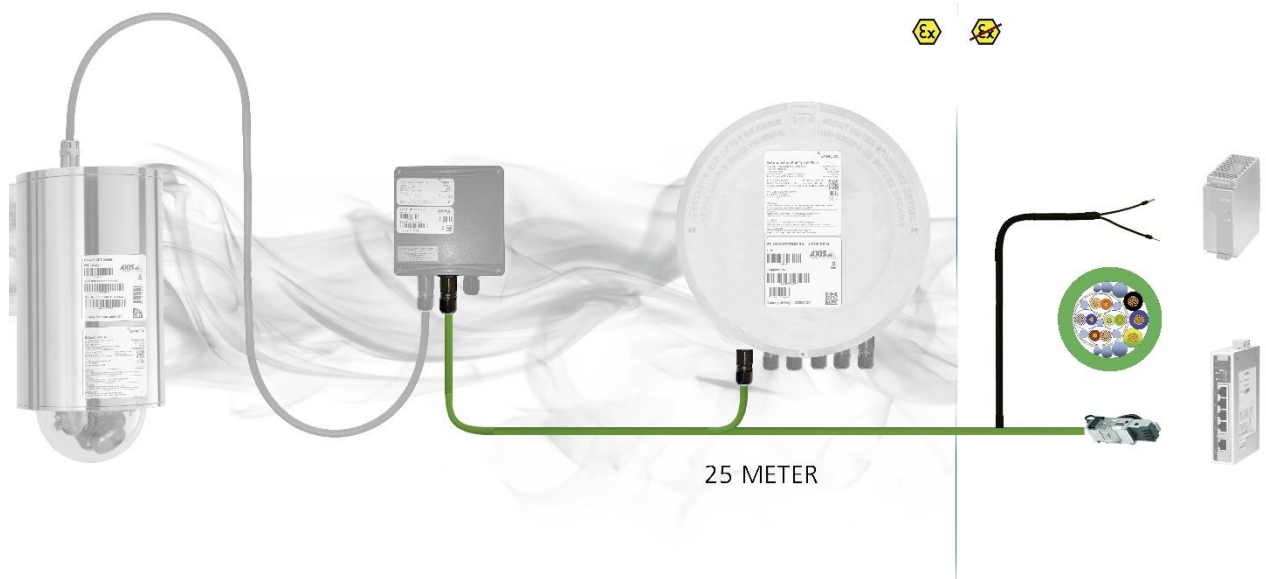


# Cable Kit SKDP03-T

## 25 M



## Mounting instructions

## Inhaltsverzeichnis

|          |   |           |
|----------|---|-----------|
| <b>1</b> | <b>Content of the Cable Kit SKDP03-T .....</b>                | <b>3</b>  |
| <b>2</b> | <b>Installing and wiring (connection to ExTB-3).....</b>      | <b>3</b>  |
| 2.1      | Customization of the cable connection.....                    | 4         |
| 2.2      | Insertion into Ex-e .....                                     | 6         |
| 2.3      | Connecting the cable to the clamps .....                      | 6         |
| <b>3</b> | <b>Mounting the barrier gland (insertion into Ex-d) .....</b> | <b>7</b>  |
| 3.1      | Components of the barrier gland.....                          | 7         |
| 3.2      | Configuration of the connection.....                          | 7         |
| 3.3      | Kneading .....  | 8         |
| 3.4      | Adhesive bonding (Loctite).....                               | 8         |
| <b>4</b> | <b>Connecting the RJ 45 plug (Ex-d or non-ex).....</b>        | <b>9</b>  |
| <b>5</b> | <b>Connecting the power channel (24VDC) .....</b>             | <b>10</b> |
| <b>6</b> | <b>Support / contact.....</b>                                 | <b>10</b> |
| <b>7</b> | <b>Notes .....</b>  | <b>11</b> |

## Table of Figures

|            |  |   |
|------------|--|---|
| Figure 1.1 | – Content of the Cable Kit SKDP03-T .....              | 3 |
| Figure 2.1 | – Cable cross section .....                            | 4 |
| Figure 2.2 | – Stripped cable and bare shielding .....              | 4 |
| Figure 2.3 | – Blank shielding wire and shielding braid.....        | 4 |
| Figure 2.4 | – Shrinking tube over twisted shielding braid .....    | 5 |
| Figure 2.5 | – Customized cable .....                               | 5 |
| Figure 2.6 | – Connection in the terminal box .....                 | 6 |
| Figure 3.1 | – Components of the barrier gland .....                | 7 |
| Figure 3.2 | – Configure the connection for the barrier gland ..... | 7 |
| Figure 3.3 | – Kneading of the barrier gland .....                  | 8 |
| Figure 3.4 | – Glued-areas.....                                     | 8 |
| Figure 4.1 | – Connecting the RJ 45 plug .....                      | 9 |
| Figure 4.2 | – Completed cable with a RJ 45 plug .....              | 9 |

