

STD Series Multi-Wire Connectors Specifications

		Techr	nical C	hara	cteristi	CS						
	Connecto	or Size			3A			10	A	10	6 <i>A</i>	
	Number of Poles		3+PE	4+PE	5+PE	7+PE	12+PE	10+PE	15+PE	16+PE	25+PE	
	UL/CSA Rated Voltage	ge*			I.		600V	I.	1	l		
	Maximum Rated Cur	rent	10	A	16A		10A	16A	10A	16A	10A	
	EN 61984 (2001-11)	Rated Voltage AC/DC	:	230/400	V	250V	400V		250	OV		
	Pollution Degree 3	Impulse Withstand Voltage			4kV		6kV		4k	V		
	EN 61984 (2001-11)	Rated Voltage	230/40	V00	320/500V	230/400V	400/690V		230/4	V00V		
	Pollution Degree 2	Impulse Withstand Voltage	4kV 6kV 4kV									
rts	Continuous Current	Carrying Capacity			R	efer to Elec	trical Enginee	ring section o	harts			
Inserts	Insulation Resistanc	e			-	-	1010 Ω					
_	Material						Polycarbona	ate				
	Temperature Range						to 125°C [-40					
	Flammability						JL 94 V-0 GW					
	Degree Protection	With Housing	IP66, NEMA/UL (Type 1, 4,				e 1, 4, 4x, 12)			16A 10A 10A 10A 10A 10A 10A 10A 10A		
		Without Housing					IP20			16+PE 25+PE 16A 10A 0V 4V 400V 4V 400V AV SV AV AV AV AV AV AV AV A		
	Mechanical Working		1	1	.		500 Cycle	1	N//A	,	a	
	Conductor Termination	Screw Terminals	√ • • • • • • • • • • • • • • • • • • •	\ \	N/A √	N/A √	N/A √	√ √	N/A √			
		Crimp Contacts	N/A	N/A	,	,	,	,	· ·	N V	V	
	Material Minimum Recommer	adod Load			Hard-s	silver plated	(2µm Au) or g	gold plated copper alloy				
	(voltage & current)	lueu Luau				5V/5r	nA AC/DC (sil	ver plated)	1	r		
	Contact Resistance			≤ 1mΩ	1	≤	3mΩ	≤ 1mΩ	≤ 3mΩ	≤ 1mΩ	≤ 3mΩ	
ts	Screw Terminal	mm²	0.5-2	2.5		N/A		0.5-2.5	N/A	0.5-2.5	N/A	
Contacts	Wire Size	AWG	20-1			N/A		20-14	N/A	-		
Š	Screw Terminal Tigh		0.5 N			N/A		0.5 Nm	N/A			
	Screw Terminal Strip	ping Length	7.0 m	nm		N/A		7.0 mm	N/A	7.0 mm	N/A	
	Crimp Terminal Wire Size	mm²	N/A	A	0.5	-2.5	0.14-2.5	0.14-4.0	0.14-2.5	0.14-4.0	0.14-2.5	
	Wile Size	AWG	N/A	A		26-14		26-12	26-14	26-12	26-14	
	Crimp Terminal Strip	ping Length	N/A	4	7.5	mm	N/A	7.5 mm	N/A	7.5 mm	N/A	
s/s	Material			G	lass filled po	olyamide						
ood Sove	Locking Element		(ed polyamid		peg					
ic Hors	Flammability				L 94 V-0 GV							
lasti uple	Housings Seal				NBR (Nitrile	rubber)			N/	Ά		
Thermoplastic Hoods/ Bases/Couplers/Covers	Degree of Protection Acc. to EN 60529 (co				IP66							
Ther	Temperature Range			-40 t	o 125°C [-4	0 to 257°F]						
. 10	Thread			Metric	EN 50262 F	Pg DIN 4043	30					
es/	Material				Die		um alloy, Poly		coated			
'Bas ers	Locking Element					Stain	less steel leve	- ' '				
ods/	Housings Seal						NBR (Nitril	e)				
Aluminum Hoods/Bases/ Couplers/Covers	Degree of Protection EN 60529 (coupled) NEMA 250, UL50, 500					IP66, N	EMA/UL (Type	e 1, 4, 4x, 12)				
Č	Temperature Range					-40 1	to 125°C [-40	to 257°F]				
Ą	Thread					Metric	EN50262 Pg	DIN 40430				

^{*} Connectors should not be coupled and decoupled under electrical load.



STD Series Multi-Wire Connectors

Conductor Termination

Overview

Two types of conductor termination are available for ZIPport inserts:

- Screw terminations
- Crimp terminations

Screw Terminations

Screw terminations consist of contacts made of silver-plated copper alloy and are incorporated with a wire clamp (with the exception of the size 3A inserts and size 24B with 80A contacts) for firmly securing the conductors. The screw terminals use stainless steel captive screws and meet VDE 0609 / EN 60999 standards.

Proper conductor installation requires no special preparation when using inserts with the wire clamp terminals (no wire ferrules). The table below lists the current rating, maximum wire gauge and stripping lengths.

Current Rating	Max Wir	e Gauge	Stripping Length		
Guirent nating	(mm ²)	AWG	mm (in)		
10A	2.5	14	4.5 (0.18)		
16A	2.5	14	7 (0.28)		
35A	6.0	10	11.5 (0.45)		
16/80A	25/16	14/5	7 (0.28)/14 (0.55)		



Wire ferrules not necessary.

Wire ferrules can be used.

Screw Terminals with Clamps

The value of tensile strength of conductors in accordance with the dimensions of the screws and the wires are shown in the following table:

Wire Gauge mm² (AWG)	1.5 (16)	2.5 (14)	4 (12)	6 (10)	10 (8)	16 (6)
Size of Screw	М3	М3	M3.5	M4	M4	M6
Tensile Strength of Stranded Wire (N)	40	50	60	80	90	100

Increasing the tightening torque does not necessarily improve the contact resistance. The screw torques are selected according to standard EN 60999-1, to provide excellent mechanical, thermal and electrical behavior. The conductor or terminal may be damaged if the recommended values are significantly exceeded.

