

# M 23 FAST ETHERNET PoE

This connector is able to transfer data up to Gigabit range. The M 23 Fast Ethernet PoE is robust, safe and compact. It is designed for use in rough industrial environments.

- // Hybrid connectors for single cable solution
- // Four Twinax-Inserts for data transfer
- // Five separate shieldings prevent cross talk
- // Highest density within M 23 housing



## Product overview



Mechanical Data	Materials and Technical Data
Housing	Copper-Zinc alloy Die Cast
Housing surface	Nickel plated
Inserts (for contacts)	PBT UL-94 V0, PA6
Contacts	Brass Alloy
Contact surface at point of contact	Nickel and gold plated (0,25 µm)
Minimum mating cycles	> 1000
Seals / O-Rings	Perbunan NBR (Standard)
Temperature range	-40 °C – 125 °C (-40 °F – 257 °F)
Type of contacts	Crimp, dip-solder (PCB)
Protection	IP 67 per EN 60 529 (connected), NEMA 4x
Cable diameter range	11 – 17 mm (.43" – .67")

Electrical Data		
Number of positions	20 (4 x 2 + 12)	
Number of contacts	4 x 2	12
Contact-Ø [mm]	0,6	1
AWG [mm <sup>2</sup> ]	0,08 – 0,34	0,14 – 1 / 1,5
Nominal current <sup>1)</sup> [A]	2	8*
Nominal voltage <sup>2)</sup> [V~] degree of protection 3 <sup>4)</sup>	60	160
Test voltage (Breakdown voltage) <sup>3)</sup> [V~]	500	1500
Insulation resistance [Ω]	> 10 <sup>6</sup>	> 10 <sup>6</sup>
Max. contact resistance [mΩ]	3	3
Impedance [Ω] (at 100MHz)	100	–

<sup>1), 2), 3), 4)</sup> See Technical Information page 18 // \* for single contacts even 10A possible



## Housings

**Straight Female Connector**

Cable-Ø	Part Number
11-17 mm	7.108.600.000

**Straight Connector, Male Thread**

Cable-Ø	Part Number
11-17 mm	7.208.600.000

**Right Angle Connector, Female Thread, rotatable**

Cable-Ø	Part Number
11-17 mm	7.308.600.000

**Panel Connector, Male Thread, Front Mounting**

Type	Part Number
4 x holes Ø 2,7 mm (.11")	7.408.000.000
Flange 26 x 26 mm	

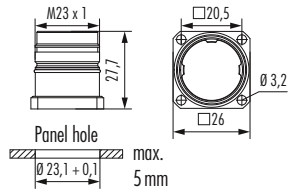
Housing without inserts and contacts

### Panel Connector, Rear Mounting

Type

Part Number

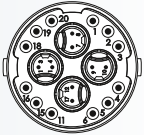
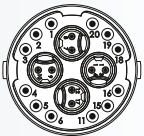
4 x holes  $\varnothing$  3,2 mm (.13") .....7.468.000.000  
Flange 26 x 26 mm







Housing without inserts and contacts



## Inserts / Pinouts / Contacts

Inserts (4 x 2) + 12		Type	Part Number	Part Number
 Insert pin mating view			<b>Pins</b>	<b>Sockets</b>
	Insert without contacts .....		7.003.920.101	7.003.920.102
	Insert with dip solder contacts.....		7.001.920.107	7.001.920.108
 Insert socket mating view	<b>Required Contacts</b>			
	8 x 0,6 .....		7.010.980.641	7.010.980.602
	12 x 1 .....		7.010.901.045	7.010.901.002
	.....		7.010.901.049	7.010.901.012
	.....			7.010.901.022
	.....			7.010.901.046

Contacts	Type	Crimp Range	Part Number
	Crimp pin 0,6 mm, machined .....	0,08 – 0,34 mm <sup>2</sup> .....	7.010.980.641
	Crimp socket 0,6 mm, machined.....	0,08 – 0,34 mm <sup>2</sup> .....	7.010.980.602
	Crimp pin 1 mm, machined .....	0,14 – 1 mm <sup>2</sup> .....	7.010.901.049
	.....	0,75 – 1,5 mm <sup>2</sup> .....	7.010.901.045
	Crimp socket 1 mm, machined.....	0,08 – 0,56 mm <sup>2</sup> .....	7.010.901.012
	.....	0,34 – 1 mm <sup>2</sup> .....	7.010.901.002
	.....	0,75 – 1,5 mm <sup>2</sup> .....	7.010.901.022
	.....	1 – 1,75 mm <sup>2</sup> .....	7.010.901.046



Accessories	Type	Part Number
	<b>Plastic protective cap</b> for connectors with male thread .....	7.000.900.101
	with female thread .....	7.000.900.102
	<b>Brass protective cap</b> for connectors with female thread .....	7.010.900.183
	<b>Brass protective cap with chain</b> for connectors with female thread Length 70 mm .....	7.010.950.783
	Length 100 mm .....	7.010.951.083
	<b>Brass protective cap</b> for connectors with male thread .....	7.010.908.102
	<b>Conduit adaptor</b> Poleon DN 12 .....	7.010.900.205
	Poleon DN 14 .....	7.010.900.207
	Poleon DN 17 .....	7.010.900.209
	<b>Adaptor flange</b> for Straight Connectors .....	7.010.900.128
	<b>Adaptor flange</b> for moulded connectors .....	7.010.900.139
	<b>Multi-Bus adapter</b> wired through I:I (excentric)  Multi-Bus I, Female Thread, Sockets 17pole Multi-Bus II, Male Thread, Pins .....	7.010.900.143
	Multi-Bus I, Female Thread, Pins, 17pole Multi-Bus II, Male Thread, Sockets .....	7.010.900.144