## Revision history

Product: Cable Kit SKDP03-T 25 M  
 Title: Cable Kit SKDP03-T 25 M Mounting instructions  
 Doc. -Id. CableKitSKDP03-T\_25M\_MountingInstructions\_rev.00.docx  
 Autor: Eva Schneider  
 Datum: May 9, 2018

| Rev.- Index | Datum         | Name        | Comment                     | Approved by<br>EX Officer |
|-------------|---------------|-------------|-----------------------------|---------------------------|
| 0           | May 9th, 2018 | E.Schneider | Compilation of the document |                           |

## 1 Content of the Cable Kit SKDP03-T



Figure 1.1 – Content of the Cable Kit SKDP03-T

- ✓ 25 m SKDP03-T System Cable Digital (a)
- ✓ 1 x cable gland with compound (b)
- ✓ 5 ml Loctite threadlock (c)
- ✓ 1 x CAT6 RJ45 industrial plug pro (5.5 – 10.5 mm) (d)
- ✓ 40 cm shrinking tube yellow-green (e)
- ✓ 10 cm shrinking tube black (e)
- ✓ 8 x wire-end ferrules (e)
- ✓ 1 x documentation

## 2 Installing and wiring (connection to ExTB-3)

The following chapter describes the configuration of the cable, how to insert it into the terminal box ExTB-3 and how to connect it.



### Attention!

**The electrical connection of the equipment must be executed by qualified personnel only!**



### Attention!

**Please observe the national regulations regarding security, installation, and accident prevention (e.g. IEC 60079-14)!**



### Attention!

**When stripping the isolation, no inner cores must be damaged!**

## 2.1 Customization of the cable connection

Looking at the digital system cable's cross section, the following elements are visible:

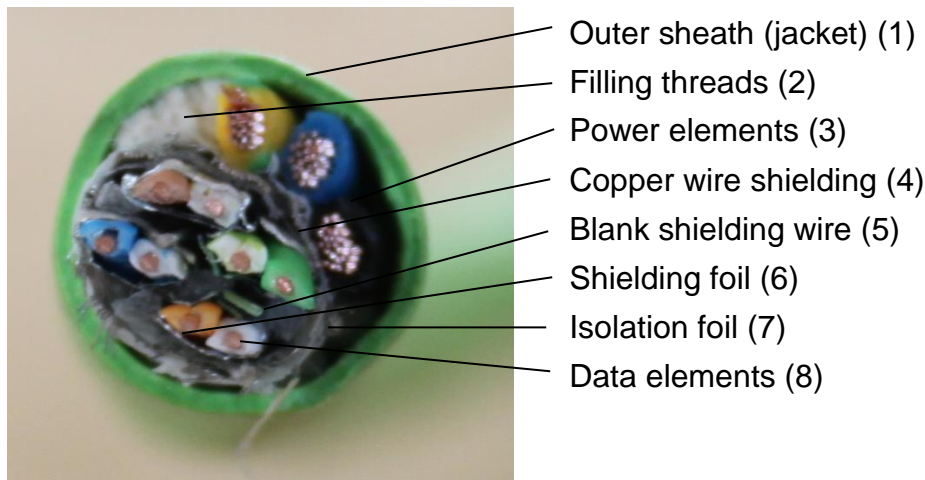


Figure 2.1 – Cable cross section

Remove 10 cm of the wire's outer sheath (green jacket) (1) without damaging the wires. Then cut off the white filling threads (2) and remove the white foil around the network cables (7) so that the shield is uncovered. In a next step, separate the shield by pulling out the data elements (8) from the copper wire shielding (4) (see figure 2.2).



Figure 2.2 – Stripped cable and bare shielding

Cut off the five filling threads and the plastic foil. Make sure that the blank shielding wire (5) is not removed. Twist this blank wire with the shielding (4) as shown below.

