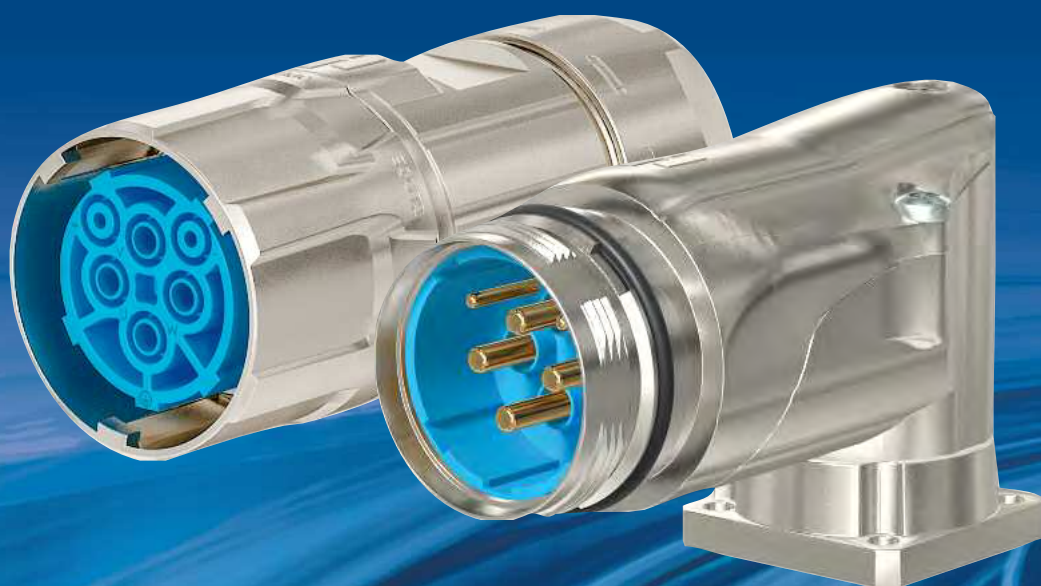


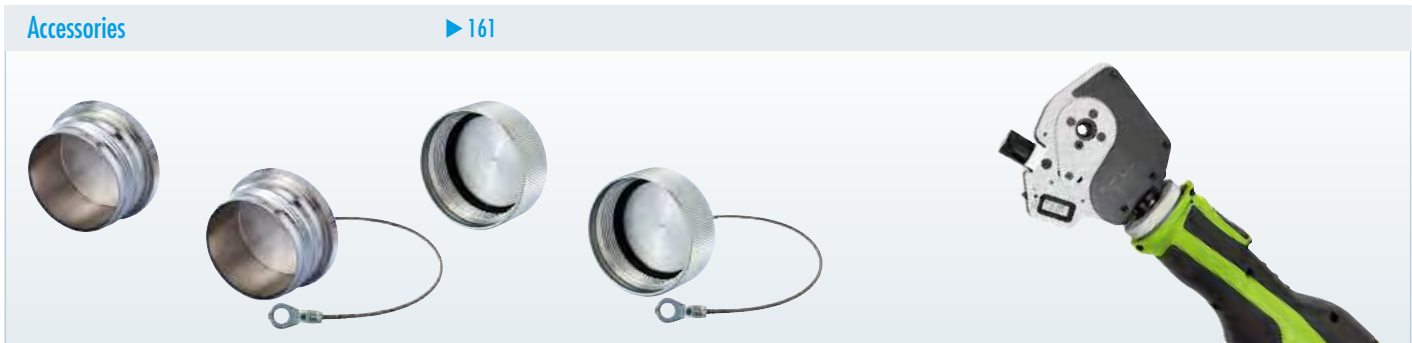
M 40 POWER CONNECTORS (SIZE 1,5)

Connector series M 40 is suitable for high current and is preferably used for heavy drive application. The high-quality housing out of metal fulfills all requirements, that are present in a rough industrial environment. Furthermore, it convinces through a long operational lifetime.

