

M 23 SIGNAL CONNECTORS

This reliable and universally applicable connector is widespread within industry. The connectors of HUMMEL AG can be customized freely. Moreover, they convince through their robustness and reliability. The range is modularly constructed and offers almost unlimited opportunities to the user.

- // Numerous housing types
- // Large variety
- // TWILOCK/TWILOCK-S quick release fastener



Product overview

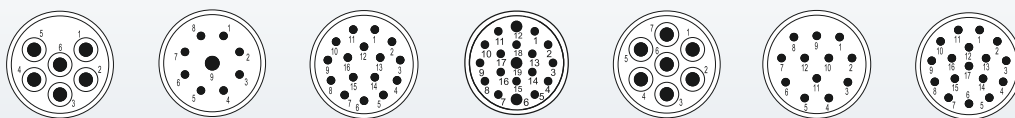
Housings

► 18



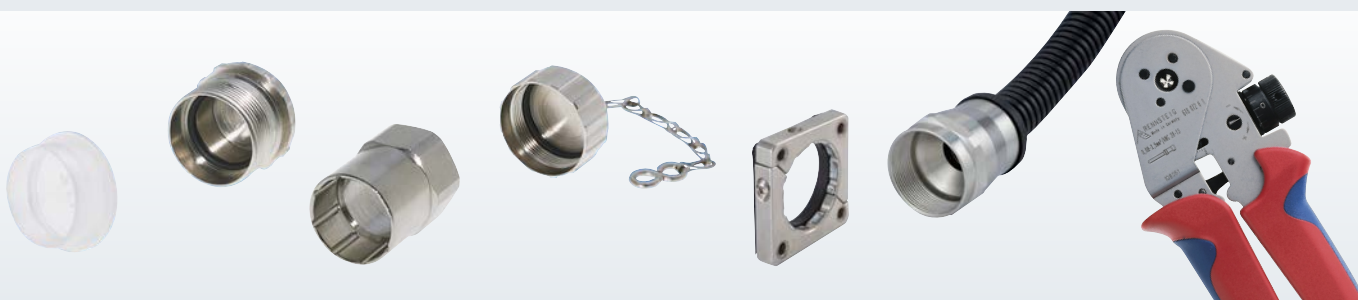
Inserts

► 25



Accessories

► 32



Mechanical Data	Materials and Technical Data
Housing	Copper-Zinc alloy Die Cast
Housing surface	Nickel plated blue passivated other surface upon request
Inserts (for contacts)	Thermoplastic Polyamid PA 6 (Nylon 6/6), PBT Fire protection class V-0
Contacts	Brass Alloy
Contact surface at point of contact	Nickel and gold plated (0,25 µm)
Minimum mating cycles	> 1000*
Seals / O-Rings	Buna-N standard optional Viton® (FPM / FKM) (Viton is a registered trademark of DuPont)
Temperature range	-40 °C – 125 °C (-40 °F – 257 °F)
Type of contacts	Crimp, solder, dip-solder (PCB)
Protection	IP 67 / IP 69K per EN 60 529 (connected), NEMA 4x
Cable diameter range	3 – 17 mm (.12 – .67")

* HUMMEL to HUMMEL connector

Electrical Data							
Number of positions	6	7	9 (8+1)	12	16	17	19 (16+3)
Number of contacts	6	7	8 1	12	16	17	16 3
Contact-Ø [mm]	2	2	1 2	1	1	1	1 1,5
Nominal current ¹⁾ [A]	20	20	8 20	8	8	8	8 10
Nominal voltage ²⁾ [V~] degree of pollution 3 ³⁾	160	160	160	160	160	160	100
Test voltage (Breakdown voltage) ⁴⁾ [V~]	2500	2500	2500	2500	1500	1500	1500
Insulation resistance [Ω]	> 10 ¹⁰	> 10 ¹⁰	> 10 ¹⁰	> 10 ¹⁰	> 10 ⁶	> 10 ⁶	> 10 ⁶
Max. contact resistance [mΩ]	3	3	3	3	3	3	3