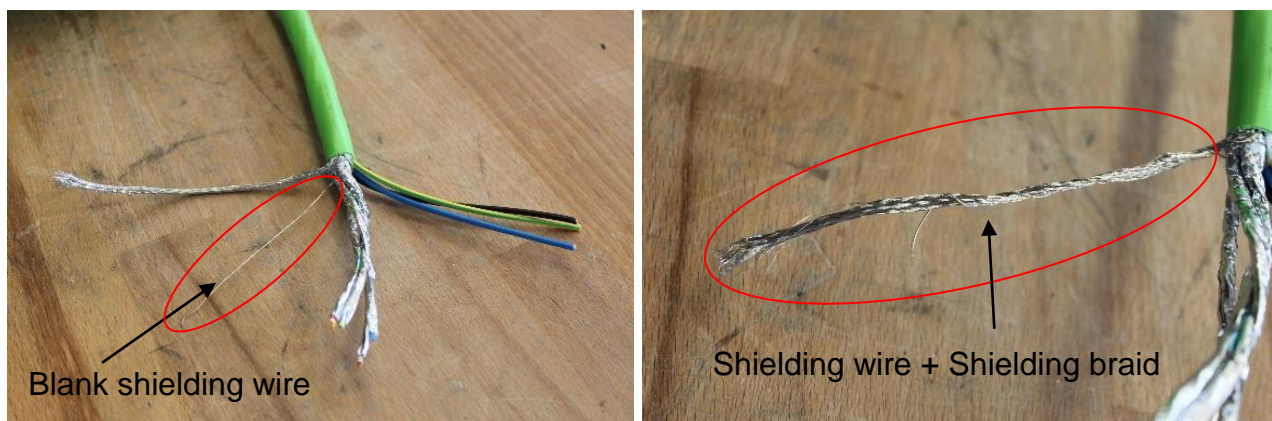


Figure 2.3 – Blank shielding wire and shielding braid

Cut the yellow-green shrinking tube to match the length of the shielding braid. Now shrink-fit the shrinking tube by using a hot air blower.

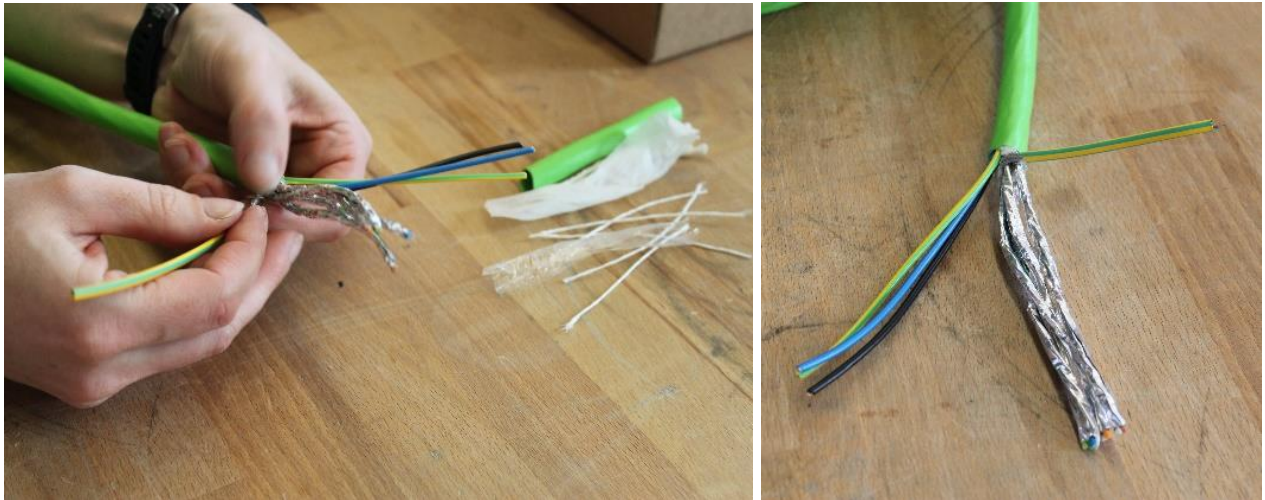


Figure 2.4 – Shrinking tube over twisted shielding braid

After this, put the black shrinking tube over all cables and the shielding and shrink it. Remove approx. 1 cm of the foil (6) at the top of the 4 twisted pairs (8). Untwist them to match this length and cut off the ends with a wire stripper. Squeeze the wire end ferrules onto the 3 power cables the grounding cable.