- // suitable for requirements with high current
- // safe EMC protection



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 | > 500 |
| Seals / O-Rings | Buna-N standard optional Viton® (FKM / FPM) (Viton is a registered trademark of DuPont) |
| Temperature range | -40 °C – 125 °C (-40 °F – 257 °F) |
| Type of contacts | Crimp |
| Protection | IP 67 / IP 69K per EN 60 529 (connected), NEMA 4x |
| Cable diameter range | 13 – 28 mm (.51" – 1.10") |

| Electrical Data | 2 + 3 + PE | | 4 + 3 + PE | |
|---|--------------------|------|--------------------|------|
| Number of positions | 2 | 4 | 4 | 4 |
| Number of contacts | 2 | 4 | 4 | 4 |
| Contact-Ø [mm] | 2 | 3,6 | 2 | 3,6 |
| Nominal current ¹⁾ [A] | 28 | 55 | 28 | 55 |
| Nominal voltage ²⁾ [V~] Degree of Protection 3 ³⁾ | 300 | 600 | 300 | 600 |
| Test voltage (Breakdown voltage) ⁴⁾ [V~] | 2500 | 4000 | 2500 | 4000 |
| Insulation resistance [Ω] | > 10 ¹³ | | > 10 ¹³ | |
| Max. contact resistance [mΩ] | 3 | 1 | 3 | 1 |



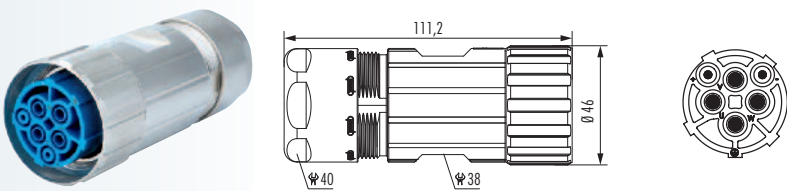
Standard delivery of M 40 (size 1,5) Power Connector include Contact Insert.

^{1), 2), 3), 4)} See Technical Information page 18



Housings

Straight Connector, Female Thread

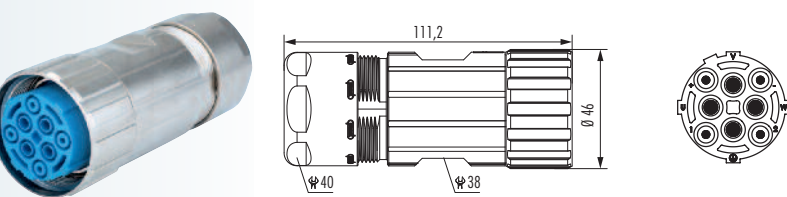


Cable-Ø

| Cable-Ø | Part Number |
|--------------------------------|---------------|
| 2 + 3 + PE, insert for sockets | |
| 13 – 18 mm (.51 – .71") | 7.710.623.000 |
| 17 – 24 mm (.67 – .97") | 7.710.723.000 |
| 21 – 28 mm (.83 – 1.10") | 7.710.823.000 |

▶ 160 | ▶ 161 | ▶ 167

Straight Connector, Female Thread

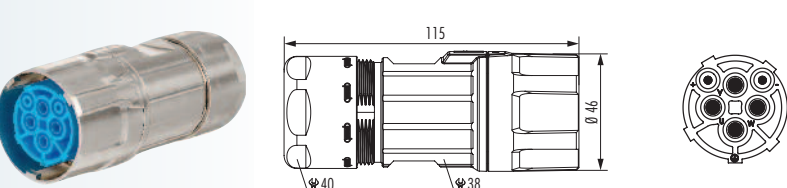


Cable-Ø

| Cable-Ø | Part Number |
|--------------------------------|---------------|
| 4 + 3 + PE, insert for sockets | |
| 13 – 18 mm (.51 – .71") | 7.710.643.000 |
| 17 – 24 mm (.67 – .97") | 7.710.743.000 |
| 21 – 28 mm (.83 – 1.10") | 7.710.843.000 |