	Inse	rt Scr	ew S	peci	fications	
Insert Size	Screw Type	Screw Size	Tightening Torque (Nm)	Tightening Torque (in-lbs)	Recommended Screwdriver Size	Recommended Screwdriver Part
3A	10 Amp Terminal Installation Ground	M3 M3.5	0.25	2.2	0.4 x 2.5	TW-SD-VSL-2
10A, 16A	16 Amp Terminal Installation Ground	M3	0.50	4.4	0.5 x 3.0	TW-SD-SL-1
6B, 10B	16 Amp Terminal Installation	M3	0.50	4.4	Ph 0-0.8 x 4	TW-SD-VSL-3
	Ground 35 Amp	M4 M4	1.2	10.6	Ph 2 1.0 x 5.5 Ph 1 - 0.8 x 4	TW-SD-VSL-4
16B	Terminal 16 Amp Terminal Installation	M3	0.50	4.4	Ph 0-0.8 x 4	TW-SD-VSL-3
	Ground	M4	1.2	10.6	Ph 2 1.0 x 5.5	
	80 Amp Terminal	M6	2.5	22.1	1.0 x 5.5	TW-SD-VSL-4
24B	16 Amp Terminal Installation	M3	0.50	4.4	Ph 0-0.8 x 4	TW-SD-VSL-3
	Ground	M4	1.2	10.6	Ph 2 1.0 x 5.5	TW-SD-VSL-4
32B*	16 Amp Terminal Installation	M3	0.50	4.4	Ph 0-0.8 x 4	TW-SD-VSL-3
	Ground	M4	1.2	10.6	Ph 2 1.0 x 5.5	
Note: S	ize 32B requires	2 size 1	6B inser	t		

Crimp Terminations

Crimp terminations consist of contacts made of silver or goldplated copper alloy. Crimp terminations are accomplished by applying a crimp contact to the conductor by means of a crimping tool. Crimp contacts are available in several sizes:

10 amp, 26-14 AWG; 16 amp, 26-12 AWG

A perfect crimp connection is gas-tight, corrosion free and is equal to a cold weld of the parts being connected. Wires to be connected must be carefully matched with the correct wire size of crimp contacts.

The requirements for crimp connectors are depicted in IEC 60352, part 2.

Note: Low currents and voltages:

ZIPport standard contacts (screw and crimp) have a silver plated surface. This metal has excellent conductive properties. During the contacts's lifetime, the silver surface generates a black oxide layer due to its affinity to sulphur (always present in the atmosphere). This layer is conductive smooth and very thin and is partly interrupted when the contacts are mated and non mated, thus guaranteeing very low contact resistances. In the case of very low current or voltage, small changes to the transmitted signal may be encountered.

In applications where voltage and current are lower than 5V and 5mA, and in extremely aggressive environments, ZIPport gold plated contacts are recommended. See ZIPport spare parts and accessories pages.



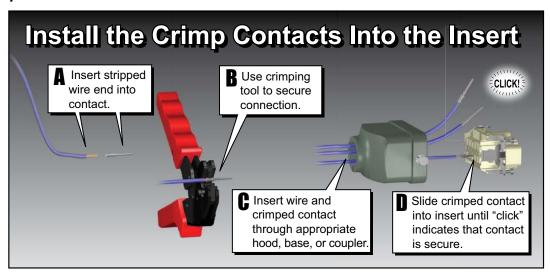
Crimp Contact to Insert Installation

Proper installation of the crimp contacts is important for a good electrical and mechanical connection. The following steps will ensure correct installation.

Step 1: Select the Crimp Contacts

Select a crimp contact based on the rating of the Insert you are using - 10 or 16 amps; the gender - male or female; and gauge of wire being used.

Step 2:

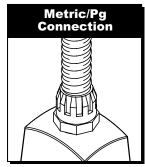


Step 3: Install the Insert into the Housing

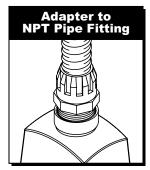
Now that the crimp contacts are installed, the insert can be placed into the housing by aligning the corner installation screws of the insert with the screw holes located in the corners of the housing. Tighten the screws according to the tightening torques listed in the Insert Screw Specifications table in this document.

Wire Entry Connection

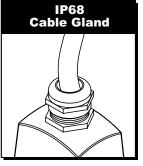
ZIPports offer four types of connection for wire entry into the housings. Two entries accommodate flex conduit and two accept cable.



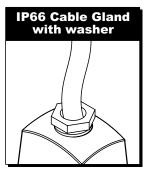
This is standard on all housings that offer a threaded wire entry. Sizes range from Pg 11 to Pg 36. This is for using fittings with a male Pg thread connection.



This adapter converts the Pg thread to an NPT thread. Sizes range from 3/8" to 1-1/4" in relation to the Pg threaded opening in the housing.



For securing a cable to the housing. This is an all inclusive fitting that can be tightened without using separate washers.



For securing a cable to the housing. This gland is available in plastic or metal in relation to housing material. Includes two washers and four gaskets to accommodate a wide range of cable diameters.



STD Series Multi-Wire Connectors Size 16A













ZP-MC16A-1-MS016

ZP-MC16A-1-FS016

ZP-MC16A-1-MC016

ZP-MC16A-1-FC016

ZP-MC16A-1-MC025

ZP-MC16A-1-FC025

	<u>Inserts</u>											
	No. of Poles	16	+PE	25+PE								
	Rated Voltage AC/DC	6	00V	600V								
Insert Type	Max. Rated Current	,	16A	10A								
	Termination Type	Screw Terminal	Crimp Contacts*	Crimp Contacts*								
	Part Number	ZP-MC16A-1-MS016	ZP-MC16A-1-MC016	ZP-MC16A-1-MC025								
84-1-	Price	\$15.50	\$12.50	\$10.00								
Male	Contact Size	N/A	ZP-MC-CC-M16A-XX*	ZP-MC-CC-M10A-XX*								
	Weight [lb]	0.139	0.064	0.079								
	Part Number	ZP-MC16A-1-FS016	ZP-MC16A-1-FC016	ZP-MC16A-1-FC025								
	Price	\$16.50	\$12.50	\$10.00								
Female	Contact Size	N/A	ZP-MC-CC-F16A-XX*	ZP-MC-CC-F10A-XX*								
	Weight [lb]	0.148	0.068	0.086								

^{*} Crimp Contacts must be purchased separately. The XX represents wire AWG. See Accessories section for complete part numbers.













