thread without hex bolts	-	13-000061
with UNC 4-40 thread and hex bolts UNC 4-40	54 nF	24-000061
with UNC 4-40 thread without hex bolts	54 nF	24-000071
with UNC 4-40 thread and hex bolts UNC 4-40	10 nF	24-000081
with UNC 4-40 thread without hex bolts	10 nF	24-000091

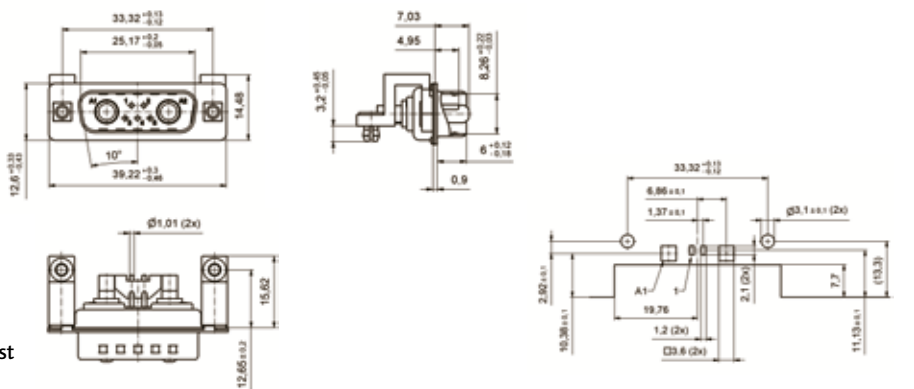
POWER MODULE INPUT CONNECTOR - SINGLE PORT

SMD Version



- SMD version
- 7W2 type for 48 / 60V power modules
- 9W4 type for 24V power modules on request

TECHNICAL DATA



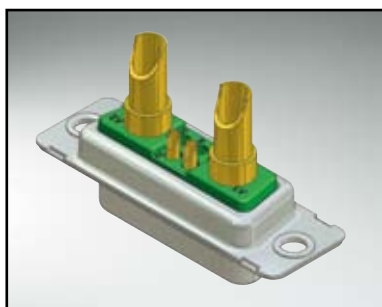
ORDERING OPTIONS

Mounting options shell	Filter options	Part numbers
with UNC 4-40 thread and hex bolts UNC 4-40	-	13-000071
with UNC 4-40 thread without hex bolts	-	13-000081

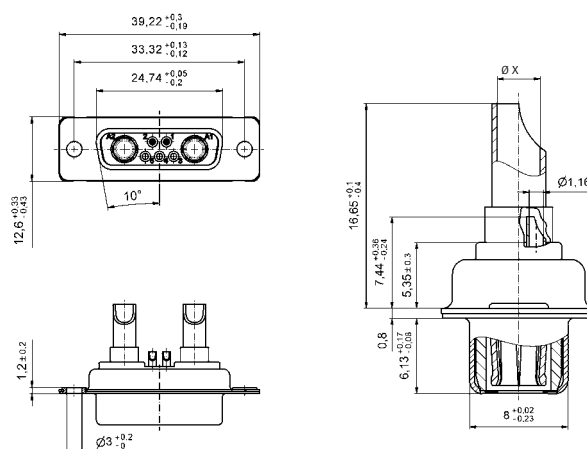
The listed part numbers can be found on our website www.conec.com

D-SUB SOCKET FOR MicroTCA POWER MODULE

Solder Cup Version



TECHNICAL DATA



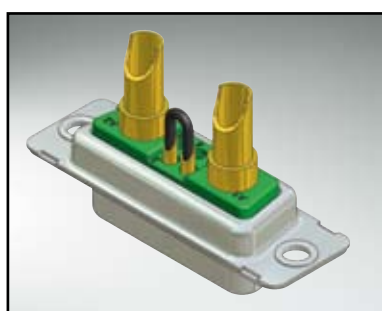
- Standard for handsolder
- 7W2 with power and signal contacts
- 9W4 type for 24V power modules on request

