

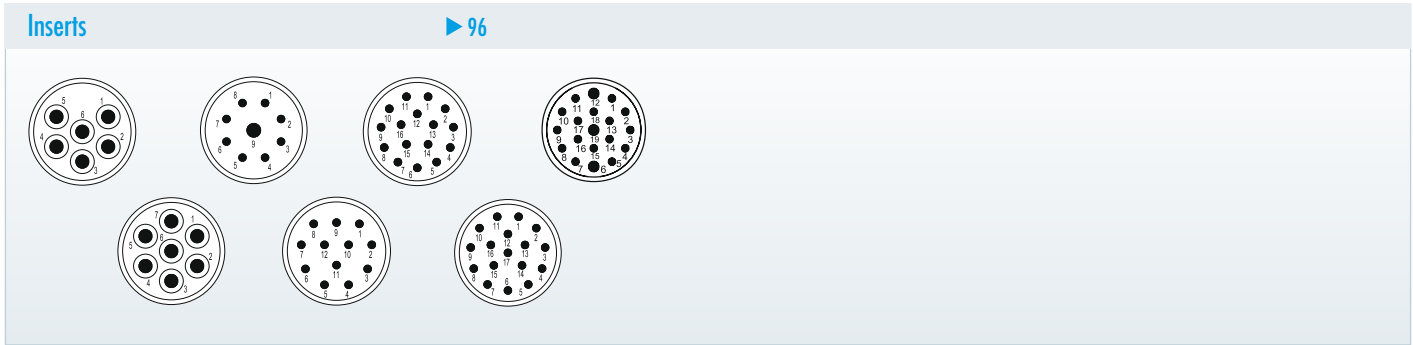
M 23 SIGNAL CONNECTORS

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



Mechanical Data	Materials and Technical Data
Housing	Copper-Zinc alloy Die Cast
Housing surface	Nickel plated 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	6	7	9 (8+1)	12	16	17	19 (16+3)
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 Protection 3 ³⁾	300	300	200	200	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 18



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

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

Straight Connector, Male Thread TWILOCK / TWILOCK-S*

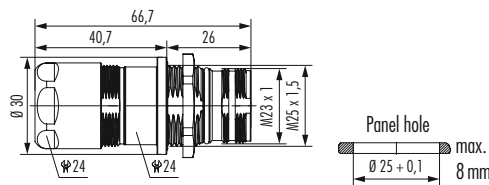
Cable-Ø	Part Number
3 – 7 mm (.12 – .28")	7.206.400.000
7 – 12 mm (.28 – .47")	7.206.500.000
11 – 17 mm (.44 – .67")	7.206.600.000
* intermateable with Speedtec	
3 – 7 mm (.12 – .28")	7.266.400.00S
7 – 12 mm (.24 – .47")	7.266.500.00S
11 – 17 mm (.43 – .67")	7.266.600.00S

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	

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

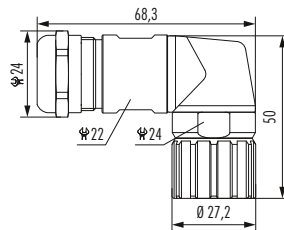
* interchangeable with Speedtec

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



Including jam nut M 25 x 1,5

Right Angle Connector, Female Thread with positioning



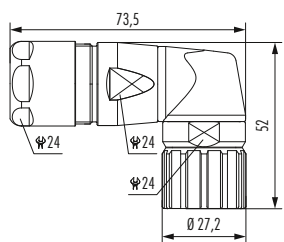
Cable-Ø

Part Number

3 – 7 mm (.12 – .28")	7.300.300.000
5 – 10 mm (.20 – .39")	7.300.400.000
7 – 12 mm (.28 – .47")	7.300.500.000
10 – 14 mm (.39 – .55")	7.300.600.000



Right Angle Connector, Female Thread, EMC with positioning



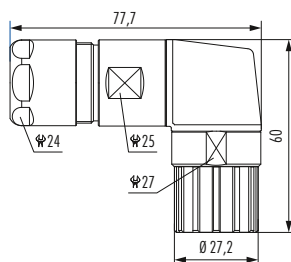
Cable-Ø

Part Number

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



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



Housing without inserts and contacts



Housings

Panel Connector, Male Thread, Front Mounting

Type	Part Number
4 holes Ø 3,2 mm (.13")	7.400.000.000 ¹
4 threads M 3	7.402.000.000 ¹
4 holes Ø 2,7 mm (.11")	7.404.000.000 ¹
4 threads M 2,5	7.406.000.000 ¹

▶ 96 |
 ▶ 104 |
 ▶ 113/114

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 M 3	7.412.000.000 ¹
4 holes Ø 2,7 mm (.11")	7.414.000.000
4 threads M 2,5	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

▶ 96 |
 ▶ 104 |
 ▶ 113/114

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

▶ 96 |
 ▶ 104 |
 ▶ 113/114

Panel Connector, Female Thread, with knurled Nut, positionable

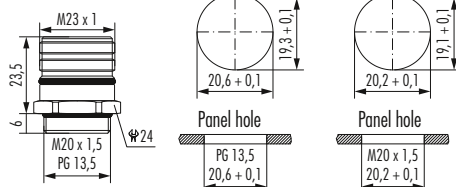
Type	Part Number
With coding option (8 x 45°)	
4 holes Ø 3,2 mm (.13")	7.448.000.000
4 holes Ø 2,7 mm (.11")	7.449.000.000