1), 2), 3), 4) See Technical Information page 14

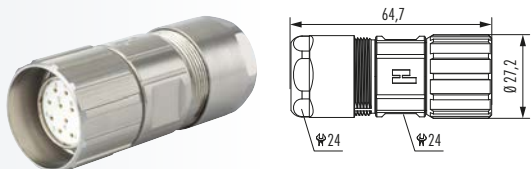
Housings

Straight Connector, Female Thread

Cable-Ø

Part Number

3 – 7 mm (.12 – .28")	7.106.400.000
7 – 12 mm (.28 – .47")	7.106.500.000
11 – 17 mm (.44 – .67")	7.106.600.000



▶ 25



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Straight Connector, Female Thread TWILOCK / TWILOCK-S*

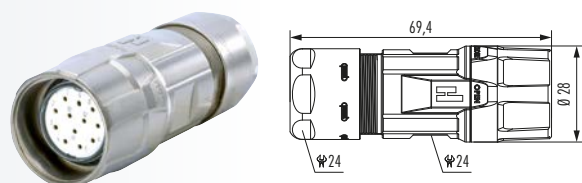
Cable-Ø

Part Number

3 – 7 mm (.12 – .28")	7.166.400.000
7 – 12 mm (.24 – .47")	7.166.500.000
11 – 17 mm (.43 – .67")	7.166.600.000

* intermateable with Speedtec

3 – 7 mm (.12 – .28")	7.166.400.00S
7 – 12 mm (.24 – .47")	7.166.500.00S
11 – 17 mm (.43 – .67")	7.166.600.00S



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Straight Connector, Male Thread TWILOCK / TWILOCK-S*

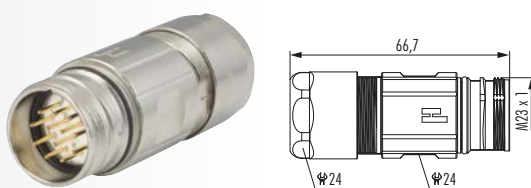
Cable-Ø

Part Number

3 – 7 mm (.12 – .28")	7.206.400.000
7 – 12 mm (.28 – .47")	7.206.500.000
11 – 17 mm (.44 – .67")	7.206.600.000

* intermateable with Speedtec

3 – 7 mm (.12 – .28")	7.266.400.00S
7 – 12 mm (.24 – .47")	7.266.500.00S
11 – 17 mm (.43 – .67")	7.266.600.00S



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Panel Connector, Male Thread, with Strain Relief

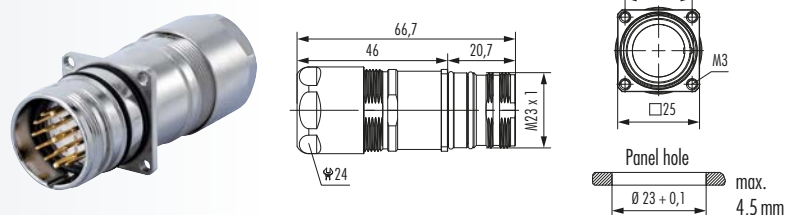
Cable-Ø

Part Number

4 threads M 3, rear mounting

3 – 7 mm (.12 – .28")	7.476.400.000
7 – 12 mm (.28 – .47")	7.476.500.000
11 – 17 mm (.44 – .67")	7.476.600.000

Optional: Flat gasket



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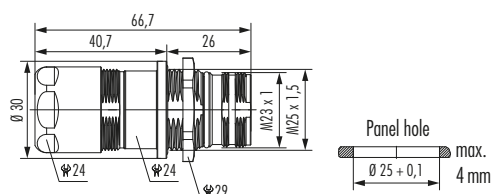


Housing without inserts and contacts

Panel Connector, Male Thread, with Strain Relief TWILOCK/TWILOCK-S*

Cable-Ø

Part Number



Rear mounting, M 25 x 1,5 single hole mounted

3 – 7 mm (.12 – .28")	7.486.400.000
7 – 12 mm (.28 – .47")	7.486.500.000
11 – 17 mm (.44 – .67")	7.486.600.000

* intermateable with Speedtec

3 – 7 mm (.12 – .28")	7.486.400.00S
7 – 12 mm (.28 – .47")	7.486.500.00S
11 – 17 mm (.44 – .67")	7.486.600.00S



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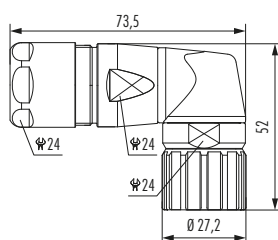
▶ 31