ORDERING OPTIONS

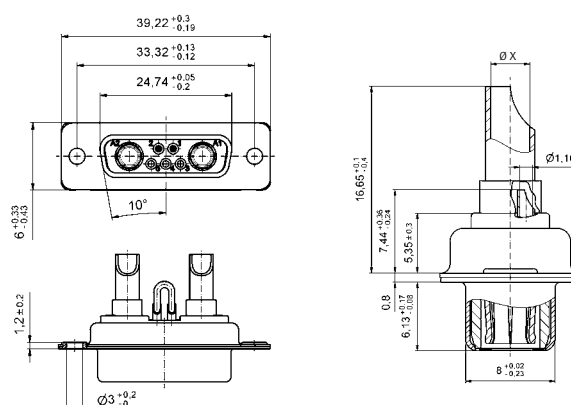
Applicable cable size	Ø X (mm)	Part numbers
AWG 10-12 for up to 30 A current rating	3,5	13-000131
AWG 12-14 for up to 20 A current rating	2,7	13-000141
AWG 16-20 for up to 10 A current rating	1,8	13-000151

D-SUB SOCKET FOR MicroTCA POWER MODULE

Solder Cup Version - Bridged Signal Contacts



TECHNICAL DATA



- Standard for handsolder
- 7W2 with power and signal contacts
- 9W4 type for 24V power modules on request

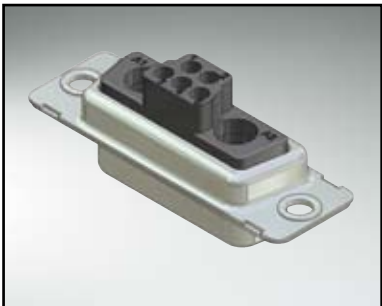
ORDERING OPTIONS

Applicable cable size	Ø X (mm)	Part numbers
AWG 10-12 for up to 30 A current rating	3,5	13-000161
AWG 12-14 for up to 20 A current rating	2,7	13-000171
AWG 16-20 for up to 10 A current rating	1,8	13-000181

The listed part numbers can be found on our website www.conec.com

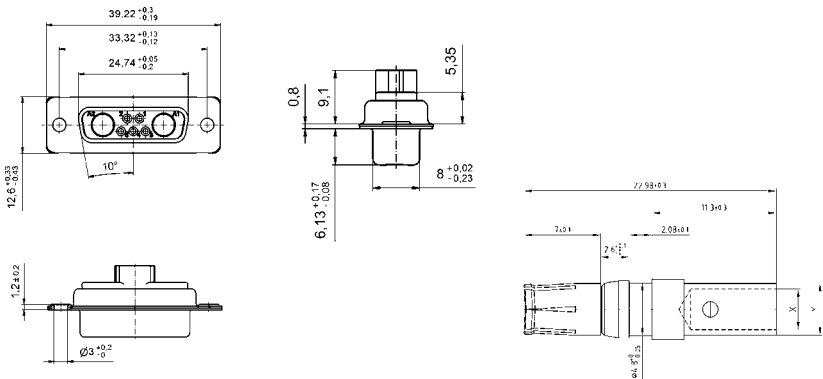
D-SUB SOCKET FOR MicroTCA POWER MODULE

Crimp Version



- Standard for crimp contacts
- 7W2 for power and signal contacts
- 9W4 type for 24V power modules on request

TECHNICAL DATA

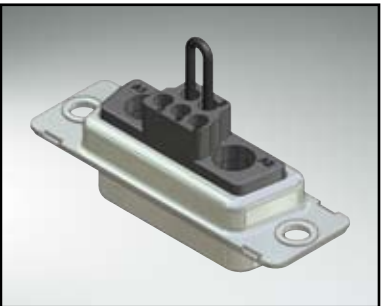


ORDERING OPTIONS

Description	X (mm)	Y (mm)	Part numbers
D-SUB crimp housing 7W2	-	-	13-000190
Power crimp contact AWG 10-12 for up to 30 A current rating	3,7	4,7	132C11039X
Power crimp contact AWG 12-14 for up to 20 A current rating	2,6	3,6	132C11029X
Power crimp contact AWG 16-20 for up to 10 A current rating	1,7	2,6	132C11019X