▶ 160 | ▶ 161 | ▶ 167

Straight Connector, Female Thread TWILOCK-S

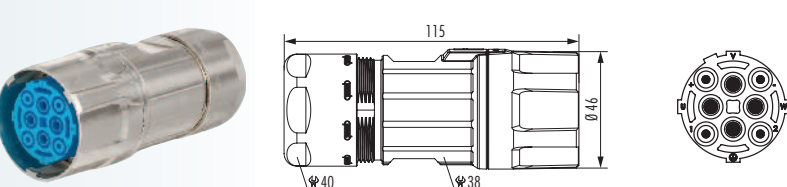


Cable-Ø

| Cable-Ø | Part Number |
|--------------------------------|---------------|
| 2 + 3 + PE, insert for sockets | |
| * intermateable with Speedtec | |
| 13 – 18 mm (.51 – .71") | 7.716.623.00S |
| 17 – 24 mm (.67 – .97") | 7.716.723.00S |
| 21 – 28 mm (.83 – 1.10") | 7.716.823.00S |

▶ 160 | ▶ 161 | ▶ 167

Straight Connector, Female Thread TWILOCK-S



Cable-Ø

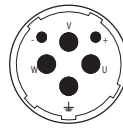
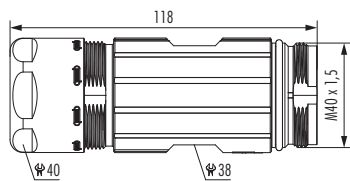
| Cable-Ø | Part Number |
|--------------------------------|---------------|
| 4 + 3 + PE, insert for sockets | |
| * intermateable with Speedtec | |
| 13 – 18 mm (.51 – .71") | 7.716.643.00S |
| 17 – 24 mm (.67 – .97") | 7.716.743.00S |
| 21 – 28 mm (.83 – 1.10") | 7.716.843.00S |

▶ 160 | ▶ 161 | ▶ 167

Straight Connector, Male Thread TWILOCK-S*

Cable-Ø

Part Number



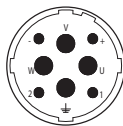
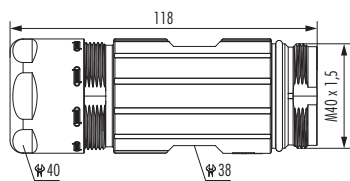
| | |
|--------------------------------------|---------------|
| 2 + 3 + PE, insert for pins | |
| 13 – 18 mm (.51 – .71") | 7.720.623.000 |
| 17 – 24 mm (.67 – .97") | 7.720.723.000 |
| 21 – 28 mm (.83 – 1.10") | 7.720.823.000 |
| * intermateable with Speedtec | |
| 13 – 18 mm | 7.720.623.00S |
| 17 – 24 mm | 7.720.723.00S |
| 21 – 28 mm | 7.720.823.00S |



Straight Connector, Male Thread TWILOCK-S*

Cable-Ø

Part Number



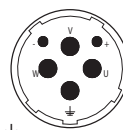
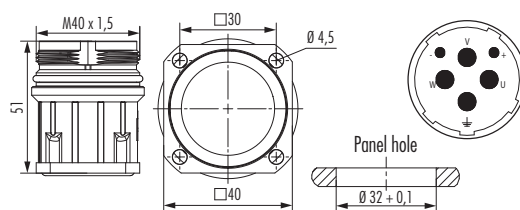
| | |
|--------------------------------------|---------------|
| 4 + 3 + PE, insert for pins | |
| 13 – 18 mm (.51 – .71") | 7.720.643.000 |
| 17 – 24 mm (.67 – .97") | 7.720.743.000 |
| 21 – 28 mm (.83 – 1.10") | 7.720.843.000 |
| * intermateable with Speedtec | |
| 13 – 18 mm | 7.720.643.00S |
| 17 – 24 mm | 7.720.743.00S |
| 21 – 28 mm | 7.720.843.00S |