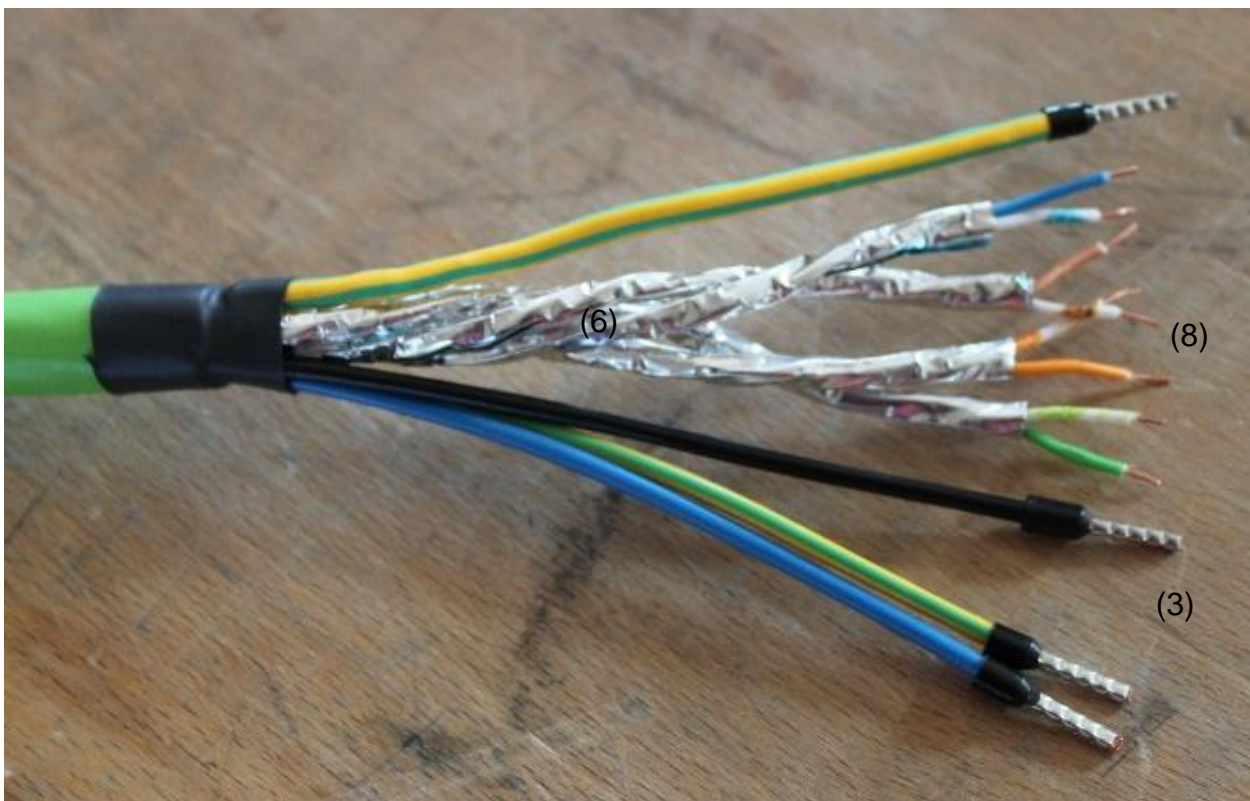


Figure 2.5 – Customized cable

## 2.2 Insertion into Ex-e

Through the middle cable gland, insert the prepared cable (q.v. chapter 2. 1) into the terminal box ExTB3.

## 2.3 Connecting the cable to the clamps

Corresponding to the color code of the already connected camera cable, also the cables of the cable kit are connected so that the colors match. Please do not untie the twisted pair network and put the shielding braid as close to the clamps as possible. Tidily strip the ends of the wires and mount them firmly.