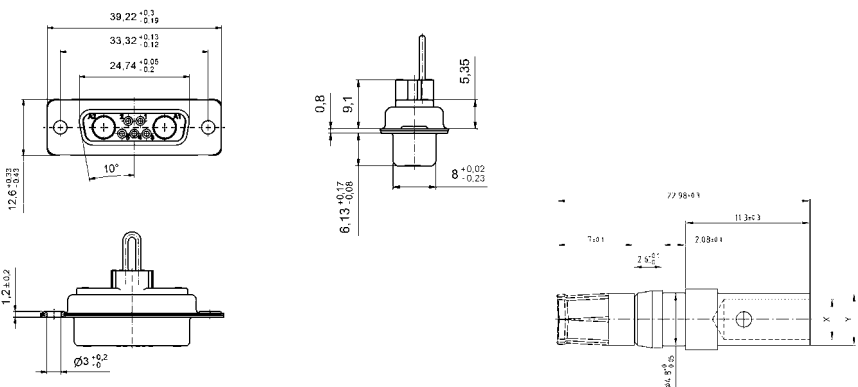
D-SUB SOCKET FOR MicroTCA POWER MODULE

Crimp Version - Bridged Signal Contacts



- Standard for crimp contacts
- 7W2 for power and signal contacts
- 9W4 type for 24V power modules on request

TECHNICAL DATA



ORDERING OPTIONS

Description	X (mm)	Y (mm)	Part numbers
D-SUB crimp housing 7W2, bridged signal contacts	-	-	13-000201
Power crimp contact AWG 10-12 for up to 30 A current rating	3,7	4,7	132C11039X
Power crimp contact AWG 12-14 for up to 20 A current rating	2,6	3,6	132C11029X
Power crimp contact AWG 16-20 for up to 10 A current rating	1,7	2,6	132C11019X

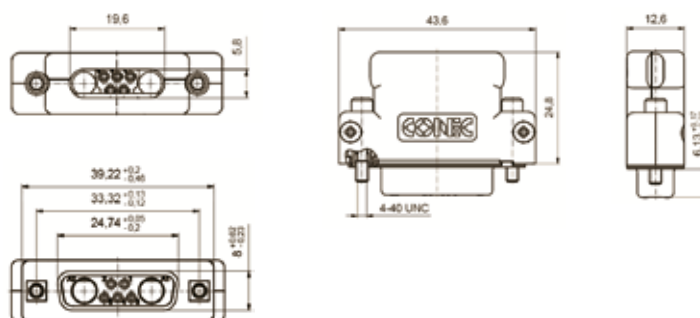
The listed part numbers can be found on our website www.conec.com

MICROTCA HOOD AND CONNECTOR ASSEMBLY

Plastic Hood with 7W2 Connector



TECHNICAL DATA



- Bridged and unbridged signal contacts
- Straight cable exit
- Fixing screws with allen wrench or phillips head

ORDERING OPTIONS

Description	Signal contacts	Fixing screws	Part numbers
Plastic hood with 7W2 female crimp connector*	no	short, allen wrench head	13-000210
Plastic hood with 7W2 female crimp connector*	no	short, phillips head	13-000220
Plastic hood with 7W2 female crimp connector*	yes, bridged	short, allen wrench head	13-000231
Plastic hood with 7W2 female crimp connector*	yes, bridged	short, phillips head	13-000241

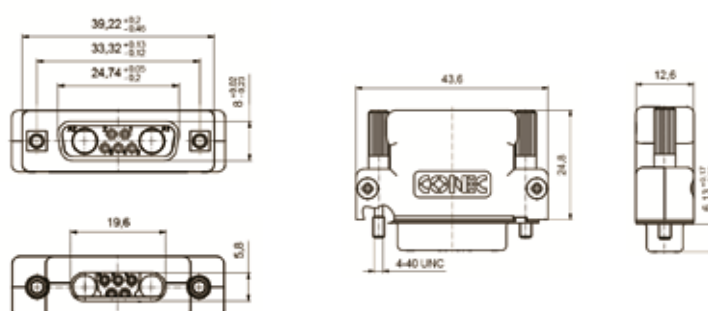
* Applicable power and signal contacts see next page

MICROTCA HOOD AND CONNECTOR ASSEMBLY

Plastic Hood with 7W2 Connector



TECHNICAL DATA



- Bridged and unbridged signal contacts
- Straight cable exit
- Fixing screws with allen wrench or phillips head