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

Type

Part Number



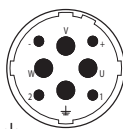
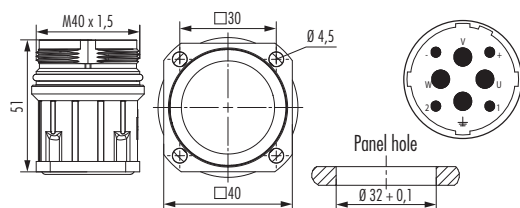
| | |
|--------------------------------------|---------------|
| 2 + 3 + PE, insert for pins | |
| 4 holes Ø 4,5 mm (.18") | 7.740.023.000 |
| * intermateable with Speedtec | |
| 4 x Bohr. 4,5 mm | 7.740.023.00S |



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

Type

Part Number



| | |
|--------------------------------------|---------------|
| 4 + 3 + PE, insert for pins | |
| 4 holes Ø 4,5 mm (.18") | 7.740.043.000 |
| * intermateable with Speedtec | |
| 4 x Bohr. 4,5 mm | 7.740.043.00S |





Housings

Panel Connector with knurled Nut, Front Mounting

| Type | Part Number |
|---|---------------|
| 2 + 3 + PE, insert for sockets 4 holes Ø 4,5 mm (.18") | 7.744.023.000 |

Panel Connector with knurled Nut, Front Mounting

| Type | Part Number |
|---|---------------|
| 4 + 3 + PE, insert for sockets 4 holes Ø 4,5 mm (.18") | 7.744.043.000 |

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

| Type | Part Number |
|---|---------------|
| 2 + 3 + PE, insert for pins * intermateable with Speedtec 4 holes Ø 4,5 mm (.18") | 7.749.023.005 |

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

| Type | Part Number |
|---|---------------|
| 4 + 3 + PE, insert for pins * intermateable with Speedtec 4 holes Ø 4,5 mm (.18") | 7.749.043.005 |

¹ under development



| Panel Connector, Male Thread, Single Hole Mounting | | Type | Part Number |
|--|--|---|---------------|
| | | Front mounting, 2 + 3 + PE, insert for pins | |
| | | Thread M 40 x 1,5 | 7.742.023.000 |
| | | | |
| | | | |

| Panel Connector, Male Thread, Single Hole Mounting | | Type | Part Number |
|--|--|---|---------------|
| | | Front mounting, 4 + 3 + PE, insert for pins | |
| | | Thread M 40 x 1,5 | 7.742.043.000 |
| | | | |
| | | | |

| Contact Arrangement, Mating View | Number of Poles | Required Contacts |
|----------------------------------|-------------------------------------|--|
| | Insert for pins 2 + 3 + PE | 2 x crimp pins 2 mm 4 x crimp pins 3,6 mm |
| | Insert for sockets 2 + 3 + PE | 2 x crimp sockets 2 mm 4 x crimp sockets 3,6 mm |
| | Insert for pins 4 + 3 + PE | 4 x crimp pins 2 mm 4 x crimp pins 3,6 mm |
| | Insert for sockets 4 + 3 + PE | 4 x crimp sockets 2 mm 4 x crimp sockets 3,6 mm |

Standard delivery of M 40 (size 1,5) Power Connector include Contact Insert.