ZP-MC16A-2-STE13M

ZP-MC16A-2-SSE16M

ZP-MC16A-2-SBHM

ZP-MC16A-2-SBHMC

ZP-MC16A-2-SSM16M

ZP-MC16A-2-SSM21MC

	Hoods,	Bases, Co	uplers and Covers			Accessories**
	Housing Component	Threaded Opening**	Part Number	Price	Weight [lb]	Plug with Gasket
		Pg 13.5	ZP-MC16A-2-STE13M	\$11.50	0.232	ZP-MC-PLG-13M8
	Top Entry Hood	Pg 16	ZP-MC16A-2-STE16M	\$11.50	0.234	ZP-MC-PLG-16M8
		Pg 16 HC	ZP-MC16A-2-STE16ML	\$18.00	0.388	ZP-MC-PLG-16M8
		Pg 21 HC	ZP-MC16A-2-STE21ML	\$20.00	0.373	ZP-MC-PLG-21M8
		Pg 16	ZP-MC16A-2-SSE16M	\$11.50	0.254	ZP-MC-PLG-16M8
<u> </u>	Side Entry Hood	Pg 16 HC	ZP-MC16A-2-SSE16ML	\$18.00	0.381	ZP-MC-PLG-16M8
Lever		Pg 21 HC	ZP-MC16A-2-SSE21ML	\$18.00	0.366	ZP-MC-PLG-21M8
 e	Bulkhead	N/A	ZP-MC16A-2-SBHM	\$12.50	0.185	N/A
Single	Bulkhead w/Cover	N/A	ZP-MC16A-2-SBHMC	\$25.00	0.298	N/A
S	Confess Manuation Housing	Pg 16x2	ZP-MC16A-2-SSM16M	\$19.00	0.445	ZP-MC-PLG-16M8
	Surface Mounting Housing	Pg 21x2	ZP-MC16A-2-SSM21M	\$19.00	0.403	ZP-MC-PLG-21M8
	Surface Mounting Housing/	Pg 16	ZP-MC16A-2-SSM16MC	\$29.50	0.558	ZP-MC-PLG-16M8
	with Cover	Pg 21	ZP-MC16A-2-SSM21MC	\$29.50	0.518	ZP-MC-PLG-21M8
	Cover w/Pegs - 1 Lever	N/A	ZP-MC16A-2-SCVLM	\$18.00	0.145	N/A
	Cover w/Pegs - 2 Pegs	N/A	ZP-MC16A-2-SCVPM	\$11.50	0.068	N/A

^{**} To convert to NPT, select a Pg to NPT adapter.HC = High Construction

^{***} Accessories pricing and details can be found in the Accessories section.



STD Series Multi-Wire Connectors Size 16A











Single Lever Cover

IP66 Cable Gland

IP68 Cable Gland

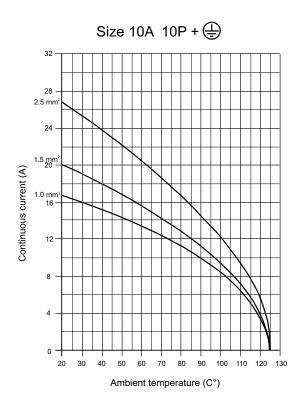
PG to NPT Adapter

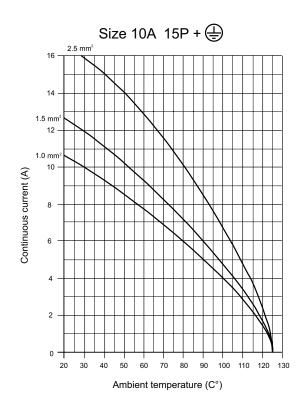
Plug with Gasket

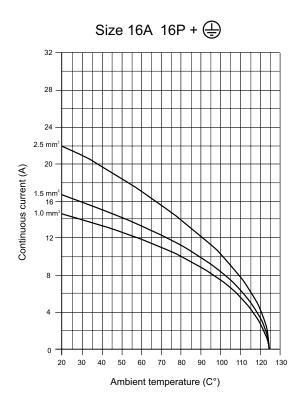
	Accessories*** Continued										
	Housing Component	IP66 Cable Glands	IP68 Cable Glands	Pg to NPT Adapter							
	Housing Component	IPOO CADIE GIAIIUS	IPOO CADIE GIAIIUS	Pg 13.5 to 1/2"	Pg 16 to 1/2"	Pg 21 to 3/4"					
		ZP-MC-CG-13M5	ZP-MC-CG-13M8	ZP-MC-A-13012	N/A	N/A					
	Ton Entry Hood	ZP-MC-CG-16M5	ZP-MC-CG-16M8	N/A	ZP-MC-A-16012	N/A					
	Top Entry Hood	N/A	ZP-MC-CG-16M8	N/A	ZP-MC-A-16012	N/A					
		N/A	ZP-MC-CG-21M8	N/A	N/A	ZP-MC-A-21034					
	Side Entry Hood	ZP-MC-CG-16M5	ZP-MC-CG-16M8	N/A	ZP-MC-A-16012	N/A					
١.		N/A	ZP-MC-CG-16M8	N/A	ZP-MC-A-16012	N/A					
ever		N/A	ZP-MC-CG-21M8	N/A	N/A	ZP-MC-A-21034					
7	Bulkhead	N/A	N/A	N/A	N/A	N/A					
Single	Bulkhead w/Cover	N/A	N/A	N/A	N/A	N/A					
S	Surface Mounting	N/A	ZP-MC-CG-16M8	N/A	ZP-MC-A-16012	N/A					
	Housing	N/A	ZP-MC-CG-21M8	N/A	N/A	ZP-MC-A-21034					
	Surface Mounting	N/A	ZP-MC-CG-16M8	N/A	ZP-MC-A-16012	N/A					
	Housing/ with Cover	N/A	ZP-MC-CG-21M8	N/A	N/A	ZP-MC-A-21034					
	Cover w/Pegs - 1 Lever	N/A	N/A	N/A	N/A	N/A					
	Cover w/Pegs - 2 Pegs	N/A	N/A	N/A	N/A	N/A					

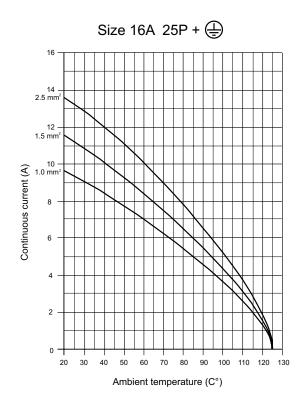
^{***} Accessories pricing and details can be found in the Accessories section.

Electrical Engineering Data - Load Diagrams







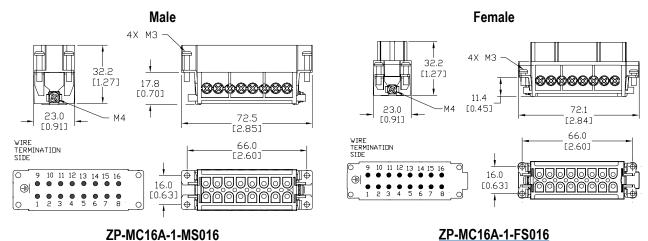




Size 16A Inserts

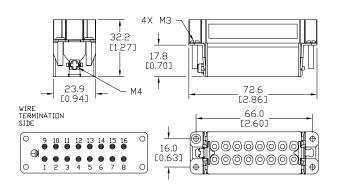
Dimensions mm [in]