ORDERING OPTIONS

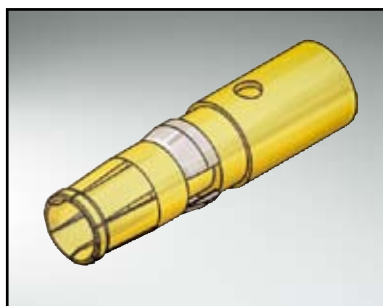
Description	Signal contacts	Fixing screws	Part numbers
Plastic hood with 7W2 female crimp connector*	no	Jack screw, allen wrench head	13-000370
Plastic hood with 7W2 female crimp connector*	no	Jack screw, phillips head	13-000380
Plastic hood with 7W2 female crimp connector*	yes, bridged	Jack screw, allen wrench head	13-000391
Plastic hood with 7W2 female crimp connector*	yes, bridged	Jack screw, phillips head	13-000401

* Applicable power and signal contacts see next page

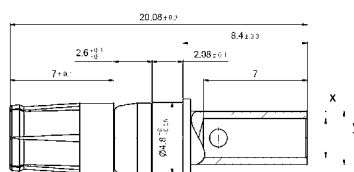
The listed part numbers can be found on our website www.conec.com

CRIMP CONTACTS FOR MICROTCA CABLE HOUSING

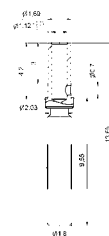
Power and Signal Contacts



TECHNICAL DATA



Power Contact



Signal Contact (MIL-Version)

ORDERING OPTIONS.

Description	X (mm)	Y (mm)	Part numbers
Power crimp contact AWG 10-8 for up to 40 A current rating	4,6	5,35	13-000321
Power crimp contact AWG 10-12 for up to 30 A current rating	3,7	4,7	13-000311
Power crimp contact AWG 12-14 for up to 20 A current rating	2,6	3,6	13-000301
Power crimp contact AWG 16-20 for up to 10 A current rating	1,7	2,6	13-000291
Signal crimp contact closed entry style			132C15019X

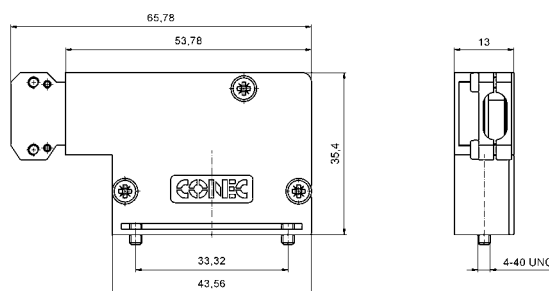
MICROTCA LOW PROFILE SLIM HOOD

Zinc Diecast Version



- Side cable entry
- Metal strain relief
- Screw mounting on the power module

TECHNICAL DATA



ORDERING OPTIONS

Description	Part numbers
MicroTCA diecast hood	16-000010

The listed part numbers can be found on our website www.conec.com

MICROTCA POWER MODULE OUTPUT CONNECTORS

IN ACCORDANCE TO MICROTCA.O SPECIFICATION

Technical Data

	Material	Finish
Housing material	Thermoplastic polyester, glass filled; UL94-V0	color: grey
Power contacts	Copper alloy	Mating area Au plated
		Termination area matte tin plated
Signal contacts	Copper alloy	Mating area Au plated
		Termination area matte tin plated
Electrical Characteristics		
Current rating (with derating of IEC 60512)	Power contacts and GND contacts	9,3 A per pin @ max. 30°C temperature rise
	Signal and signal GND contacts	0,5 A @ max. 30°C temperature rise
Current rating (connector capability)	Power contacts and GND contacts	11,625 A
	Signal and signal GND contacts	0,625 A
Contact resistance	Power contacts and GND contacts	5 mOhm
	Signal and signal GND contacts	25 mOhm
Insulation resistance	Power contacts	100 MOhm min.
	Signal contacts	100 MOHM min.
Temperature range	- 55°C to + 105°C	
Mechanical Characteristics		
Mating cycles	200	
Mating force	145 N max.	
Withdrawal force	110 N max.	