Including jam nut M 25 x 1,5

Right Angle Connector, Female Thread, EMC with positioning

Cable-Ø

Part Number



7 – 12 mm (.28 – .47")	7.301.500.000
10 – 14 mm (.39 – .55")	7.301.600.000



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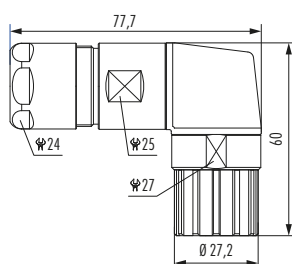


▶ 31

Right Angle Connector, EMC, rotatable

Cable-Ø

Part Number



7 – 12 mm (.28 – .47")	7.306.500.000
11 – 17 mm (.43 – .67")	7.306.600.000



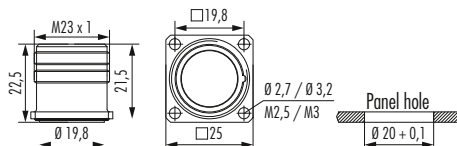
▶ 25



▶ 31

Housings

Panel Connector, Male Thread, Front Mounting



Type

Part Number

4 holes Ø 3,2 mm (.13")	7.400.000.000 ¹
4 threads M3	7.402.000.000 ¹
4 holes Ø 2,7 mm (.11")	7.404.000.000 ¹
4 threads M2,5	7.406.000.000 ¹



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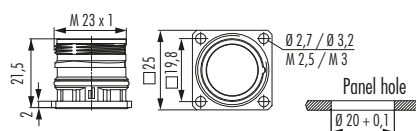


▶ 31



▶ 32

Panel Connector, Male Thread, Front Mounting TWILOCK/TWILOCK-S*



Type

Part Number

With anti-vibration O-Ring	
4 holes Ø 3,2 mm (.13")	7.410.000.000
4 threads M3	7.412.000.000 ¹
4 holes Ø 2,7 mm (.11")	7.414.000.000
4 threads M2,5	7.416.000.000 ¹
* intermateable with Speedtec	
4 x Bholes 3,2 mm, Flange 25 x 25	7.410.000.00S
4 x Bohr. 3,2 mm, Flange 28 x 28	7.410.100.00S



▶ 25

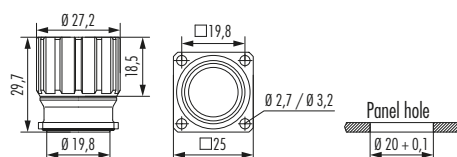


▶ 31



▶ 32

Panel Connector, Female Thread, with knurled Nut



Type

Part Number

Without coding option	
4 holes Ø 3,2 mm (.13")	7.440.000.000
4 holes Ø 2,7 mm (.11")	7.444.000.000

This Shell Requires Assembly Tool Part Number - 7.010.900.101



▶ 25

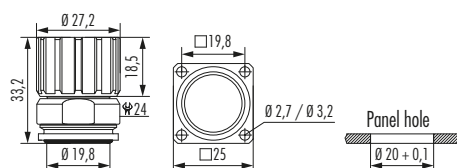


▶ 31



▶ 32

Panel Connector, Female Thread, with knurled Nut, positionable



Type

Part Number

With coding option (8 x 45°)	
4 holes Ø 3,2 mm (.13")	7.448.000.000
4 holes Ø 2,7 mm (.11")	7.449.000.000



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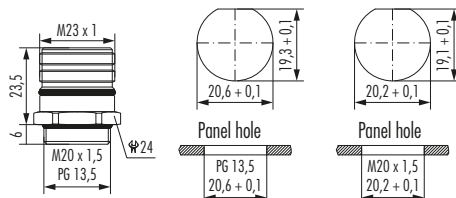