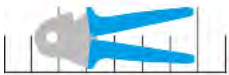




## Accessories

Accessories	Type	Part Number
	<b>Control Cabinet adapter</b> for Multibus II – AIDA Rear Mounting, central locking .....	7.010.900.145
	<b>I/O adapter module to scan or feed signals</b> Rear Mounting, central locking .....	7.010.900.146
	<b>Manual Crimp tool for EMC sleeves M 23 Fast Ethernet</b> .....	7.000.900.906
	<b>Manual Crimp tool</b> for turned contacts M 23 Fast Ethernet .....	7.000.900.907
►108		





## Crimp Tool Settings for HUMMEL Crimp Contacts (Crimp Tool 7.000.900.907)

Part Number	Crimp Contact	Cross Section (mm <sup>2</sup> )	AWG	Crimp Tool Setting mm	Locator Setting
7.010.980.641	Crimp pin 0,6 mm (0,08 – 0,34 mm <sup>2</sup> )	0,08	AWG 28	0,57	B 1
		0,14	AWG 26	0,60	
		0,25	AWG 24	0,64	
		0,34	AWG 22	0,73	
7.010.980.602	Crimp socket 0,6 mm (0,08 – 0,34 mm <sup>2</sup> )	0,08	AWG 28	0,57	B 2
		0,14	AWG 26	0,60	
		0,25	AWG 24	0,64	
		0,34	AWG 22	0,73	
7.010.901.049	Crimp pin 1 mm (0,14 – 1,0 mm <sup>2</sup> )	0,14	AWG 26	0,70	B 3
		0,25	AWG 24	0,76	
		0,34	AWG 22	0,82	
		0,56	AWG 20	0,90	
		0,75	AWG 18	1,00	
7.010.901.045	Crimp pin 1 mm (0,75 – 1,5 mm <sup>2</sup> )	0,75	AWG 18	0,80	B 5
		1,00	AWG 17	0,85	
		1,50	AWG 16	0,95	
7.010.901.012	Crimp socket 1 mm (0,08 – 0,56 mm <sup>2</sup> )	0,08	AWG 28	0,75	B 4
		0,14	AWG 26	0,78	
		0,25	AWG 24	0,82	
		0,34	AWG 22	0,88	
		0,56	AWG 20	0,90	
7.010.901.002	Crimp socket 1 mm (0,34 – 1,0 mm <sup>2</sup> )	0,34	AWG 22	0,77	B 4
		0,56	AWG 20	0,82	
		0,75	AWG 18	0,88	
		1,00	AWG 17	0,95	
7.010.901.022	Crimp socket 1 mm (0,75 – 1,5 mm <sup>2</sup> )	0,75	AWG 18	0,80	B 4
		1,00	AWG 17	0,86	
		1,50	AWG 16	0,95	
7.010.901.046	Crimp socket 1 mm (1 – 1,75 mm <sup>2</sup> )	1,00	AWG 17	0,85	B 6
		1,50	AWG 16	0,95	
		1,75	AWG 15	1,00	

These values are only guidelines and actual conductor cross sections depend on manufacturer tolerances.



## Assembly Instructions

### Straight Connector Male/Female Thread

1.  $x$  17 mm

2.  $y$

3.  $z$  max. 4,5 mm

4. max. 4 mm

5. crimp

6. crimp

7. click

8. click code

9. crimp

$x$	Pins = 41 mm Sockets = 37 mm
$y$	Pins = 7 mm Sockets = 0 mm
$z$	Pins = 10 mm Sockets = 7 mm

7.000.900.906

10. code + position

11.

12. click code

13. click

14.

15. code

16. 24 24



### Panel Connector

1. max. 4,5 mm
2. max. 4 mm
3. crimp
4. crimp
5. click
6. click  
code
7. crimp

x Pins = 10 mm  
Sockets = 7 mm

7.000.900.906

8. code + position
9. code
10. click  
code
11. click  
code
12. code



## Assembly Instructions

### Right Angle Connector

1. Strip the cable to 80 mm total length, with 55 mm of the outer jacket removed.
2. Strip the braided shield to 55 mm.
3. Strip the individual conductors to a maximum length of 4.5 mm.
4. Strip the conductors to a maximum length of 4 mm.
5. Crimp the conductors.
6. Crimp the shield.
7. Click the conductors into the connector housing.
8. Click the shield into the connector housing.
9. Crimp the connector housing with a crimping tool (7.000.900.906).
10. Insert the cable into the connector housing, aligning the code and position.
11. Insert the connector housing into the cable, aligning the code and position.
12. Push the connector housing into the cable until it clicks.
13. Click the connector housing into the cable.
14. Tighten the connector housing with a 27 mm wrench.
15. Tighten the connector housing with a 27 mm wrench.
16. Trim the excess cable with scissors.
17. Tighten the connector housing with a 24 mm wrench and a 25 mm wrench.

**x** Pins = 7 mm  
Sockets = 0 mm

**y** Pins = 10 mm  
Sockets = 7 mm