▶ 96 |
 ▶ 104 |
 ▶ 113/114

Housing without inserts and contacts

¹ no compatibility with TWILOCK

Panel Connector, Male Thread, Single Hole Mounted



Type

Part Number

Front mounting for male inserts

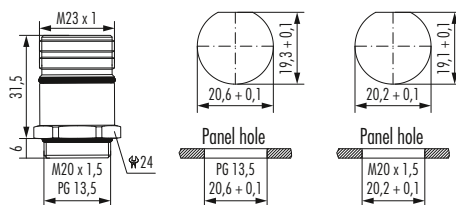
Thread M 20 x 1,5	7.420.000.000 ¹
Thread PG 13,5	7.422.000.000 ¹

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

*** FOR MALE *
INSERTS ONLY**



Panel Connector, Male Thread, Single Hole Mounted



Type

Part Number

Front mounting for female inserts

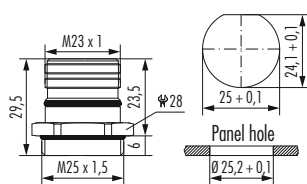
Thread M 20 x 1,5	7.421.000.000 ¹
Thread PG 13,5	7.423.000.000 ¹

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

*** FOR FEMALE *
INSERTS ONLY**



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





Housings

Right Angle Panel Connector, Male Thread

Type	Part Number
4 holes 2,7 mm (.11")	7.435.000.000

Easy fixation with M2,5 screws

Right Angle Panel Connector, Male Thread, rotatable

Type	Part Number
335° rotatable, hole mounted	
Thread M20 x 1,5	7.431.000.000

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

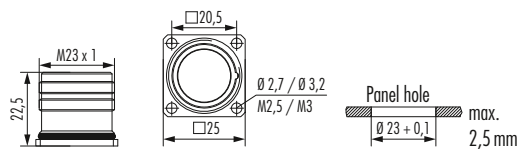
Type	Part Number
330° rotatable, hole mounted	
4 x holes 3,2 mm (.13")	7.439.000.000
Flange 25 x 25 mm	
* intermateable with Speedtec	
4 x holes 3,2 mm (.13")	7.439.000.00S
Flange 25 x 25 mm	

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	
* intermateable with Speedtec	
4 x holes 3,2 mm (.13")	7.439.100.00S
Flange 28 x 28 mm	

Housing without inserts and contacts

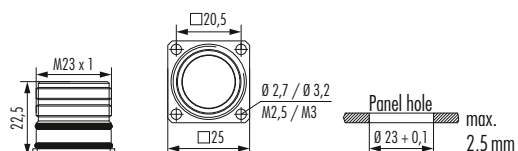
Panel Connector, Male Thread, Rear Mounting



Type	Part Number
4 holes \varnothing 3,2 mm (.13")	7.450.000.000 ¹
4 threads M 3	7.452.000.000 ¹
4 holes \varnothing 2,7 mm (.11")	7.454.000.000 ¹
4 threads M 2,5	7.456.000.000 ¹



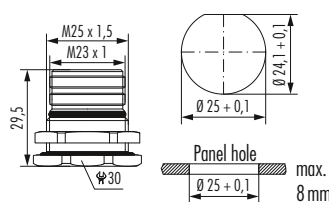
Panel Connector, Male Thread, Rear Mounting TWILOCK/TWILOCK-S*



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	7.462.000.00S



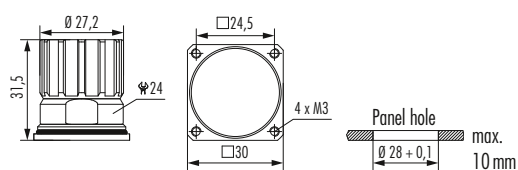
Panel Connector, Male Thread, Single Hole Mounted TWILOCK/TWILOCK-S*



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	7.458.000.00S
Including jam nut M 25 x 1,5	



Panel Connector, Female Thread, Rear Mounting



Type	Part Number
With knurled nut, rear mounting	
4 threads M 3	7.459.000.000



Housing without inserts and contacts

¹ no compatibility with TWILOCK



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
			113/114

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
			113/114

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
			113/114



Housing without inserts and contacts

¹ no compatibility with TWILOCK



Signal Distribution	Type	Part Number
	▶ 96	▶ 104

Signal Distribution	Type	Part Number
	▶ 96	▶ 104

Signal Distribution
<p>In case of so called Flying Connections it is often required to distribute, cross or combine signals. Depending on the requirements of the application, the connections can be supplied either as male or female connector, or they can be configured with strain relief fittings. There are many possible combinations, including the internal wiring, independent of their style, as T-, Y-, H-, or other special configurations.</p>

Bus End Connector	Type	Part Number
	Closed type.....	7.105.000.000
	Used to cap an open male connector in bus-systems	
	▶ 96	▶ 104

Housing without inserts and contacts

¹ no compatibility with TWILOCK



Inserts / Pinouts

Inserts 6-pole		Type	Part Number	Part Number
	Insert pin mating view (Part E)	Pinout clockwise	Pins	Sockets
		Insert with solder contacts.....	7.001.906.103	7.001.906.104
	Insert socket mating view (Part P)	Insert without contacts	7.003.906.101	7.003.906.102
		Insert with dip solder contacts		
		Length 3,5 mm	7.001.906.107	
		Insert with dip solder contacts		
		Length 10 mm	7.001.906.127	7.001.906.108
		Insert with dip solder contacts		
		Length 17 mm	7.001.906.137	7.001.906.118
<p>The correct dimension of a connector with dip solder contacts depends on the particular type of housing.</p> <p>Coding possibilities N, S, H, X, Y and Z (see page 101)</p>				