Contacts

| Contacts | Type | Crimp Range | Part Number |
|----------|-------------------------------------|--|----------------------------|
| | Crimp pin 2 mm, machined | 0,25 – 1 mm ² (AWG 24 – 17) | 7.015.952.003 ¹ |
| | Crimp pin 2 mm, machined | 1 – 4 mm ² (AWG 17 – 12) | 7.015.952.001 |
| | Crimp socket 2 mm, machined | 0,25 – 1 mm ² (AWG 24 – 17) | 7.015.952.004 ¹ |
| | Crimp socket 2 mm, machined | 1 – 4 mm ² (AWG 17 – 12) | 7.015.952.002 |
| | Crimp pin 3,6 mm, machined | 1,5 – 4 mm ² (AWG 16 – 12) | 7.015.953.601 |
| | Crimp socket 3,6 mm, machined | 1,5 – 4 mm ² (AWG 16 – 12) | 7.015.953.602 |
| | Crimp pin 3,6 mm, machined | 6 mm ² (AWG 10) | 7.015.953.611 |
| | Crimp socket 3,6 mm, machined | 6 mm ² (AWG 10) | 7.015.953.612 |
| | Crimp pin 3,6 mm, machined | AWG 8 | 7.015.953.621 |
| | Crimp pin 3,6 mm, machined | 10 mm ² | 7.015.953.623 |
| | Crimp socket 3,6 mm, machined | AWG 8 | 7.015.953.622 |
| | Crimp socket 3,6 mm, machined | 10 mm ² | 7.015.953.624 |
| | Crimp pin 3,6 mm, machined | 16 mm ² (AWG 6) | 7.015.953.631 |
| | Crimp socket 3,6 mm, machined | 16 mm ² (AWG 6) | 7.015.953.632 |



¹ under development



Accessories

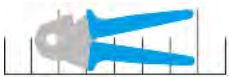
| Accessories | Type | Part Number |
|-------------|---|----------------------------|
| | Plastic protective cap for connectors with female thread | 7.000.900.152 |
| | Plastic protective cap for connectors with male thread | 7.000.900.151 |
| | Brass protective cap for connectors with female thread | 7.015.900.103 ¹ |
| | Brass protective cap for connectors with male thread | 7.015.900.102 |
| | Brass protective cap with rope for connectors with female thread | 7.015.9S1.003 ¹ |
| | Brass protective cap with rope for connectors with male thread | 7.015.9S1.002 |
| | Adaptor flange for Straight Connectors | 7.010.900.129 ¹ |

¹ No compatibility with TWILOCK



Accessories

| Accessories | Type | Part Number |
|--|--|---------------|
|  | Adapter for Conduit Fittings | |
| | Poleon DN 23 | 7.010.900.215 |
| | Poleon DN 29 | 7.010.900.217 |
|  | Manual crimp tool | |
| | machined crimp contacts until 10 mm ² (AWG 8) for power connectors | |
| | battery pack crimp tool for connectors M 40 (European market only) | 7.000.900.920 |
| | crimping unit for crimp tool | 7.000.900.919 |
| | locator for 3,6 mm contacts at crimp tool | 7.010.900.153 |
| | assembly instructions online: www.hummel.com | |
|  | Crimp tool for manual crimping | |
| | of machined crimp contacts 16 mm ² (AWG 6) | 7.000.900.903 |

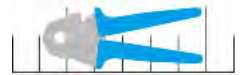


Crimp Tool Setting for HUMMEL Crimp Contacts (Crimp Tool 7.000.900.920)