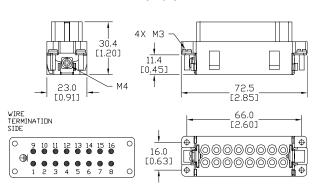


16 + — Crimp Contacts

Male



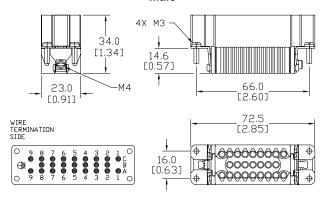
Female



ZP-MC16A-1-MC016

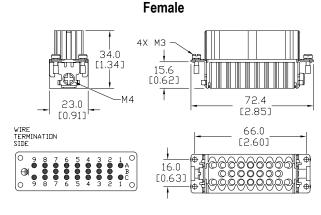
25 + - Crimp Contacts

Male



ZP-MC16A-1-MC025

ZP-MC16A-1-FC016

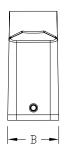


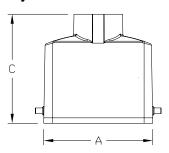
ZP-MC16A-1-FC025

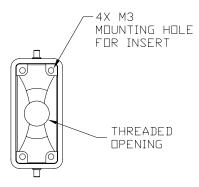


Dimensions mm [in]

Single Lever Top Entry Hood

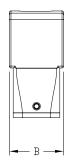


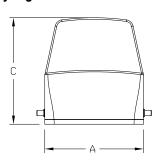


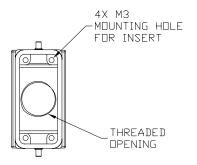


Single	Single Lever Top Entry Hood										
Part Number	Size	Thread	A	В	C						
ZP-MC10A-2-STE13M	10A	Pg 13.5	63.0	29.6 [1.17]	63.0						
ZP-MC10A-2-STE16M	IUA	Pg 16	[2.48]		[2.48]						
ZP-MC16A-2-STE13M	164	Pg 13.5	79.5	29.6	63.0						
ZP-MC16A-2-STE16M	16A	Pg 16	[3.13]	[1.17]	[2.48]						

Single Lever Top Entry High Construction Hood





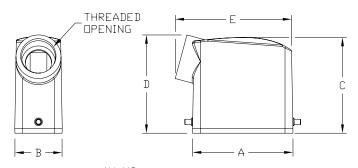


Single Lever Top	Single Lever Top Entry High Construction Hood									
Part Number	Size	Thread	A	В	С					
ZP-MC10A-2-STE16ML	104	Pg 16	63.0	34.6 [1.36]	68.0					
ZP-MC10A-2-STE21ML	10A	Pg 21	[2.48]		[2.68]					
ZP-MC16A-2-STE16ML	104	Pg 16	79.5	34.6 [1.36]	71.0					
ZP-MC16A-2-STE21ML	16A	Pg 21	[3.13]		[2.79]					



Dimensions mm [in]

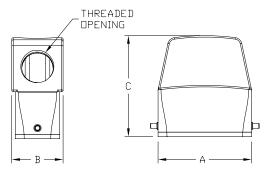
Single Lever Side Entry Hood

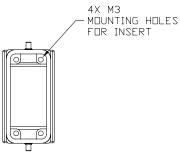




Single Lever Side Entry Hood										
Part Number	Size	Thread	A	В	С	D	E			
ZP-MC10A-2-SSE16M	10A	Da 16	63.0 [2.48]	29.6 [1.17]	60.0 [2.36]	61.6 [2.43]	72.9 [2.87]			
ZP-MC16A-2-SSE16M	16A	Pg 16	79.5 [3.13]	29.6 [1.17]	60.0 [2.36]	61.6 [2.43]	89.8 [3.54]			

Single Lever Side Entry High Construction Hood



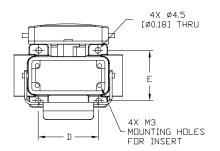


Single Lever Side Entry High Construction Hood										
Part Number	Size	Thread	A	В	С					
ZP-MC10A-2-SSE16ML	10A	Pg 16	63.0	34.6	68.0 [2.68]					
ZP-MC10A-2-SSE21ML	TUA	Pg 21	[2.48]	[1.36]						
ZP-MC16A-2-SSE16ML	164	Pg 16	79.5	34.6	71.0 [2.79]					
ZP-MC16A-2-SSE21ML	16A	Pg 21	[3.13]	[1.36]						

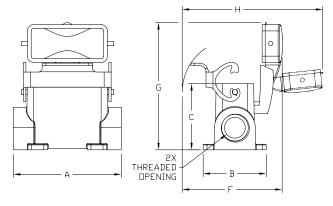


Dimensions mm [in]

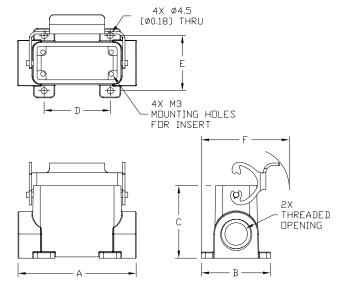
Single Lever Surface Mount Base With Cover



Single Lever Surface Mount Base With Cover											
Part Number	Size	Thread	A	В	С	D	E	F	G	Н	
ZP-MC10A-2-SSM16MC	10A	Pg 16x2	85.5	50.0		48.0			100.9		
ZP-MC10A-2-SSM21MC	104	Pg 21x2	[3.37]	[1.97]	[2.07]	[1.89]	[1.57]	[3.13]	[3.97]	[4.39]	
ZP-MC16A-2-SSM16MC	16A	Pg 16x2	102.0	50.0	57.0	64.0	40.0	79.4		114.5	
ZP-MC16A-2-SSM21MC	IOA	Pg 21x2	[4.02]	[1.97]	[2.24]	[2.52]	[1.57]	[3.13]	[4.17]	[4.51]	



Single Lever Surface Mount Base



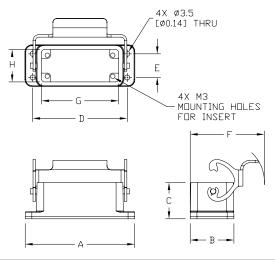
Single Lever Surface Mount Base											
Part Number	Size	Thread	Α	В	С	D	E	F			
ZP-MC10A-2-SSM16M	10A	Pg 16x2	85.5	50.0	52.5	48.0	40.0	63.6			
ZP-MC10A-2-SSM21M	104	Pg 21x2	[3.37]	[1.97]	[2.07]	[1.89]	[1.57]	[2.50]			
ZP-MC16A-2-SSM16M	16A	Pg 16x2	102.0	50.0	57.0	64.0	40.0	63.6			
ZP-MC16A-2-SSM21M	IOA	Pg 21x2	[4.02]	[1.97]	[2.24]	[2.52]	[1.57]	[2.50]			

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Dimensions mm [in]