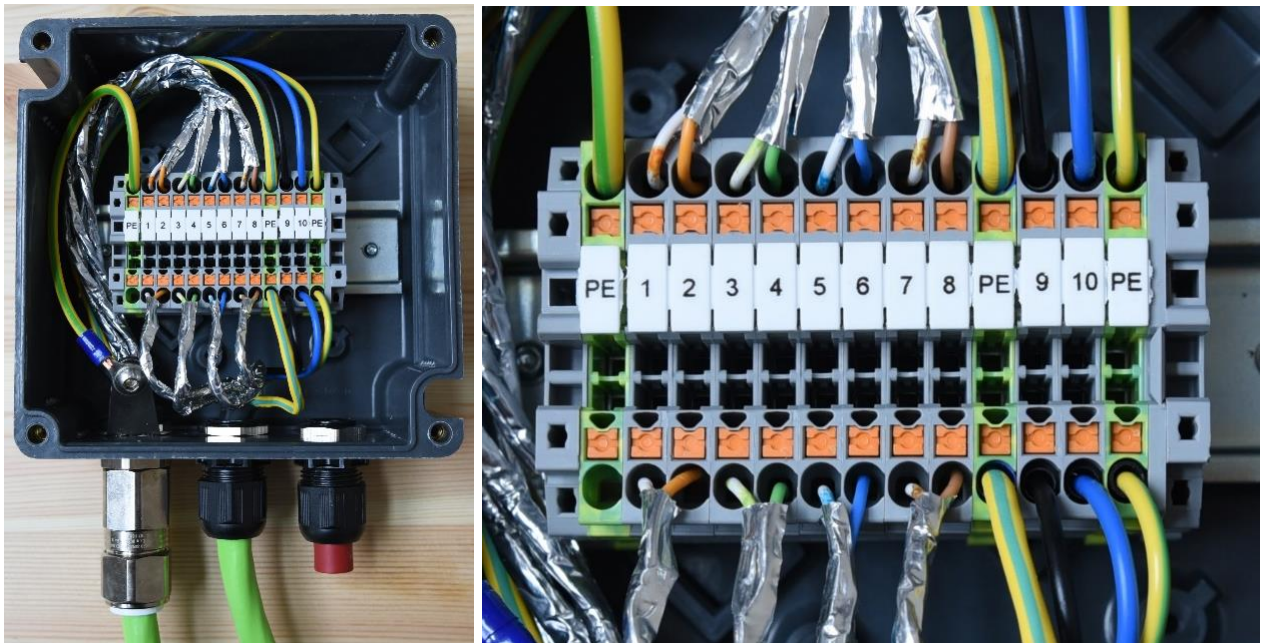


Figure 2.6 – Connection in the terminal box

On YouTube, you will find precise instructions on the cable configuration and the connection inside the terminal box ExTB3 at: <https://www.youtube.com/watch?v=lqd5fsS7MsM>



### 3 Mounting the barrier gland (insertion into Ex-d)

#### 3.1 Components of the barrier gland

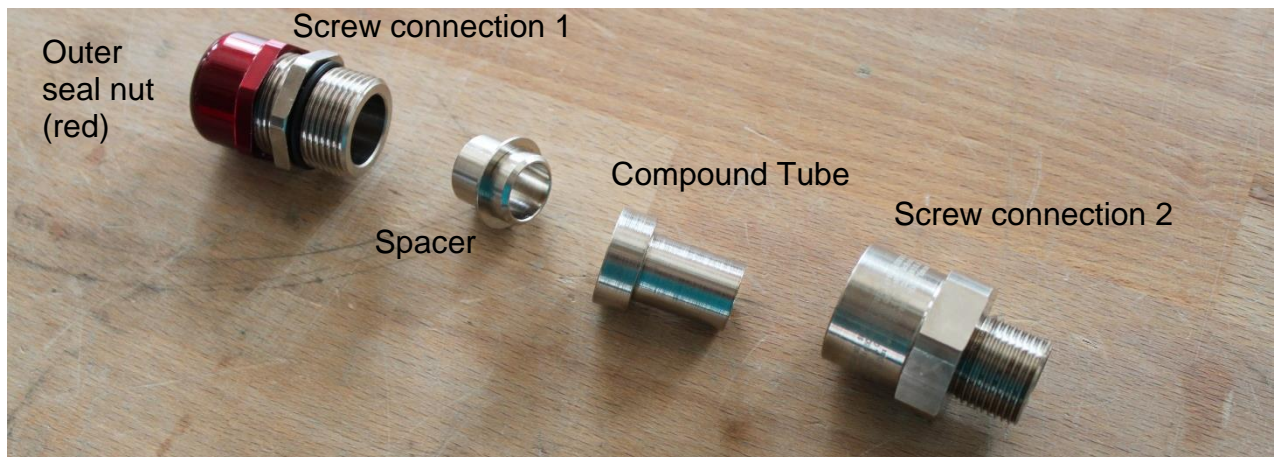


Figure 3.1 – Components of the barrier gland

#### 3.2 Configuration of the connection

Strip 25 cm off the green jacket (q.v. chapter 2.1, figure 2.1 (1)) and cut off the isolation foil (7). Please make sure not to damage the individual wires of the connecting cable. Cut off the white filling threads (2) and remove the foil around the network cables (6). Then separate the shield and cut off the blank shielding wire (5) and the shielding braid (4) so that the foil around the cables can be removed. To prepare the twisted pairs (8) for the kneading screw connection, they need to be untwisted.