| Part Number | Crimp Contact | Cross Section (mm ²) | AWG | Crimp Tool Setting mm | Locator Setting |
|---------------|---------------------|----------------------------------|-----|-----------------------|-----------------|
| 7.015.952.001 | Crimp pin 2 mm | 0,75 | 18 | 1,31 mm | 3 |
| | | 1 | 17 | 1,38 mm | 3 |
| | | 1,5 | 16 | 1,45 mm | 3 |
| | | 2,5 | 14 | 1,50 mm | 3 |
| | | 4 | 12 | 1,60 mm | 3 |
| 7.015.952.002 | Crimp socket 2 mm | 0,75 | 18 | 1,31 mm | 4 |
| | | 1 | 17 | 1,38 mm | 4 |
| | | 1,5 | 16 | 1,45 mm | 4 |
| | | 2,5 | 14 | 1,50 mm | 4 |
| | | 4 | 12 | 1,60 mm | 4 |
| 7.015.953.601 | Crimp pin 3,6 mm | 2,5 | 14 | 1,4 | 1 |
| | | 4 | 12 | 1,6 | 1 |
| 7.015.953.602 | Crimp socket 3,6 mm | 2,5 | 14 | 1,4 | 2 |
| | | 4 | 12 | 1,6 | 2 |
| 7.015.953.611 | Crimp pin 3,6 mm | 6 | 10 | 1,8 | 1 |
| 7.015.953.612 | Crimp socket 3,6 mm | 6 | 10 | 1,8 | 2 |
| 7.015.953.621 | Crimp pin 3,6 mm | | 8 | 2,6 | 1 |
| 7.015.953.622 | Crimp socket 3,6 mm | | 8 | 2,6 | 2 |
| 7.015.953.623 | Crimp pin 3,6 mm | 10 | | 2,7 | 1 |
| 7.015.953.624 | Crimp socket 3,6 mm | 10 | | 2,7 | 2 |



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



Crimp Tool Setting for HUMMEL Crimp Contacts (Crimp Tool 7.000.900.903)

| Part Number | Crimp Contact | Cross Section (mm ²) | AWG | Crimp Tool Setting |
|---------------|---------------------|----------------------------------|-----|--------------------|
| 7.015.953.631 | Crimp pin 3,6 mm | 16 | 6 | die 16 |
| 7.015.953.632 | Crimp socket 3,6 mm | 16 | 6 | die 16 |



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



Crimp Tool for M 40 Power Connectors (Size 1,5)

Crimp Tool

Type

Part Number

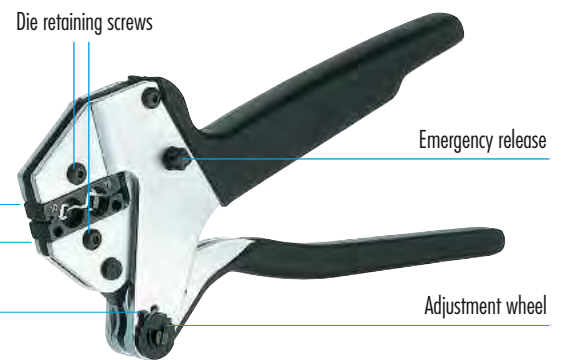
Crimp Tool for contacts 16 mm² (AWG 6)7.000.900.903

Application

The hand crimp tool 7.000.900.903 has been developed for optimal crimping of a large variety of connectors and terminals by using different interchangeable crimping dies.

Operation

- // Select crimp insert and install in tool
- // Insert and align crimp contact in tool
- // Compress tool until contact is held in place
- // Insert conductor into contact
- // Fully compress tool (tool will reopen automatically)
- // Remove crimped conductor from tool



Stationary jaw with upper die

Movable jaw with lower die

Set screw

Die retaining screws

Emergency release

Adjustment wheel



Crimp Tool for M 40 Power Connectors (Size 1,5)

Crimp Tool



Adjustment of crimp force and height

Crimp force adjustment is done in the factory (120 – 180 N when unloaded). Tool frame and jaws are connected that way, an optimal crimping result will be obtained based on the hand force indicated above. In case the result (e.g. crimp height, pull-out force, etc.) does not meet the requirements of the plug manufacturer, the following reasons can be considered:

a) Normal wear of tool

Readjustment possible

b) Worn dies

Dies have to be replaced

The quality personnel is authorized to control and readjust these parameters as described below:

Unscrew the set screw by means of a screw driver

- // Rotatable the adjustment wheel anticlockwise, the crimp force increases and the crimp height decreases (+)
- // Rotatable the adjustment wheel lockwise, the crimp force decreases and the crimp height increases (-)
- // When readjusting the hand force shall not exceed 180 N
- // Before using the tool, the operator has to check the adjustment wheel being firmly secured by the set screw

Maintenance

Keep the tool clean and properly stored when not in service. The joints need to be regularly oiled and the circlips securing the bolts have to be always in place. Never use abrasives or hard material to clean the jaws. Please contact the manufacturer when the tool needs to be repaired or in case of readjustment problems.