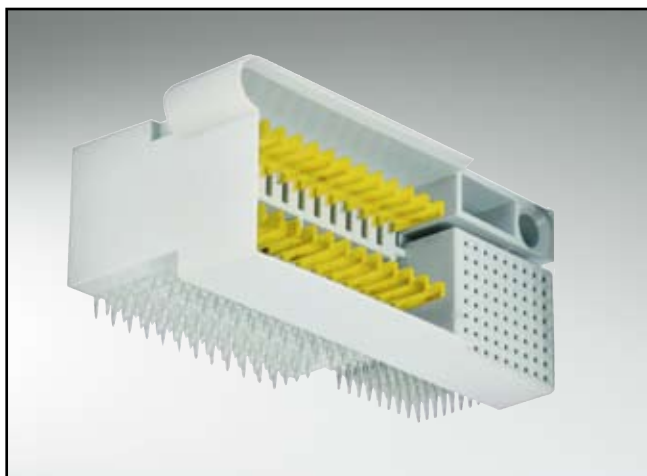
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Power Module Version - Press Fit

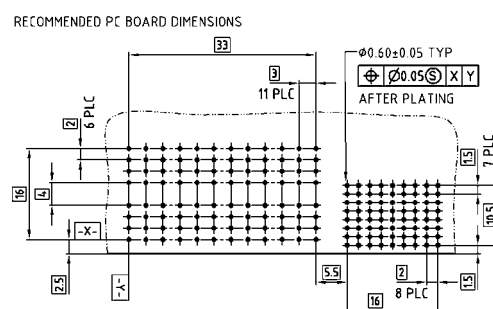
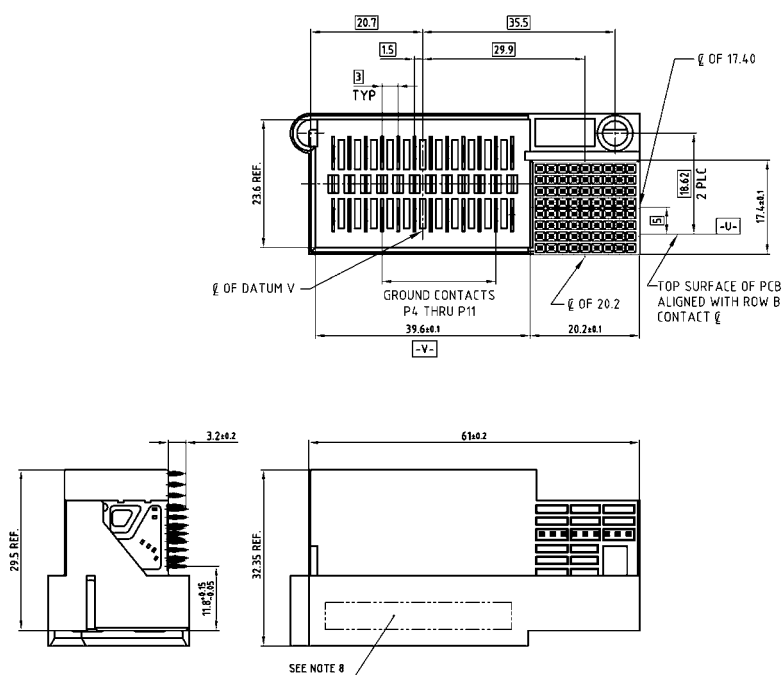


PRODUCT FEATURES.

MicroTCA specified connector for power modules.

- 24 power contacts and 72 signal contacts
- Symmetrical footprint
- "Eye of the needle" press fit zone

TECHNICAL DATA



ORDERING OPTIONS

Description	Part numbers
MicroTCA power module output connector	47-100011

The listed part numbers can be found on our website www.conec.com

MICROTCA ADVANCEDMC BACKPLANE CONNECTOR

IN ACCORDANCE TO MICROTCA.O SPECIFICATION

Technical Data

	Material	Finish
Housing material	Liquid Crystal Polymer (LCP), UL 94-V0	
Contact material	Copper alloy	Mating area Au over Ni
		Termination Sn over Ni
Electrical Characteristics		
Current rating (IEC 60512)	General purpose contacts	0,4 A min.
Contact material	Ground contacts	0,3 A min.
	Power contacts	1,52 A min.
	Differential pair contacts	0,1 A min.
Contact resistance	25 mOhm	
Insulation resistance	100 MOhm	
Differential Impedance	100 Ohm ± 10%	
Crosstalk	3% (Multi aggressor condition)	
Differential skew	< 5 ps	
Mechanical Characteristics		
Mating cycles	200	
Mating force	100 N max.	
Withdrawal force	65 N max.	

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