▶ 31



▶ 32

Panel Connector, Male Thread, Single Hole Mounted



Type

Part Number

Front mounting for male inserts

Thread M 20 x 1,5	7.420.000.000 ¹
Thread PG 13,5	7.422.000.000 ¹

Optional: jam nut M 20 x 1,5 / PG 13,5

*** FOR MALE *
INSERTS ONLY**



▶ 25

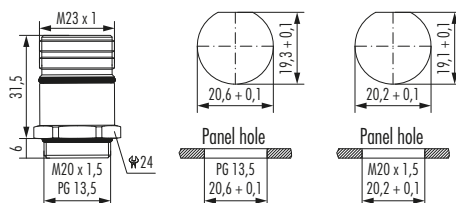


▶ 31



▶ 32

Panel Connector, Male Thread, Single Hole Mounted



Type

Part Number

Front mounting for female inserts

Thread M 20 x 1,5	7.421.000.000 ¹
Thread PG 13,5	7.423.000.000 ¹

Optional: jam nut M 20 x 1,5 / PG 13,5

*** FOR FEMALE *
INSERTS ONLY**



▶ 25

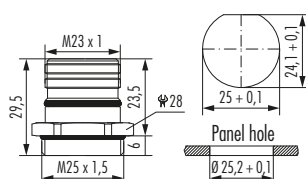


▶ 31



▶ 32

Panel Connector, Male Thread, Single Hole Mounted



Type

Part Number

For insert with pins / sockets

Thread M 25 x 1,5	7.425.000.000 ¹
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Optional: jam nut M 25 x 1,5



▶ 25



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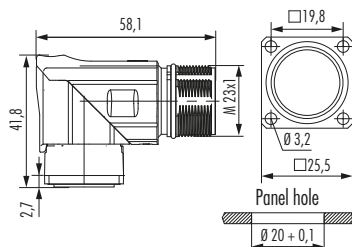
▶ 32

Housings

Right Angle Panel Connector, Male Thread, rotatable TWILOCK/TWILOCK-S*

Type

Part Number



330° rotatable, hole mounted

4 x holes 3,2 mm (.13")7.439.000.000

Flange 25 x 25 mm blue passivated

4 x holes 3,2 mm (.13")7.439.000.010

Flange 25 x 25 mm nickel plated

* intermateable with Speedtec

4 x holes 3,2 mm (.13")7.439.000.00S

Flange 25 x 25 mm blue passivated



▶ 25



▶ 31

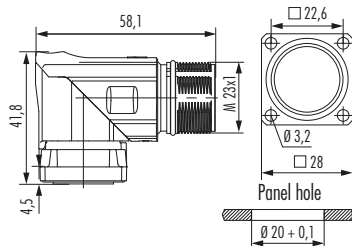


▶ 32

Right Angle Panel Connector, Male Thread, rotatable TWILOCK/TWILOCK-S*

Type

Part Number



330° rotatable, hole mounted

4 x holes 3,2 mm (.13")7.439.100.000

Flange 28 x 28 mm blue passivated

4 x holes 3,2 mm (.13")7.439.100.010

Flange 28 x 28 mm nickel plated

* intermateable with Speedtec

4 x holes 3,2 mm (.13")7.439.100.00S

Flange 28 x 28 mm blue passivated



▶ 25

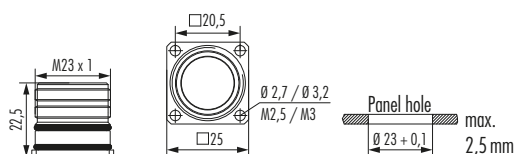


▶ 31



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Panel Connector, Male Thread, Rear Mounting TWILOCK/TWILOCK-S*



Type

Part Number

With anti-vibration O-Ring

4 holes $\varnothing 3,2$ mm (.13")	7.460.000.000
4 threads M 3	7.462.000.000
4 holes $\varnothing 2,7$ mm (.11")	7.464.000.000
4 threads M 2,5	7.466.000.000
* intermateable with Speedtec	
4 x threads M 3	7.462.000.005



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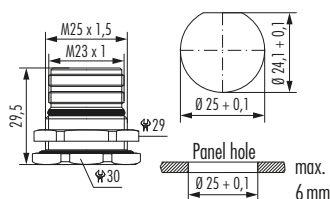


▶ 31



▶ 32

Panel Connector, Male Thread, Single Hole Mounted TWILOCK/TWILOCK-S*



Type

Part Number

Rear mounting

Thread M 25 x 1,5	7.458.000.000 ¹
* intermateable with Speedtec	
Thread M 25 x 1,5	7.458.000.005
Including jam nut M 25 x 1,5	