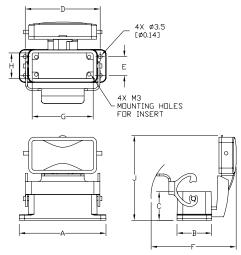
Single Lever Bulkhead Base



Sin	Single Lever Bulkhead Base											
Part Number	Size	A	В	С	D	E	F	G*	Н*			
ZP-MC10A-2-SBHM	10A	81.0 [3.19]	32.3 [1.27]	26.8 [1.06]	70.0 [2.76]	17.5 [0.69]	54.8 [2.16]	57.0 [2.24]	24.0 [0.94]			
ZP-MC16A-2-SBHM	16A	96.0 [3.78]	32.3 [1.27]	26.8 [1.06]	86.0 [3.39]	17.5 [0.69]	54.8 [2.16]	73.0 [2.87]	24.0 [0.94]			

^{*}Dimensions G and H refer to cutout size

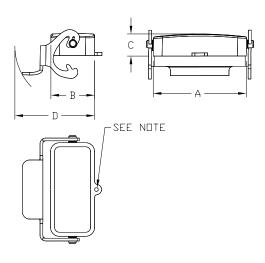
Single Lever Bulkhead Base with Cover



Single Lever Bulkhead Base With Cover											
Part Number	Size	Α	В	С	D	E	F	G*	Н*	J	
ZP-MC10A-2-SBHMC	10A	81.0 [3.19]	32.3 [1.27]	26.8 [1.06]			79.4 [3.13]			76.0 [2.99]	
ZP-MC16A-2-SBHMC	16A	96.0 [3.78]	32.3 [1.27]	26.8 [1.06]	86.0 [3.39]		79.4 [3.13]	73.0 [2.87]	24.0 [0.94]	76.0 [2.99]	

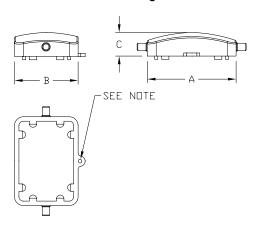
^{*}Dimensions G and H refer to cutout size

Single Lever Cover



Single	Leve	r Co	ver		
Part Number	Size	A	В	С	D
ZP-MC10A-2-SCVLM	10A	63.0 [2.48]	29.6 [1.17]	15.0 [0.59]	54.0 [2.13]
ZP-MC16A-2-SCVLM	16A	79.5 [3.13]	29.6 [1.17]	15.0 [0.59]	54.0 [2.13]

Two Peg Cover



Two Peg Cover									
Part Number	Size	A	В	С					
ZP-MC10A-2-SCVPM	10A	63.0 [2.48]	29.6 [1.17]	16.0 [0.63]					
ZP-MC16A-2-SCVPM	16A	79.5 [3.13]	29.6 [1.17]	16.0 [0.63]					

Note: Includes attached 112 mm [4.40 inch] nylon cord with ring terminal



Standards

The inserts are designed and manufactured to conform with EN 61984, (IEC 61984), VDE 0627 and UL 1977/CSA C22.2 182.3 standards. They are certified and labeled with the cULus and CE marks. The connectors are therefore in conformance with both European/International and American systems. This permits them to be used in a wider range of applications worldwide.

• EN 61984	Connectors safety re	equirements and tests

• VDE 0627 Connectors (DIN VDE 0627)

• EN 60664-1 Insulation coordination for equipment

within low-voltage systems

• EN 175 301-801 High density rectangular connectors, round

removable crimp contacts

• EN 60947-7-1 part 7-1 Low-voltage switchgear and control gear,

Ancillary equipment - Terminal blocks for

copper conductors

• VDE 0110 Table 4 concerning clearance and

creepage distances

• EN 60512 Connectors for electronic equipment, tests

and measurements

• UL 1977 Component connectors for use in data,

signal, control and power applications

CSA.C22.2 No. 182.3 Special use attachment, plugs,
 Table 2 and connectors.

receptacles and connectors

• EN 60529 Degree of protection provided by

enclosures (IP degree)

• EN 50262 Metric cable glands for electrical

installation

• EN 60423 Conduits for electrical purposes. Outside

diameters of conduits for

electrical installations and thread for

conduits and fittings

• ISO 23570-2 Industrial automation system and

integration. Distributed installation in industrial applications. Part 2: Hybrid

communication bus.

• ISO 23570-3 Industrial automation system and

integration. Distributed installation in industrial applications Part 3: Power

distribution bus.

electrical, hydraulic and pneumatic components and their interconnection on a

common platform for CNC controlled machine tools and

manufacturing lines.

(Distributed and Standardized Installation Technology), Studied by German Manufacturers of Machine Tool Association.

Directives and Declarations

NEMA-250 Declaration of Conformity

Metal and plastic enclosures for Multipole Industrial Connectors (Heavy Duty Connectors). Series STD, STD-HV, HE, HE-HV all sizes. Are designed and manufactured in conformity with NEMA 250-1991 Standard and meet the requirements of NEMA Type 4, 4x and 12

2006/95/EC: LVD Directive

Directive 2006/95/EC of the European Parliament and of the council of 12 December 2006 on the harmonization of the laws of Members States relating to electrical equipment designed for use within certain voltage limits.

2002/95/EC: RoHS Directive

Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

2008/35/EC: RoHS Directive amendment

Directive 2008/35/EC of the European Parliament and of the Council of 11 March 2008 amending Directive 2002/95/EC of the use of certain hazardous substances in electrical and electronic equipment (RoHS) as regards the implementing powers conferred on the Commission.

2004/108/EC EMC Directive

EMC, Electromagnetic Compatibility Directive.

In accordance with the European Directive that regulates the emission and the immunity of the equipment, for the products designed for EMC industrial applications.

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration Evaluation, Authorization and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EEC and 2000/21/EC.



WARNING - ACCORDING TO EN 61984, CONNECTORS SHOULD NOT BE COUPLED AND DECOUPLED UNDER ELECTRICAL LOAD.