Straight Connector, Female Thread / Male Threaded Connector

1. max. 40 mm

2. x

3. crimp

4. click

5. scissors

6. 38, 40


x

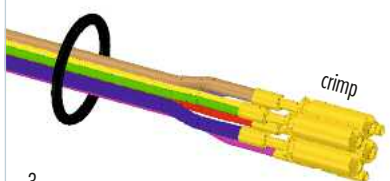
Contact ø 2 mm = max. 7 mm stripping length
 Contact ø 3,6 mm = max. 10 mm stripping length

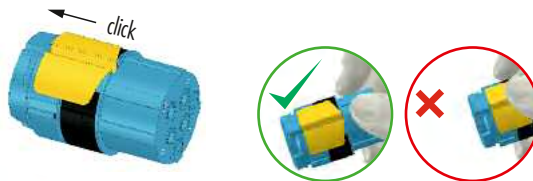


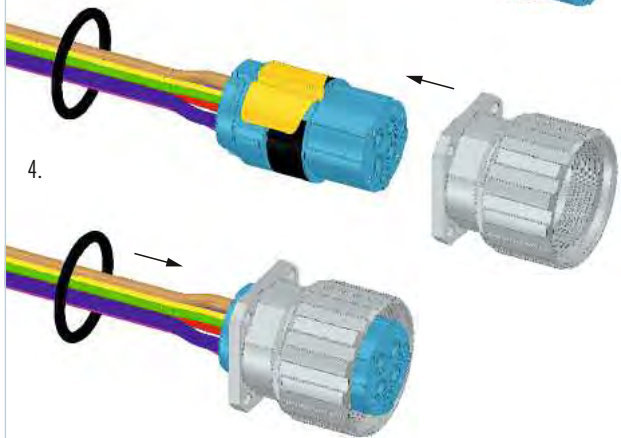
Assembly Instructions

Panel Connector

1. 

2. 

3. 