▶ 25

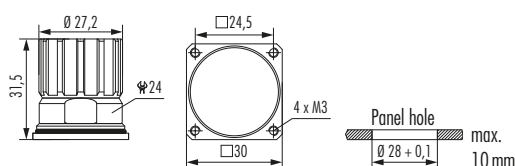


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Panel Connector, Female Thread, Rear Mounting



Type

Part Number

With knurled nut, rear mounting

4 threads M 3	7.459.000.000
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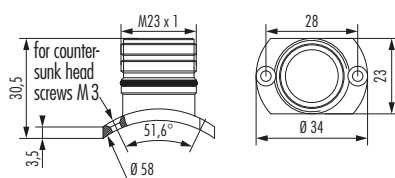
▶ 31



▶ 32

Housings

Panel Connector with Radius Flange



Type

Part Number

With anti-vibration O-Ring and flat body gasket

Ø 58 mm (2.28")7.490.000.000 ¹



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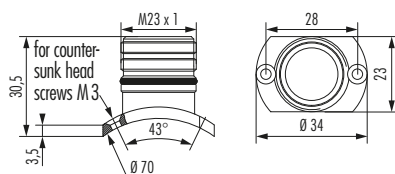


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Panel Connector with Radius Flange



Type

Part Number

With anti-vibration O-Ring and flat body gasket

Ø 70 mm (2.76")7.491.000.000 ¹



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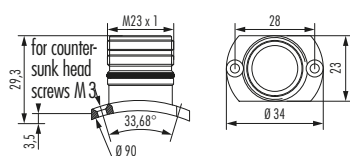


▶ 31



▶ 32

Panel Connector with Radius Flange



Type

Part Number

With anti-vibration O-Ring and flat body gasket

Ø 90 mm (3.54")7.492.000.000 ¹



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▶ 31



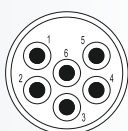
▶ 32



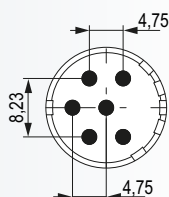
Inserts 6-pole



Insert pin mating view (Part E)



Insert socket mating view (Part P)



Type

Part Number

Part Number

Pinout clockwise

Pins

Sockets

Insert with solder contacts.....	7.001.906.103	7.001.906.104
Insert without contacts	7.003.906.101	7.003.906.102

Insert with dip solder contacts

Length 3,5 mm	7.001.906.107
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Insert with dip solder contacts

Length 10 mm	7.001.906.127	7.001.906.108
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Insert with dip solder contacts

Length 17 mm	7.001.906.137	7.001.906.118
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The correct dimension of a connector with dip solder contacts depends on the particular type of housing.

Coding possibilities N, S, H, X, Y and Z (see page 30)



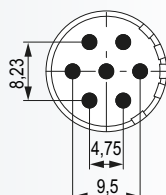
Inserts 7-pole



Insert pin mating view (Part E)



Insert socket mating view (Part P)



Type

Part Number

Part Number

Pinout clockwise

Pins

Sockets

Insert with solder contacts.....	7.001.907.103	7.001.907.104
Insert without contacts	7.003.907.101	7.003.907.102

Insert with dip solder contacts

Length 3,5 mm	7.001.907.107
---------------------	---------------

Insert with dip solder contacts

Length 10 mm	7.001.907.127	7.001.907.108
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Insert with dip solder contacts

Length 17 mm	7.001.907.137	7.001.907.118
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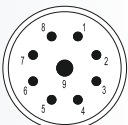
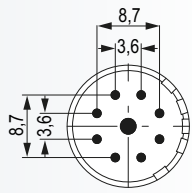
The correct dimension of a connector with dip solder contacts depends on the particular type of housing.

Coding possibilities N, S, H, X and Y (see page 30)

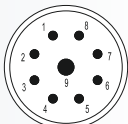
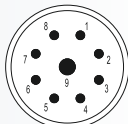
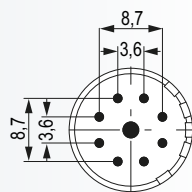




Inserts / Pinouts

Inserts 9-pole (8 + 1)		Type	Part Number	Part Number
 Insert pin mating view (Part E)		Pinout clockwise	Pins	Sockets
		Insert with solder contacts.....	7.001.981.103	7.001.981.104
		Insert without contacts	7.003.981.101	7.003.981.102
 Insert socket mating view (Part P)		Insert with dip solder contacts		
		Length 3,5 mm	7.001.981.107	
		Length 10 mm	7.001.981.127	7.001.981.108
		Insert with dip solder contacts		
		Length 17 mm	7.001.981.137	7.001.981.118
		The correct dimension of a connector with dip solder contacts depends on the particular type of housing. Coding possibilities N, S, H, X and Y (see page 30)		