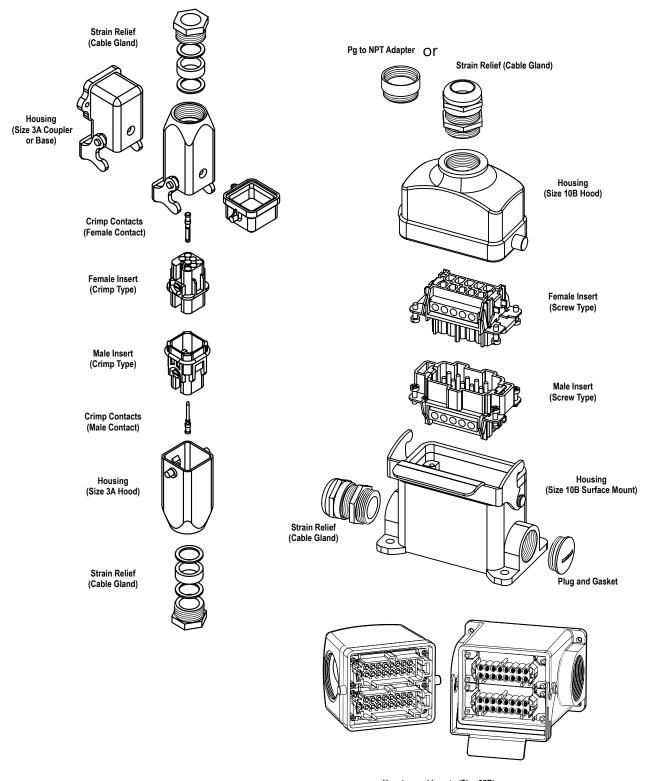




Port STD Series Multi-Wire Connectors

Crimp Contact Basic Assembly

Screw Terminal Basic Assembly



Housing and Inserts (Size 32B)



Crimp Contacts - 10 and 16 Amp

Crimp contacts are made of hard silver-plated or gold-plated copper alloy. Wires to be connected must be carefully matched with the correct wire size of crimp contacts. Crimp contacts should be installed using a crimping tool. For applications with voltages and currents lower than 5V and 5mA gold plated contacts are recommended.

		1) Amp	Crimp Contacts - 1	00/Pac	K		
	Male	Price	Weight [lb]	Female	Price	Weight [lb]	Wire Gauge mm² [AWG]	Stripping Length
ā	ZP-MC-CC-M10A-22	\$50.00	0.150	ZP-MC-CC-F10A-22	\$53.00	0.150	0.14-0.37 [26-22]	
lated	ZP-MC-CC-M10A-20	\$50.00	0.150	ZP-MC-CC-F10A-20	\$55.00	0.140	0.5 [20]	
Ϋ́	ZP-MC-CC-M10A-18	\$50.00	0.150	ZP-MC-CC-F10A-18	\$55.00	0.150	0.75 [18]	
Silve	ZP-MC-CC-M10A-16	\$50.00	0.150	ZP-MC-CC-F10A-16	\$55.00	0.140	1.5 [16]	
S	ZP-MC-CC-M10A-14	\$50.00	0.140	ZP-MC-CC-F10A-14	\$55.00	0.150	2.5 [14]	8 mm
þ	ZP-MC-CC-M10A-22G	\$104.00	0.157	ZP-MC-CC-F10A-22G	\$111.00	0.159	0.14-0.37 [26-22]	[0.32 in]
Plated	ZP-MC-CC-M10A-20G	\$104.00	0.150	ZP-MC-CC-F10A-20G	\$111.00	0.157	0.5 [20]	
1-P	ZP-MC-CC-M10A-18G	\$104.00	0.146	ZP-MC-CC-F10A-18G	\$128.00	0.150	0.75 [18]	
Gold-I	ZP-MC-CC-M10A-16G	\$104.00	0.146	ZP-MC-CC-F10A-16G	\$111.00	0.150	1.5 [16]	
٥	ZP-MC-CC-M10A-14G	\$104.00	0.146	ZP-MC-CC-F10A-14G	\$111.00	0.152	2.5 [14]	



Male Crimp Contact



Female Crimp Contact



Male Crimp Contact



Female Crimp Contact

		16	Amp (Crimp Contacts - 1	00/Pa	ck		
	Male	Price	Weight [lb]	Female	Price	Weight [lb]	Wire Gauge mm² [AWG]	Stripping Length
	ZP-MC-CC-M16A-22	\$34.50	0.280	ZP-MC-CC-F16A-22	\$40.00	0.280	0.14-0.37 [26-22]	
Plated	ZP-MC-CC-M16A-20	\$37.50	0.360	ZP-MC-CC-F16A-20	\$40.00	0.350	0.5 [20]	
Pla	ZP-MC-CC-M16A-18	\$34.50	0.270	ZP-MC-CC-F16A-18	\$32.00	0.290	0.75 [18]	
Silver-l	ZP-MC-CC-M16A-16	\$34.50	0.350	ZP-MC-CC-F16A-16	\$40.00	0.350	1.5 [16]	
Si	ZP-MC-CC-M16A-14	\$34.50	0.270	ZP-MC-CC-F16A-14	\$40.00	0.280	2.5 [14]	
	ZP-MC-CC-M16A-12	\$34.50	0.350	ZP-MC-CC-F16A-12	\$40.00	0.350	4.0 [12]	7.5 mm
	ZP-MC-CC-M16A-22G	\$149.00	0.280	ZP-MC-CC-F16A-22G	\$227.00	0.322	0.14-0.37 [26-22]	[0.29 in]
pa	ZP-MC-CC-M16A-20G	\$149.00	0.276	ZP-MC-CC-F16A-20G	\$227.00	0.318	0.5 [20]	
Plat	ZP-MC-CC-M16A-18G	\$149.00	0.273	ZP-MC-CC-F16A-18G	\$227.00	0.315	0.75 [18]	
old-Plated	ZP-MC-CC-M16A-16G	\$149.00	0.273	ZP-MC-CC-F16A-16G	\$227.00	0.320	1.5 [16]	
ဗိ	ZP-MC-CC-M16A-14G	\$154.00	0.276	ZP-MC-CC-F16A-14G	\$227.00	0.320	2.5 [14]	
	ZP-MC-CC-M16A-12G	\$149.00	0.273	ZP-MC-CC-F16A-12G	\$227.00	0.329	4.0 [12]	

Note: The crimp contact ampacities listed above are the Maximum current ratings for the crimp contacts only.

The current rating DOES NOT reflect the wire gauge current rating.

Crimp Contact Tools										
Part Number	Price	Qty	Description	Weight [lb]						
ZP-MC-CT1	\$775.00		Crimping tool w/die set and locator	1.593						
ZP-MC-CT2	\$112.00		Crimping tool w/die set only, no locator	0.814						
ZP-MC-RT1	\$116.00]]	Removal tool for 10A contacts	0.081						
ZP-MC-RT2	\$105.00		Removal tool for 16A contacts	0.086						



ZP-MC-CT1





ZP-MC-CT2





Cable Glands

IP66 Glands Plastic

- Thread: 1.5 mm pitch in accordance with EN 50262, Pg in accordance with DIN 40430
- IP Protection: IP66 in accordance with EN 60529
- Working Temperature: -40 to 125°C [-40 to 257°F]
- Materials: Body Glass filled polyamide UL 94 V0; Washer zinc plated steel; Gasket Elastomer
- Includes two washers and four gaskets to accommodate a wide range of cable diameters
- Applications: for size 3A plastic type housings