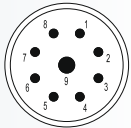


Inserts 7-pole		Type	Part Number	Part Number
	Insert pin mating view (Part E)	Pinout clockwise	Pins	Sockets
		Insert with solder contacts.....	7.001.907.103	7.001.907.104
	Insert socket mating view (Part P)	Insert without contacts	7.003.907.101	7.003.907.102
		Insert with dip solder contacts		
		Length 3,5 mm	7.001.907.107	
		Insert with dip solder contacts		
		Length 10 mm	7.001.907.127	7.001.907.108
		Insert with dip solder contacts		
		Length 17 mm	7.001.907.137	7.001.907.118
<p>The correct dimension of a connector with dip solder contacts depends on the particular type of housing.</p> <p>Coding possibilities N, S, H, X and Y (see page 101)</p>				

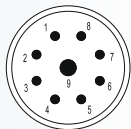




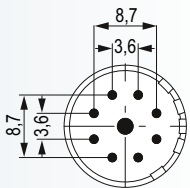
Inserts 9-pole (8 + 1)



Insert pin mating view (Part E)



Insert socket mating view (Part P)



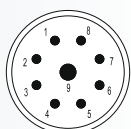
Type	Part Number	Part Number
Pinout clockwise	Pins	Sockets
Insert with solder contacts.....	7.001.981.103	7.001.981.104
Insert without contacts	7.003.981.101	7.003.981.102
 Insert with dip solder contacts		
Length 3,5 mm	7.001.981.107	
 Insert with dip solder contacts		
Length 10 mm	7.001.981.127	7.001.981.108
 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.

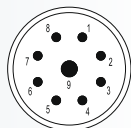
Coding possibilities N, S, H, X and Y (see page 101)



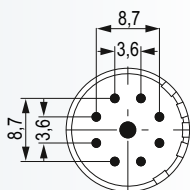
Inserts 9-pole (8 + 1)



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.....	7.002.981.103	7.002.981.104
Insert without contacts	7.004.981.101	7.004.981.102
 Insert with dip solder contacts		
Length 3,5 mm	7.002.981.107	
 Insert with dip solder contacts		
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

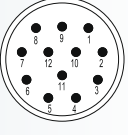
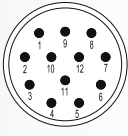
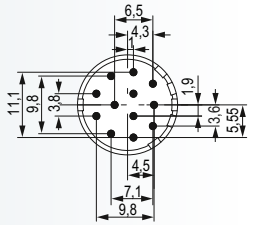
The correct dimension of a connector with dip solder contacts depends on the particular type of housing.

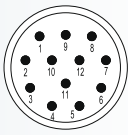
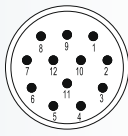
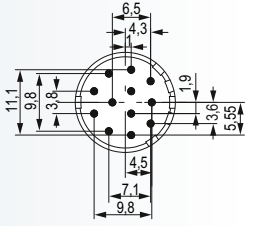
Coding possibilities N, S, H, X and Y (see page 101)





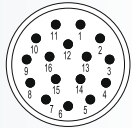
Inserts / Pinouts

Inserts 12-pole		Type	Part Number	Part Number	
 <p>Insert pin mating view (Part E)</p>  <p>Insert socket mating view (Part P)</p> 	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	
	<p>The correct dimension of a connector with dip solder contacts depends on the particular type of housing.</p> <p>Coding possibilities N, S, H, X, Y and Z (see page 101)</p>				
	▶ 102/103				

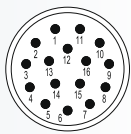
Inserts 12-pole		Type	Part Number	Part Number	
 <p>Insert pin mating view (Part P)</p>  <p>Insert socket mating view (Part E)</p> 	Pinout counter-clockwise	Pins	Sockets		
	Insert with solder contacts.....	7.002.912.103	.....	7.002.912.104	
	Insert with solder contacts +PE (Pos.9).....	7.002.912.113	.....	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	
	<p>The correct dimension of a connector with dip solder contacts depends on the particular type of housing.</p> <p>Coding possibilities N, S, H, X, Y and Z (see page 101)</p>				
	▶ 102/103				



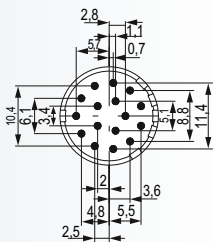
Inserts 16-pole



Insert pin mating view (Part E)



Insert socket mating view (Part P)



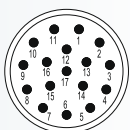
Type	Part Number	Part Number
Pinout clockwise	Pins	Sockets
Insert with solder contacts.....	7.001.916.103	7.001.916.104
Insert without contacts	7.003.916.101	7.003.916.102
Insert with dip solder contacts		
Length 3,5 mm	7.001.916.107	
Insert with dip solder contacts		
Length 10 mm	7.001.916.127	7.001.916.108
Insert with dip solder contacts		
Length 17 mm	7.001.916.137	7.001.916.118