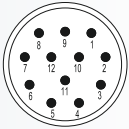


Inserts 9-pole (8 + 1)		Type	Part Number	Part Number
 Insert pin mating view (Part P)		Pinout counter-clockwise	Pins	Sockets
		Insert with solder contacts.....	7.002.981.103	7.002.981.104
		Insert without contacts	7.004.981.101	7.004.981.102
 Insert socket mating view (Part E)		Insert with dip solder contacts		
		Length 3,5 mm	7.002.981.107	
		Length 10 mm	7.002.981.127	7.002.981.108
		Insert with dip solder contacts		
		Length 17 mm	7.002.981.137	7.002.981.118
		The correct dimension of a connector with dip solder contacts depends on the particular type of housing. Coding possibilities N, S, H, X and Y (see page 30)		

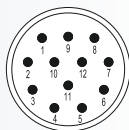




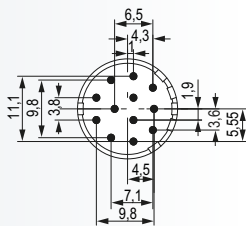
Inserts 12-pole



Insert pin mating view (Part E)



Insert socket mating view (Part P)



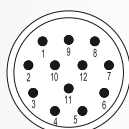
Type	Part Number	Part Number
Pinout clockwise	Pins	Sockets
Insert with solder contacts.....	7.001.912.103	7.001.912.104
Insert with solder contacts +PE (Pos.9).....	7.001.912.113	7.001.912.114
Insert without contacts	7.003.912.101	7.003.912.102
Insert without contacts +PE (Pos.9)	7.003.912.111	7.003.912.112
Insert with dip solder contacts		
Length 3,5 mm	7.001.912.107	
Insert with dip solder contacts		
Length 10 mm	7.001.912.127	7.001.912.108
Insert with dip solder contacts		
Length 17 mm	7.001.912.137	7.001.912.118

The correct dimension of a connector with dip solder contacts depends on the particular type of housing.

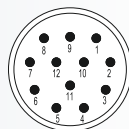
Coding possibilities N, S, H, X, Y and Z (see page 30)



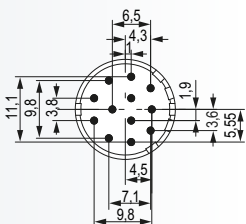
Inserts 12-pole



Insert pin mating view (Part P)



Insert socket mating view (Part E)



Type	Part Number	Part Number
Pinout counter-clockwise	Pins	Sockets
Insert with solder contacts.....	7.002.912.103	7.002.912.104
Insert with solder contacts +PE (Pos.9).....	7.002.912.113	7.002.912.114
Insert without contacts	7.004.912.101	7.004.912.102
Insert without contacts +PE (Pos.9)	7.004.912.111	7.004.912.112
Insert with dip solder contacts		
Length 3,5 mm	7.002.912.107	
Insert with dip solder contacts		
Length 10 mm	7.002.912.127	7.002.912.108
Insert with dip solder contacts		
Length 17 mm	7.002.912.137	7.002.912.118

The correct dimension of a connector with dip solder contacts depends on the particular type of housing.

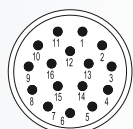
Coding possibilities N, S, H, X, Y and Z (see page 30)



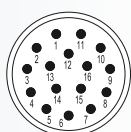


Inserts / Pinouts

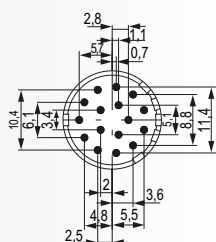
Inserts 16-pole



Insert pin mating view (Part E)



Insert socket mating view (Part P)



Type

Part Number

Part Number

Pinout clockwise

Pins

Sockets

Insert with solder contacts7.001.916.1037.001.916.104

Insert without contacts7.003.916.1017.003.916.102

Insert with dip solder contacts

Length 3,5 mm7.001.916.107

Insert with dip solder contacts

Length 10 mm7.001.916.1277.001.916.108

Insert with dip solder contacts

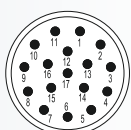
Length 17 mm7.001.916.1377.001.916.118

The correct dimension of a connector with dip solder contacts depends on the particular type of housing.