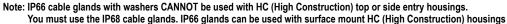
Metal

- Thread: 1.5 mm pitch in accordance with EN 50262, Pg in accordance with DIN 40430
- IP Protection: IP66 in accordance with EN 60529
- Working Temperature: -40 to 125°C [-40 to 257°F]
- Materials: Body nickel-plated brass; Washer zinc plated steel; Gasket Elastomer
- Includes two washers and four gaskets to accommodate a wide range of cable diameters
- Applications: for all sizes metal type housings

IP68 Glands Metal

- Thread: 1.5 mm pitch in accordance with EN 50262, Pg in accordance with DIN 40430
- IP Protection: IP68, patented design for up to 5 bars
- Working Temperature: -40 to 125°C [-40 to 257°F]
- Materials: Body nickel-plated brass; Strain relief Glass filled polyamide UL 94 V0; Gasket - Elastomer
- Applications: for industrial connector housings where higher protection and strength are required

IP66 Cable Glands											
Part Number	Price	Qty	Туре	Cable Diameter mm [in]	Thread	Weight [lb]					
ZP-MC-CG-11P5	\$1.50		Plastic	7-12 [0.275-0.472]	Pg 11	0.019					
ZP-MC-CG-11M5	\$2.75			7-12 [0.275-0.472]	Pg 11	0.030					
ZP-MC-CG-13M5	\$2.25			7-12 [0.275-0.472]	Pg 13.5	0.031					
ZP-MC-CG-16M5	\$2.75	1	Matal	7-14.5 [0.275-0.570]	Pg 16	0.041					
ZP-MC-CG-21M5	\$3.00		Metal	9.5-18.5 [0.374-0.728]	Pg 21	0.070					
ZP-MC-CG-29M5	\$4.50			17.5-26.5 [0.688-1.043]	Pg 29	0.125					
ZP-MC-CG-36M5	\$8.75			23.5-32.5 [0.925-1.279]	Pg 36	0.249					





IP66 Cable Glands - Plastic



IP66 Cable Glands - Metal



IP68 Cable Glands

IP68 Cable Glands										
Part Number	Price	Qty	Туре	Thread	Diameter mm [in]	Weight [lb]				
ZP-MC-CG-11M8	\$40.00			Pg 11	4-10 [0.157-0.393]	0.451				
ZP-MC-CG-13M8	\$41.50	10 per pack		Pg 13.5	5-12 [0.197-0.472]	0.780				
ZP-MC-CG-16M8	\$58.00	pack	Metal er	Pg 16	8-14 [0.314-0.551]	0.881				
ZP-MC-CG-21M8	\$47.50			Pg 21	11-18 [0.433-0.708]	0.727				
ZP-MC-CG-29M8	\$85.00	5 per pack		Pg 29	16-25 [0.629-0.984]	1.466				
ZP-MC-CG-36M8	\$122.00	pack		Pg 36	19-36 [0.748-1.417]	2.205				



Blanking Plugs with Gasket

- Thread: 1.5 mm pitch in accordance with EN 50262, Pg in accordance with DIN 40430
- IP Protection: IP68 in accordance with EN 60529
- Working Temperature: -40 to 125°C [-40 to 257°F]
- Materials: Body nickel-plated brass; Gasket Elastomer
- Applications: for blanking threaded holes on housings or other enclosures

	Blanking Plugs With Gasket											
Part Number	Price	Qty	Туре	Thread	Weight [lb]							
ZP-MC-PLG-11M8	\$22.00	40		Pg 11	0.169							
ZP-MC-PLG-13M8	\$23.00			Pg 13.5	0.192							
ZP-MC-PLG-16M8	\$31.00	10 per pack		Pg 16	0.253							
ZP-MC-PLG-21M8	\$49.00		Metal	Pg 21	0.478							
ZP-MC-PLG-29M8	\$50.00	5 per pack		Pg 29	0.218							
ZP-MC-PLG-36M8	\$77.00			Pg 36	0.706							



Blanking Plugs With Gasket

Pg to NPT Adapters

Thread: Metric 1.5 mm pitch Pg in accordance with DIN 40430, NPT in accordance with USAS B2-1

- IP Protection: dependant on coupling and other components
- Working Temperature: -60 to 200°C [-76 to 392°F]
- Materials: nickel-plated brass
- Applications: for converting a Pg thread to an NPT thread

Pg to NPT Adapters							
Part Number	Price	Qty	Туре	Pg Thread	NPT Thread	Weight [lb]	
ZP-MC-A-11038	\$8.75			Pg 11	3/8"	0.044	
ZP-MC-A-11012	\$6.50		Metal	Pg 11	1/2"	0.072	
ZP-MC-A-13012	\$6.50			Pg 13.5	1/2"	0.106	
ZP-MC-A-16012	\$11.00	_		Pg 16	1/2"	0.070	
ZP-MC-A-21034	\$12.50	ľ		Pg 21	3/4"	0.101	
ZP-MC-A-29100	\$21.00			Pg 29	1"	0.194	
ZP-MC-A-29114	\$22.00			Pg 29	1 1/4"	0.238	
ZP-MC-A-36114	\$24.50			Pg 36	1 1/4"	0.201	



Pg to NPT **Adapters**

Replacement Gaskets

Replacement Gaskets								
Part Number	Price	Qty	Size	Туре	Material	Weight [lb]		
ZP-MC03A-GSK	\$8.75		3A		Nitrile Butadiene Rubber (NBR)	0.085		
ZP-MC10A-GSK	\$7.00		10A	For bulkhead		0.082		
ZP-MC16A-GSK	\$7.25		16A			0.079		
ZP-MC06B-GSK	\$8.50	10 per	6B			0.097		
ZP-MC10B-GSK	\$8.75	pack	10B	housings		0.105		
ZP-MC16B-GSK	\$10.00		16B			0.127		
ZP-MC24B-GSK	\$10.50		24B			0.141		
ZP-MC32B-GSK	\$18.50		32B			0.229		