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

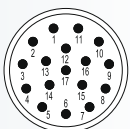
Coding possibilities N, S, H, X, Y and Z (see page 101)



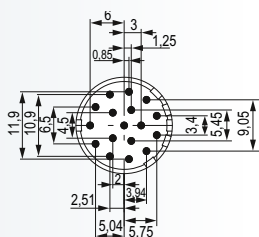
Inserts 17-pole



Insert pin mating view (Part E)



Insert socket mating view (Part P)



Type	Part Number	Part Number
Pinout clockwise	Pins	Sockets
Insert with solder contacts.....	7.001.917.103	7.001.917.104
Insert without contacts	7.003.917.101	7.003.917.102
Insert with dip solder contacts		
Length 3,5 mm	7.001.917.107	
Insert with dip solder contacts		
Length 10 mm	7.001.917.127	7.001.917.108
Insert with dip solder contacts		
Length 17 mm	7.001.917.137	7.001.917.118

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 101)





Inserts / Pinouts

Inserts 17-pole		Type	Part Number	Part Number	
<p>Insert pin mating view (Part P)</p>	<p>Pinout counter-clockwise</p>	Pins		Sockets	
		Insert with solder contacts.....	7.002.917.103	.....	7.002.917.104
<p>Insert socket mating view (Part E)</p>	<p>Insert without contacts</p>		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
<p>The correct dimension of a connector with dip solder contacts depends on the particular type of housing.</p> <p>Coding possibilities N, S, H, X, Y and Z (see page 101)</p>					
		▶ 102/103			

Inserts 19-pole		Type	Part Number	Part Number	
<p>Insert pin mating view (Part E)</p>	<p>Pinout clockwise</p>	Pins		Sockets	
		Insert with solder contacts.....	7.001.919.103	7.001.919.104
<p>Insert socket mating view (Part P)</p>	<p>Insert with solder contacts +PE (Pos.12)</p>		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
<p>The correct dimension of a connector with dip solder contacts depends on the particular type of housing.</p> <p>Coding possibilities N, S, H, X and Y (see page 101)</p>					
		▶ 102/103			



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 130 – 136

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



▶ 102/103

Coding	Number of Poles	Coding Possibilities
<p>Female Inserts mating view</p>	6-pole	N, S, H, X, Y and Z
	7-pole	N, S, H, X and Y
<p>Male Inserts mating view</p>	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

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 mm, stamped	0,14 – 0,56 mm ² (AWG 26 – 20)	upon request
	Crimp socket 1 mm, stamped	0,14 – 0,56 mm ² (AWG 26 – 20)	upon request
	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











Contacts

Contacts	Type	Crimp Range	Part Number
	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 thread	7.000.900.101
	with female thread	7.000.900.102
	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	7.010.9S0.703 ¹
	Length 100 mm	7.010.9S1.003 ¹
	Brass protective cap with chain for connectors with male thread Length 70 mm	7.010.9S0.702
	Length 100 mm	7.010.9S1.002
	Assembly tool	7.010.900.101
	Crimp tool for manual crimping of machined crimp contacts for signal connectors	7.000.900.904
	 ▶ 106/107 | ▶ 108	

¹ no compatibility with TWILOCK

Accessories	Type	Part Number
	Adaptor flange for Straight Connectors.....	7.010.900.128 ¹
	Conduit adaptor Poleon DN 12 Poleon DN 14 Poleon DN 17	7.010.900.205 7.010.900.207 7.010.900.209
	Positioner for Crimp Tool DMC M22520	7.000.900.DMC
	Locator for Crimp Tool DMC M22520 with positioner For HUMMEL Contact: 7.010.901.001, 7.010.901.501, 7.010.902.001, 7.010.901.031	7.000.9DM.C03
	Locator for Crimp Tool DMC M22520 with positioner For HUMMEL Contact: 7.010.901.012, 7.010.901.002, 7.010.901.512, 7.010.901.502, 7.010.902.002	7.000.9DM.C04
	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 tool pneumatic crimping tool.....on request Crimping machine crimping machine to process turned contacts.....on request	on request on request

¹ no compatibility with TWILOCK

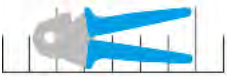


Crimp Tool Setting for HUMMEL Crimp Contacts (Crimp Tool 7.000.900.904)