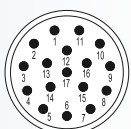
Coding possibilities N, S, H, X, Y and Z (see page 30)



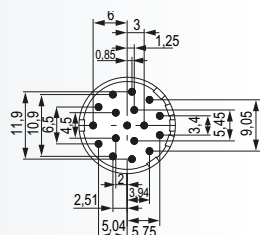
Inserts 17-pole



Insert pin mating view (Part E)



Insert socket mating view (Part P)



Type

Part Number

Part Number

Pinout clockwise

Pins

Sockets

Insert with solder contacts7.001.917.1037.001.917.104

Insert without contacts7.003.917.1017.003.917.102

Insert with dip solder contacts

Length 3,5 mm7.001.917.107

Insert with dip solder contacts

Length 10 mm7.001.917.1277.001.917.108

Insert with dip solder contacts

Length 17 mm7.001.917.1377.001.917.118

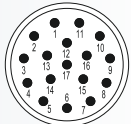
The correct dimension of a connector with dip solder contacts depends on the particular type of housing.

Coding possibilities N, S, H, X, Y and Z (see page 30)

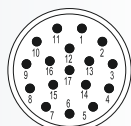




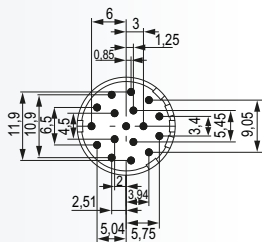
Inserts 17-pole



Insert pin mating view (Part P)



Insert socket mating view (Part E)



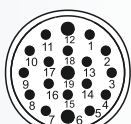
Type	Part Number	Part Number
Pinout counter-clockwise	Pins	Sockets
Insert with solder contacts.....	7.002.917.103	7.002.917.104
Insert without contacts	7.004.917.101	7.004.917.102
Insert with dip solder contacts		
Length 3,5 mm	7.002.917.107	
Insert with dip solder contacts		
Length 10 mm	7.002.917.127	7.002.917.108
Insert with dip solder contacts		
Length 17 mm	7.002.917.137	7.002.917.118

The correct dimension of a connector with dip solder contacts depends on the particular type of housing.

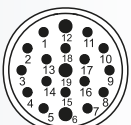
Coding possibilities N, S, H, X, Y and Z (see page 30)



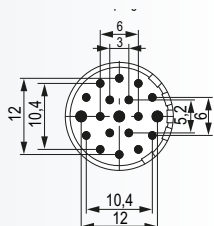
Inserts 19-pole



Insert pin mating view (Part E)



Insert socket mating view (Part P)



Type	Part Number	Part Number
Pinout clockwise	Pins	Sockets
Insert with solder contacts.....	7.001.919.103	7.001.919.104
Insert with solder contacts +PE (Pos.12)	7.001.919.113	7.001.919.114
Insert with solder contacts + PE (Pos.12) 1,5 mm elongated ...	7.001.919.123	
Insert without contacts	7.003.919.101	7.003.919.102
Insert without contacts +PE (Pos.12)	7.003.919.111	7.003.919.112
Insert with dip solder contacts		
Length 3,5 mm	7.001.919.107	
Insert with dip solder contacts		
Length 10 mm	7.001.919.127	7.001.919.108
Insert with dip solder contacts		
Length 17 mm	7.001.919.137	7.001.919.118

The correct dimension of a connector with dip solder contacts depends on the particular type of housing.

Coding possibilities N, S, H, X and Y (see page 30)





Inserts / Pinouts

Contact Arrangement	Number of Poles	Required Contacts
	6	6 x 2 mm
	7	7 x 2 mm
	9 (8 + 1)	8 x 1 mm 1 x 2 mm
	12	12 x 1 mm
	16	16 x 1 mm
	17	17 x 1 mm
	19	16 x 1 mm 3 x 1,5 mm
	10	Housings and contacts 10-pole, see chapter „M 23 Power, M 23 Hybrid“, page 43–44

For the M23 crimp insert with 1 mm contacts can be used stamped crimp contact.