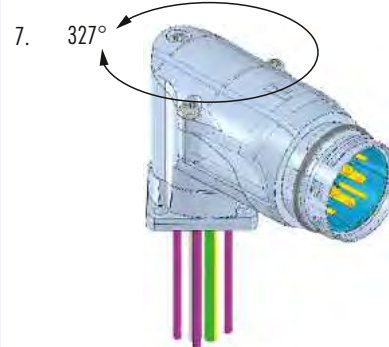
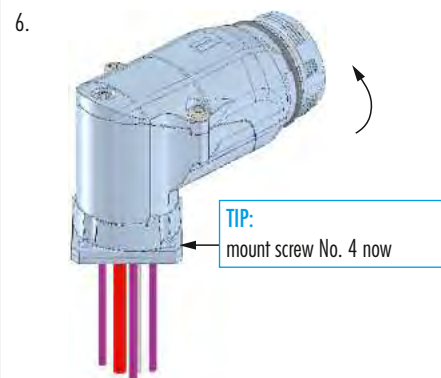
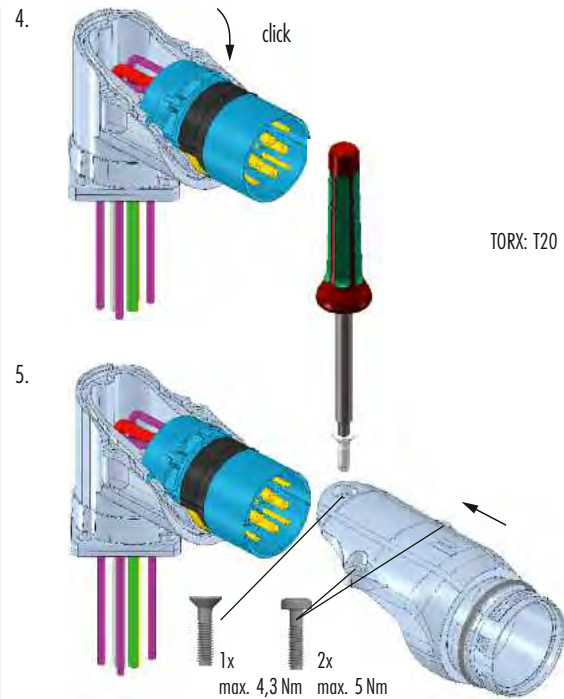
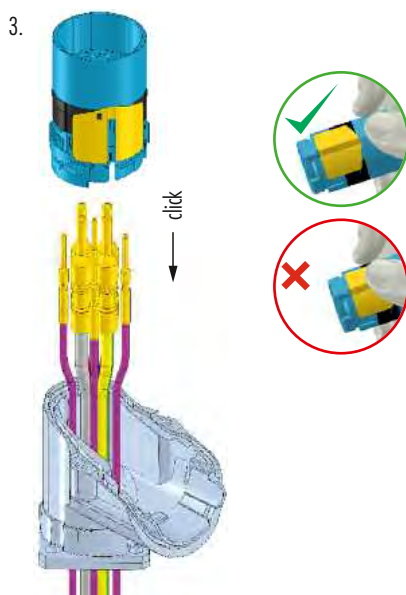
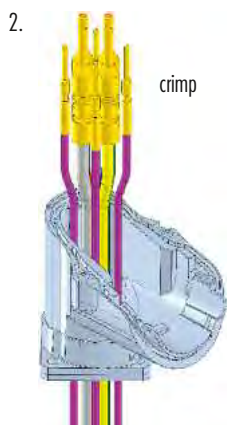
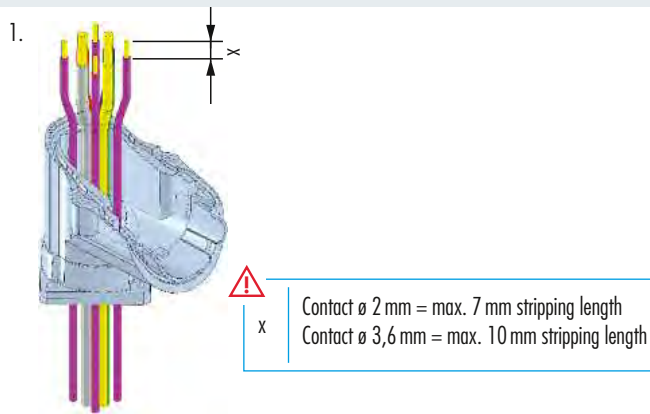
4. 

Warning:

- Contact \varnothing 2 mm = max. 7 mm stripping length
- Contact \varnothing 3,6 mm = max. 10 mm stripping length



Right Angle Panel Connector





Crimping, Assembly and Disassembly of Contacts



Crimping

- For 2 mm contacts strip wire ends 7 mm (.28"), for 3,6 mm contacts strip wire ends 10 mm (.39")
- // Dial appropriate setting of crimp tool
- // Push crimp contact into opening of crimping tool
- // Insert stripped wire into the funnel shaped end of the crimp contact
- // Squeeze handles of crimping tool together connect contact to wire

Assembly

Remove crimped contact to insert into the ring contact position. Push into desired position of insert.

Disassembly of Contacts from Insert

A small screwdriver is needed to remove the contacts from the insert.

- // Release the white ring by a screwdriver out of the insert
- // Move the misplaced contacts out of the insert
- // Enter the ring back into the insert
- // Push the contacts back into insert

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



Overstranding of the shield is not allowed to touch the second O-Ring.