Part Number	Crimp Contact	Cross Section (mm ²)	AWG	Crimp Tool Setting mm	Locator Setting
7.010.901.001	Crimp pin 1 mm	0,14	AWG 26	0,70	1
		0,25	AWG 24	0,76	
		0,34	AWG 22	0,82	
		0,50	AWG 20	0,90	
		0,75	AWG 18	1,00	
		1,00	AWG 17	1,10	
7.010.901.012	Crimp socket 1 mm (0,08 – 0,56 mm ²)	0,08	AWG 28	0,75	2
		0,14	AWG 26	0,78	
		0,25	AWG 24	0,82	
		0,34	AWG 22	0,86	
		0,56	AWG 20	0,90	
7.010.901.002	Crimp socket 1 mm (0,34 – 1 mm ²)	0,34	AWG 22	0,77	2
		0,56	AWG 20	0,82	
		0,75	AWG 18	0,88	
		1,00	AWG 17	0,95	
7.010.901.501	Crimp pin 1,5 mm	0,14	AWG 26	0,65	3
		0,25	AWG 24	0,68	
		0,34	AWG 22	0,72	
		0,56	AWG 20	0,81	
		0,75	AWG 18	0,95	
		1,00	AWG 17	1,07	
7.010.901.512	Crimp socket 1,5 mm (0,14 – 0,56 mm ²)	0,14	AWG 26	0,70	2
		0,25	AWG 24	0,73	
		0,34	AWG 22	0,77	
		0,56	AWG 20	0,85	
7.010.901.502	Crimp socket 1,5 mm (0,34 – 1 mm ²)	0,34	AWG 22	0,88	2
		0,56	AWG 20	0,95	
		0,75	AWG 18	1,05	
		1,0	AWG 17	1,13	
7.010.902.001	Crimp pin 2 mm	0,75	AWG 18	1,25	4
		1,0	AWG 17	1,35	
		1,5	AWG 16	1,45	
		2,5	AWG 14	1,60	
7.010.902.002	Crimp socket 2 mm	0,75	AWG 18	1,25	5
		1,0	AWG 17	1,35	
		1,5	AWG 16	1,45	
		2,5	AWG 14	1,60	



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



Crimp Tool Setting for HUMMEL Crimp Contacts (Crimp Tool 7.000.900.904)

Part Number	Crimp Contact	Cross Section (mm ²)	AWG	Crimp Tool Setting mm	Locator Setting
7.010.901.031	Crimp pin 1 mm	0,08	28	0,72	1
		0,14	26	0,78	
		0,25	24	0,82	
		0,34	22	0,86	
		0,56	20	0,90	
7.010.901.021	Crimp pin 1 mm	0,75	18	0,80	1
		1,00	17	0,86	
		1,50	16	0,95	
7.010.901.022	Crimp socket 1 mm	0,75	18	0,80	2
		1,00	17	0,86	
		1,50	16	0,95	



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



Crimp Tool for Signal Connectors M 23 / M 16

Crimp Tool	Type	Part Number
	<p>Crimp Tool .....7.000.900.904 / 7.000.900.907</p>	
	<p>Application The four indent crimp tool 7.000.900.904 / 7.000.900.907 has been developed for optimal crimping of machined contacts with diameters from 0.08 to 2.5 mm² (28 through 14 AWG).</p>	
	<p>How to Crimp The reference table (S. 71 / 106) indicates the correct locator position to be selected and the crimp depth to be adjusted for the contact to be crimped. The contact is then inserted through the access hole of the tool on the opposite side of the locator. The contact is held in place by closing the handles to the first lock-in position thus preventing the contact from falling out of the tool and facilitating insertion of the wire into the contact. The precision ratchet assures consistently accurate crimping every time by forcing the tool to be closed all the way completing the crimping cycle before the tool can be opened again.</p>	
	<p>Exchange of the Locator The locator can be exchanged by removing the socket head cap screw with a socket wrench. It can then be disassembled from the hex head screw by turning it counter-clockwise.</p>	



Crimp Tool



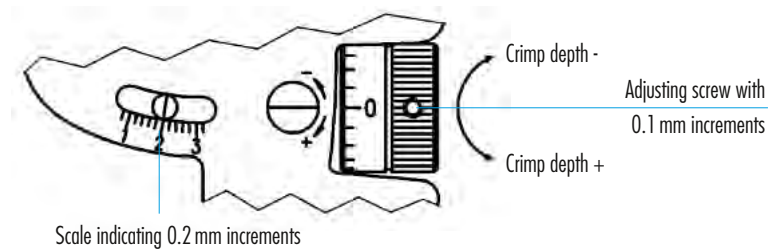
Adjustment of Crimp Depth

Crimp depth can be adjusted as follows:

Turn the adjusting screw clockwise for reducing the crimp depth and counter-clockwise for increasing the crimp depth.

Adjustment Increments:

- // 1 space on the adjusting screw $\hat{=}$ adjustment 1/100 mm
- // 1 full rotation of adjusting screw $\hat{=}$ adjustment by 0.2 mm (indication on the screw as well as on the rough scale)
- // 5 rotations of the adjusting screw $\hat{=}$ adjustment by 1 mm (indication on the scale)



Control of Crimp Depth

Crimp tool adjustment is done at the factory, but with frequent use, periodic calibration is recommended to insure accuracy. This is easily accomplished with a 1.0 mm \varnothing wire gauge as follows. A crimp depth of 1.0 mm is set by means of the adjusting screw (scale mark at „1“, screw mark at „0“ as shown in the fig. above) and the tool in the closed position.

After insertion of the gauge, there must be just enough space for moving the gauge inside the entry hole. If the opening is too small or too large to exactly match the gauge, the deviation (+/-) can be checked by the precision setting of the screw. Please contact the factory in case the deviation exceeds the tolerances specified by the contract manufacturer.

Maintenance and Repair

Keep the tool clean and properly stored when not in service. All pivot points need to be oiled regularly and the spring clips securing the bolts have to always be in place. For repair please send the tool back to the factory.