▶ 30

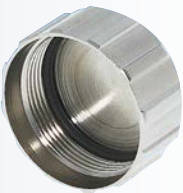
Coding	Number of Poles	Coding Possibilities
	6-pole	N, S, H, X, Y and Z
	7-pole	N, S, H, X and Y
	9-pole	N, S, H, X and Y
	12-pole	N, S, H, X, Y and Z
	16-pole	N, S, H, X, Y and Z
	17-pole	N, S, H, X, Y and Z
	19-pole	N, S, H, X and Y

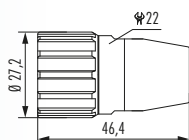
As standard, coding groove N is opened. To use other codings, please remove the coding barrier.

Contacts	Type	Crimp Range	Part Number
	Crimp pin 1 mm, machined.....	0,08 – 0,56 mm ² (AWG 28 – 20)	7.010.901.031
	Crimp pin 1 mm, machined	0,14 – 1 mm ² (AWG 26 – 17)	7.010.901.001
	Crimp pin 1 mm, machined.....	0,75 – 1,5 mm ² (AWG 17 – 16)	7.010.901.021
	Crimp socket 1 mm, machined.....	0,08 – 0,56 mm ² (AWG 28 – 20)	7.010.901.012
	Crimp socket 1 mm, machined	0,34 – 1 mm ² (AWG 22 – 17)	7.010.901.002
	Crimp socket 1 mm, machined.....	0,75 – 1,5 mm ² (AWG 17 – 16)	7.010.901.022
	Crimp pin 1,5 mm, machined	0,14 – 1 mm ² (AWG 26 – 17)	7.010.901.501
	Crimp socket 1,5 mm, machined.....	0,14 – 0,56 mm ² (AWG 26 – 20)	7.010.901.512
	Crimp socket 1,5 mm, machined	0,56 – 1 mm ² (AWG 20 – 17)	7.010.901.502
	Crimp pin 2 mm, machined.....	0,75 – 2,5 mm ² (AWG 18 – 14)	7.010.902.001
	Crimp socket 2 mm, machined.....	0,75 – 2,5 mm ² (AWG 18 – 14)	7.010.902.002



Accessories

Accessories	Type	Part Number
	Plastic protective cap for connectors	
	with male thread7.000.900.101	
	with female thread7.000.900.102	
	Brass protective cap for connectors with female thread	7.010.900.103 ¹
	Brass protective cap for connectors with male thread	7.010.900.102
	Brass protective cap with chain for connectors with female thread	
	Length 70 mm	7.010.950.703 ¹
	Length 100 mm	7.010.951.003 ¹
	Brass protective cap with chain for connectors with male thread	
	Length 70 mm	7.010.950.702
	Length 100 mm	7.010.951.002
	Assembly tool	7.010.900.101
	Bus End Connector	
	Close type	7.105.000.000
	Used to cap an open male connector in bus-systems	



This Shell Requires Assembly Tool Part Number - 7.010.900.101

¹ no compatibility with TWILOCK



Accessories	Type	Part Number
	Adaptor flange for Straight Connectors.....	7.010.900.128 ¹
	Conduit adaptor	
	Poleon DN 12	7.010.900.205
	Poleon DN 14	7.010.900.207
	Poleon DN 17	7.010.900.209
	Positioner for Crimp Tool DMC M22520	7.000.900.DMC
	Locator for Crimp Tool DMC M22520 with positioner	7.000.9DM.C03
	For HUMMEL Contact: 7.010.901.001, 7.010.901.501, 7.010.902.001, 7.010.901.031	
	Locator for Crimp Tool DMC M22520 with positioner	7.000.9DM.C04
	For HUMMEL Contact: 7.010.901.012, 7.010.901.002, 7.010.901.512, 7.010.901.502, 7.010.902.002	
	Screw Tool , adjustable 0.5 – 1.7 Nm.....	7.010.900.190
	Tool Adapter for tightening or loosening knurled nuts for M 23	7.010.900.192
	Crimping machine pneumatic crimp tool.....	on request
 	Crimp tool for manual crimping of machined crimp contacts incl. locator for signal connectors	7.000.900.904
	Locator for M 16 / M 23 Signal Connectors (separate)	7.010.900.136

¹ no compatibility with TWILOCK