Replacement Gaskets



Insert Plates with Cutouts

Insert Plates with Cutouts							
Part Number	Price	Qty	Description	Weight [lb]			
<u>ZP-MC6B-2-1XDB9</u>	\$2.00		ZIPport insert plate, (1) 9-pin D-sub connector cutout(s), thermoplastic, RAL 7044 gray. For use with ZIPport size 6B connector housing.	0.0176			
<u>ZP-MC6B-2-2XDB9</u>	\$1.75		ZIPport insert plate, (2) 9-pin D-subs connector cutout(s), thermoplastic, RAL 7044 gray. For use with ZIPport size 6B connector housing.	0.0154			
ZP-MC6B-2-1XDB15	\$2.00	1	ZIPport insert plate, (1) 15-pin D-sub connector cutout(s), thermoplastic, RAL 7044 gray. For use with ZIPport size 6B connector housing.	0.0176			
ZP-MC6B-2-2XDB15	\$1.75		ZIPport insert plate, (2) 15-pin D-sub connector cutout(s), thermoplastic, RAL 7044 gray. For use with ZIPport size 6B connector housing.	0.0154			



with Cutouts

Note: machine screw M3-0.5x16 hardware not included

Bulkhead Cutout Reducing Plates

	Bulkhead Cutout Reducing Plates						
Part Number	Price	Qty	Description	Weight [lb]			
<u>ZP-MC24B-2-RD6B</u>	\$6.75		ZIPport bulkhead cutout reducing plate, thermoplastic, RAL 7044 gray. For use with ZIPport size 24B bulkhead cutouts. Gasket included. Reduces cutout to ZIPport size 6B.	0.0838			
<u>ZP-MC24B-2-RD10B</u>	\$6.75	1	ZIPport bulkhead cutout reducing plate, thermoplastic, RAL 7044 gray. For use with ZIPport size 24B bulkhead cutouts. Gasket included. Reduces cutout to ZIPport size 10B.	0.0816			
ZP-MC24B-2-RD16B	\$6.75		ZIPport bulkhead cutout reducing plate, thermoplastic, RAL 7044 gray. For use with ZIPport size 24B bulkhead cutouts. Gasket included. Reduces cutout to ZIPport size 16B.	0.0772			



Bulkhead Cutout Reducing Plates

Bulkhead Cutout Blank Covers

Bulkhead Cutout Blank Covers						
Part Number	Price Qty		Description	Weight [lb]		
ZP-MC6B-2-BLANK	\$5.00		ZIPport bulkhead cutout blank cover plate, thermoplastic, RAL 7044 gray. For use with ZIPport size 6B bulkhead cutouts. Gasket included.	0.4343		
ZP-MC10B-2-BLANK	\$5.00		ZIPport bulkhead cutout blank cover plate, thermoplastic, RAL 7044 gray. For use with ZIPport size 10B bulkhead cutouts. Gasket included.	0.0463		
ZP-MC16B-2-BLANK	\$5.00		ZIPport bulkhead cutout blank cover plate, thermoplastic, RAL 7044 gray. For use with ZIPport size 16B bulkhead cutouts. Gasket included.	0.0529		
ZP-MC24B-2-BLANK	\$6.75		ZIPport bulkhead cutout blank cover plate, thermoplastic, RAL 7044 gray. For use with ZIPport size 24B bulkhead cutouts. Gasket included.	0.0573		



Bulkhead Cutout Blank Covers



DIN Rail Mounting Kits

- For mounting inserts inside an enclosure
- Fits 35mm DIN rail





DIN Rail Mounting Kits

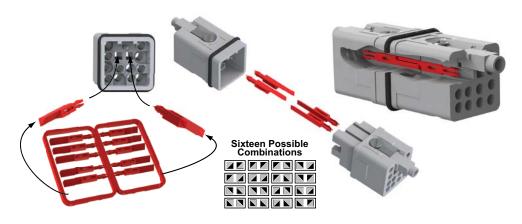
ZP-MC-RT3

DIN Rail Mounting Kits								
Part Number	Price	Qty	Description	Weight [lb]				
ZP-MC06B-DKIT	\$34.50		For size 6B inserts	0.374				
ZP-MC10B-DKIT	\$34.50		For size 10B inserts	0.377				
ZP-MC16B-DKIT	\$41.00	1	For size 16B inserts	0.385				
ZP-MC24B-DKIT	\$41.00		For size 24B inserts	0.392				
ZP-MC-RT3	\$276.00		Insert removal tool	0.052				

Replacement Screws/Polarization Key

Replacement Screws / Polarization Key								
Part Number	Price	Qty	Description		Weight [lb]			
			M3.5 - PE screw for size 3A inserts	To the				
			M4 - PE screw for size 6B insert, size 10B insert, size 16B insert (16+PE) and size 24B insert (24+PE)	PE				
	2 pieces of each part	M4 - PE screw for size 16B insert (6+PE) and size 24B insert (8+4+PE)	NO STATE OF THE PARTY OF THE PA	0.048				
			M3 - Installation screw for 3A inserts only	1				
			M3 - Installation screw for all inserts except 3A	THE STATE OF THE S				
ZP-MC-POLKEY-1	\$6.75	12	Polarization key for size 3A 12-pin inserts. Two keys are required per coupled connections	ection.	0.011			





Using the Polarization Key



Code Pins								
Part Number	Price	Qty	Description	Figure	Weight [lb]			
ZP-MC-CODEPIN-2	\$10.50	16 per pack	Single code pin	1	0.009			
ZP-MC-CODEPIN-3	\$8.75	16 per pack	Male code pin (use w/ZP-MC-CODEPIN-4)	2	0.064			
ZP-MC-CODEPIN-4	\$20.50	16 per pack	Female code pin (use w/ZP-MC-CODEPIN-3)	3	0.101			



Figure 1



Figure 2

Coding Pin Configurations

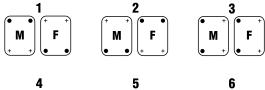
Single Code Pin

The ZP-MC-CODEPIN-2 is designed to be used as a single stand-alone code pin using the following configurations.



Figure 3

Application with single insert



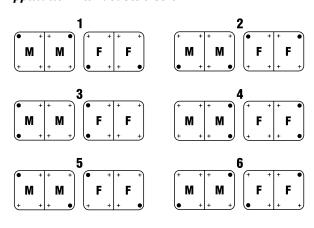


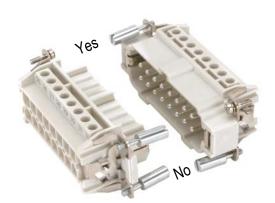




- Code pin ZP-MC-CODEPIN-2
- Normal fixing screw
- Male insert
- Female insert

Application with double insert





^{*} Code pins are used in applications where there are identical connectors that could be coupled with the incorrect mate, potentially causing equipment damage or breakdown. Code pins replace the installation screws on the inserts. Code pins do NOT work with 3A inserts or 32x13 inserts. The following combinations of code pins allow for a selective number of couples. Material is zinc-plated steel.

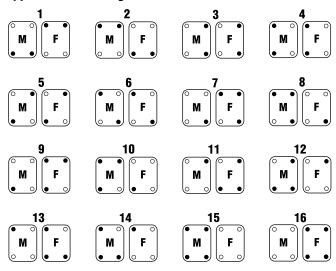


Coding Pin Configurations

Male / Female Code Pins

The <u>ZP-MC-CODEPIN-3</u> and the <u>ZP-MC-CODEPIN-4</u> are designed to be used together using the following configurations.

Application with single insert



- Male code pin ZP-MC-CODEPIN-3
- Female code pin ZP-MC-CODEPIN-4
- + Normal fixing screw
- Male insert
- **F** Female insert



Application with double insert