Assembly Instructions

Straight Connector, Male / Female Thread

1. max. 25 mm
2. 4 mm
3. crimp
4. click
5. click
- 6.
7. code
8. 24 24

♀

♂



Right Angle Connectors, EMC

1. Prepare the green cable with a braided shield. A dimension of 60 mm is indicated for the shield length.
2. Slide the grey connector housing onto the green cable.
3. Insert the yellow crimped signal cable into the housing.
4. A dimension of 4 mm is shown for the crimp length.
5. A circular inset shows a 'click' sound when the crimped cable is inserted into the housing.
6. The signal cable is fully seated in the housing.
7. A circular inset shows the 'click' sound when the housing is fully assembled.
8. The housing is now fully attached to the green cable.
9. A 'code' is visible on the signal cable.
10. A 24mm wrench is used to tighten the housing.
11. The housing is fully tightened.
12. The final assembly is shown, with a 24mm wrench used to tighten the housing.

- M 12
- M 16
- M 23 PoE
- M 23 RJ45
- M 23 Signal**
- M 27 Signal
- M 23 Power
- M 40 Power
- INOX
- Moulded Cordsets
- Customized



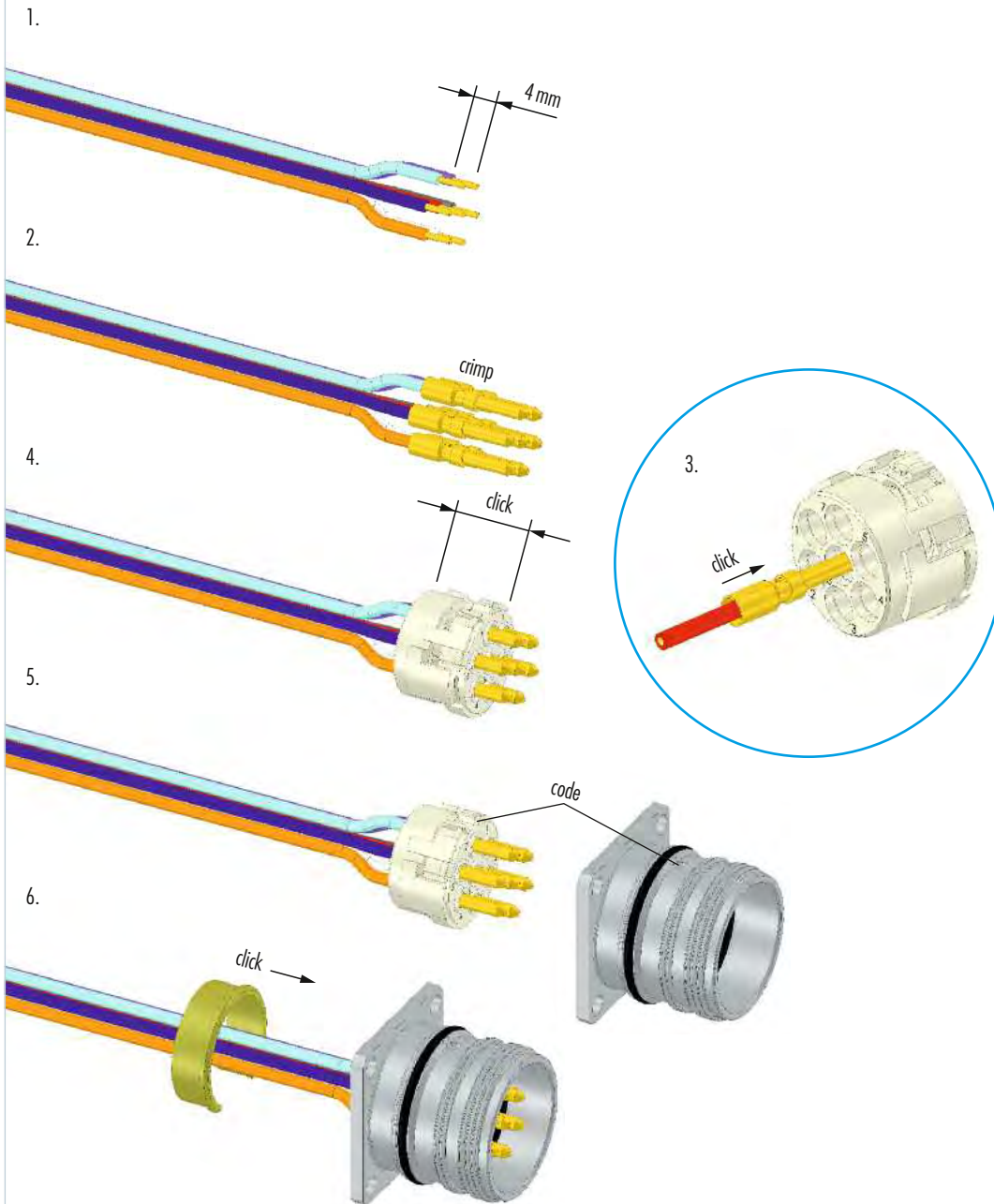
Assembly Instructions

Right Angle Connector, rotatable, EMC

1. 65 mm
- 2.
- 3.
4. 4 mm
5. click, crimp
6. click
7. click
8. code
9. 27
- 10.
- 11.
12. 24, 25



Panel Connectors, Male Inserts

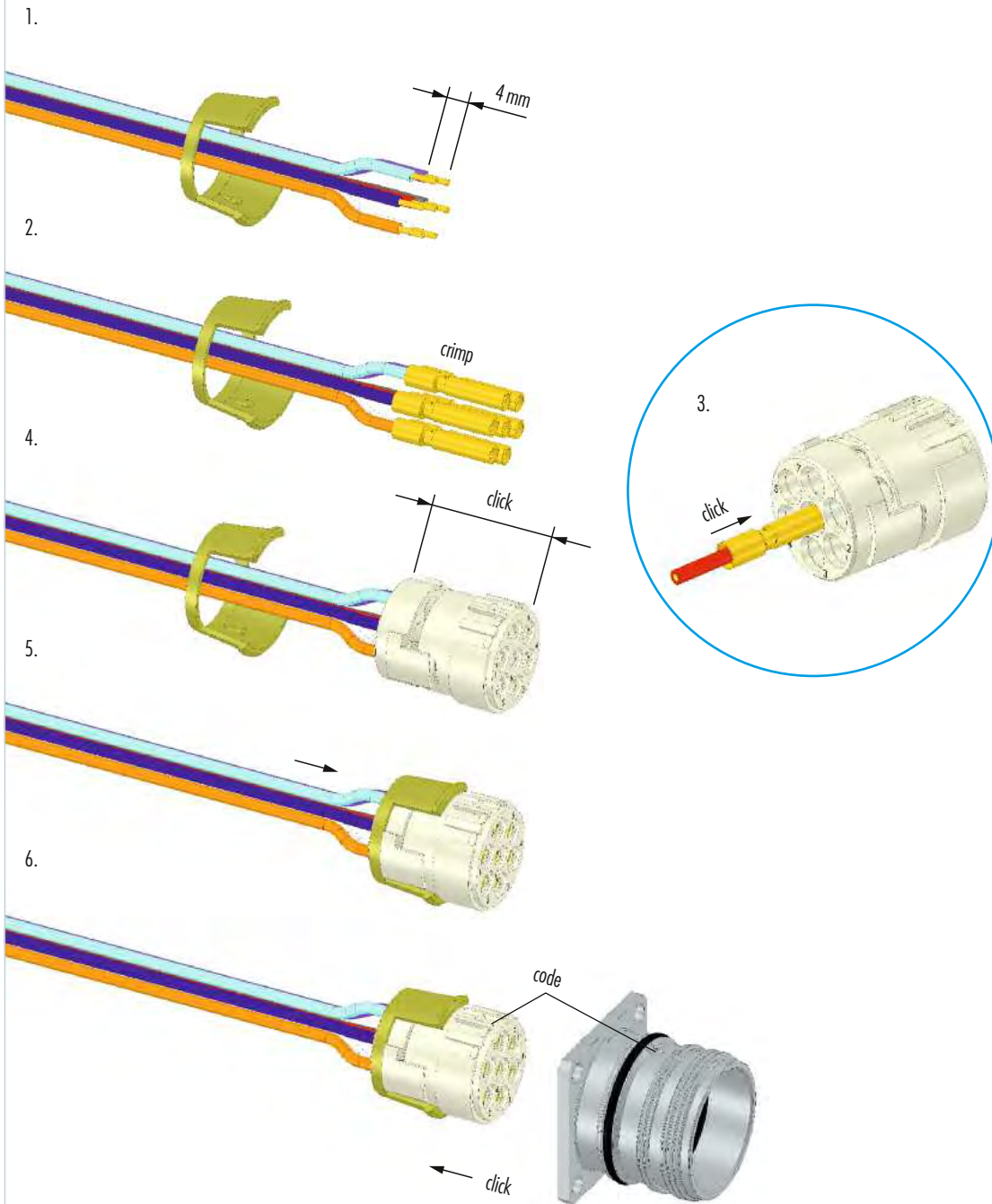


M 12
M 16
M 23 PoE
M 23 RJ 45
M 23 Signal
M 27 Signal
M 23 Power
M 40 Power
INOX
Moulded Cordsets
Customized



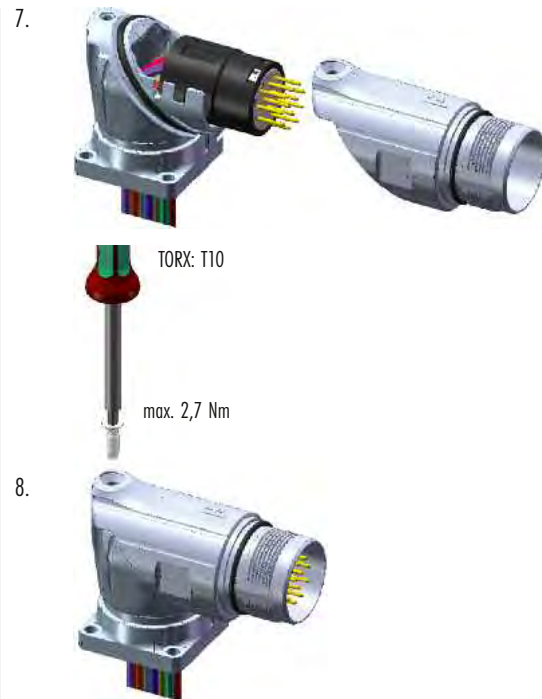
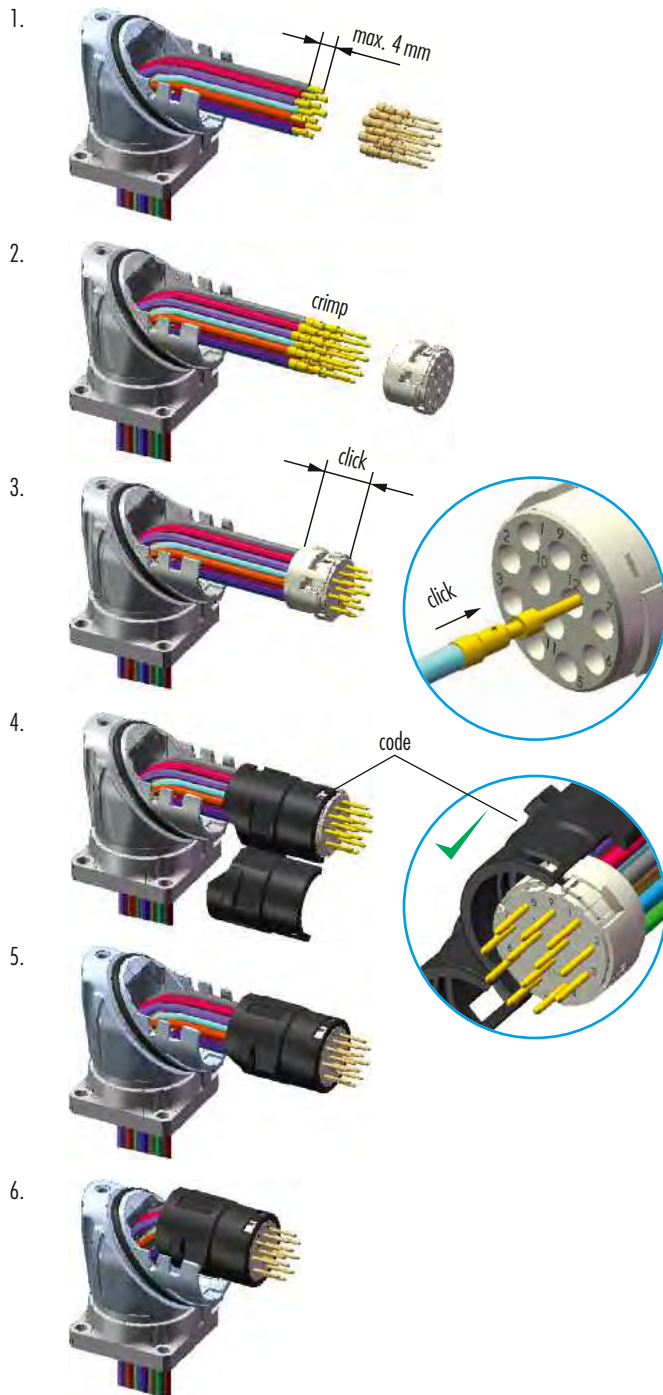
Assembly Instructions

Panel Connectors, Female Inserts





Right Angle Panel Connector

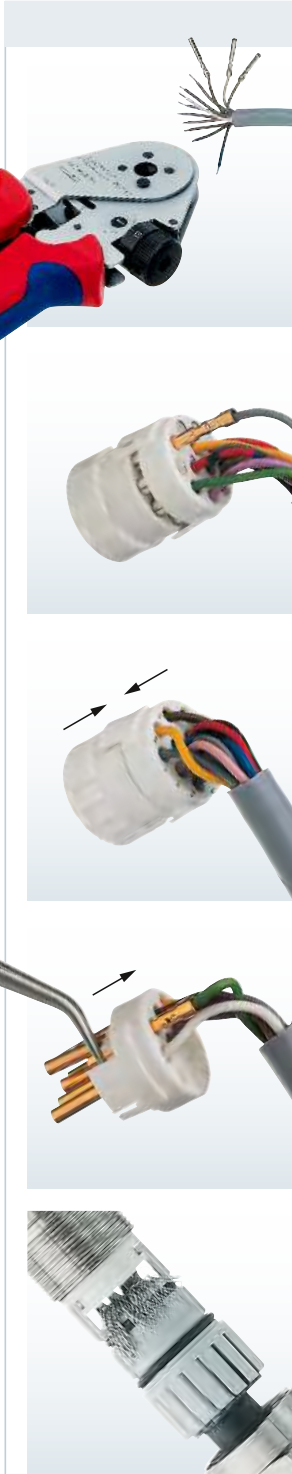


! Bei Verwendung von TWILOCK-S oder Speedtec Stecker bitte O-Ring demontieren.





Crimping, Assembly and Disassembly of Contacts



Crimping

- // Remove conductor insulation 4 mm (.16") max.
- // Select appropriate Crimp tool setting
- // Insert Crimp contact into the positioner of the tool
- // Insert stripped end of conductor into the crimp opening of the contact
- // Squeeze handles of crimp tool together

Assembly

- // Open crimping jaws and remove contact
- // Pry open upper and lower insert approx. 3 mm (1/8") apart as shown
- // Insert the contact and conductor assembly into the desired location
- // Press upper and lower insert parts together

Interlock Contacts

- // press the upper and lower part of the insulator together

Disassembly

No special tools are needed to remove the crimp contacts from the insert.

- // Remove upper part of insert
- // With a pair of needle nose pliers, wiggle the contact and push it back through the lower part of insert
- // Insert contacts into new location and push until it snaps in position
- // Align the nose and groove of the upper and lower part of insert and press together

Shielding

- // Assemble strain relief insert with insert
- // Fold stranding of the shield back over the first O-Ring of the strain relief insert
- // Cut back the overextending braid



The stranding of the shield is not allowed to touch the second O-Ring. Otherwise the assembly may not be proof.