Slightly unscrew the red outer seal nut until the cable can be easily inserted into the screw connection 1 (insert direction: from outer seal nut towards screw connection 1). The rim of the green sheath must close flush with the screw connection 1. Then tighten the red outer seal nut enough to hold the cable in position and put the spacer on top.

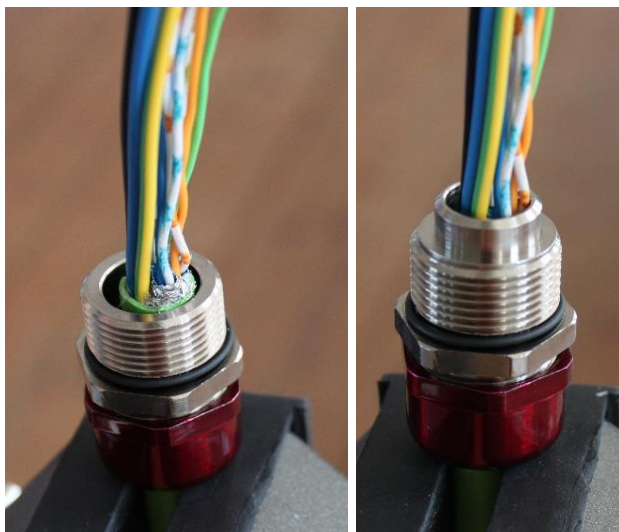


Figure 3.2 – Configure the connection for the barrier gland

### 3.3 Kneading

Put on the supplied protective gloves and mix both components of the two-part epoxy compound until it is pliable and of an even color (minimum mixing temperature 10°C / 50°F). Untwist the cable cores and apply the compound around them over a length of 40 mm so that there is compound around each individual cable core (zigzag). Now put the compound tube over the cable and pass the compound tube over the conductors until the stepped end is fully located with the tube spacer. Remove surplus compound and make sure that it does not overlap the tube. If required, add more compound into place until the compound tube is fully filled.

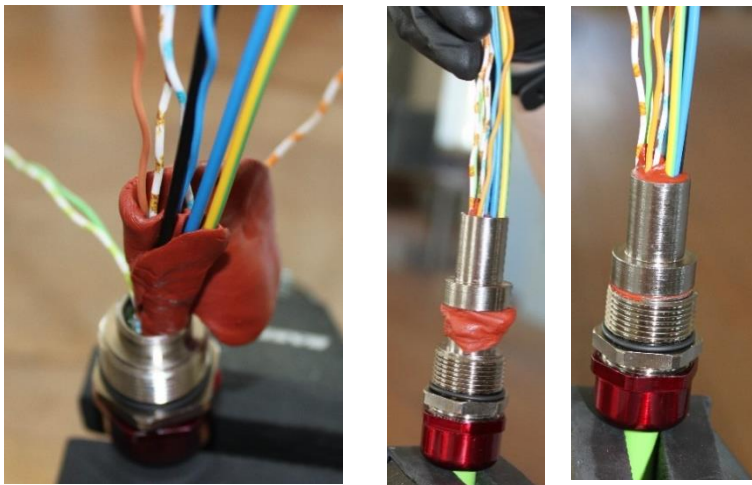


Figure 3.3 – Kneading of the barrier gland

The compound should be flush to the tube. Please let everything dry for at least 24 h and allow the compound to harden. After the drying period, please check that all cables are tightly connected with the compound and screw on the screw connection 2 until it comes to an effective stop.

### 3.4 Adhesive bonding (Loctite)

Please apply threadlocker (Loctite) generously to all three threads of the barrier gland). The Loctite is included in the delivery scope.



Figure 3.4 – Glued-areas



For more detailed instructions on how to set up the barrier gland (insertion into Ex-d) please refer to our YouTube tutorial: <https://www.youtube.com/watch?v=U1nap29TEFY>



## 4 Connecting the RJ 45 plug (Ex-d or non-ex)

Strip off 25 cm of the cable isolation as described in chapter 3.1. Please make sure not to damage the isolation foil (7).

The plug is connected according to EIA/TIA-568B (q.v. attached sketch).

The cables of the same color will be put through the applicable opening and then cut off flush at the front. It is important that the shielding is lead through until it touches the shielding clamp.

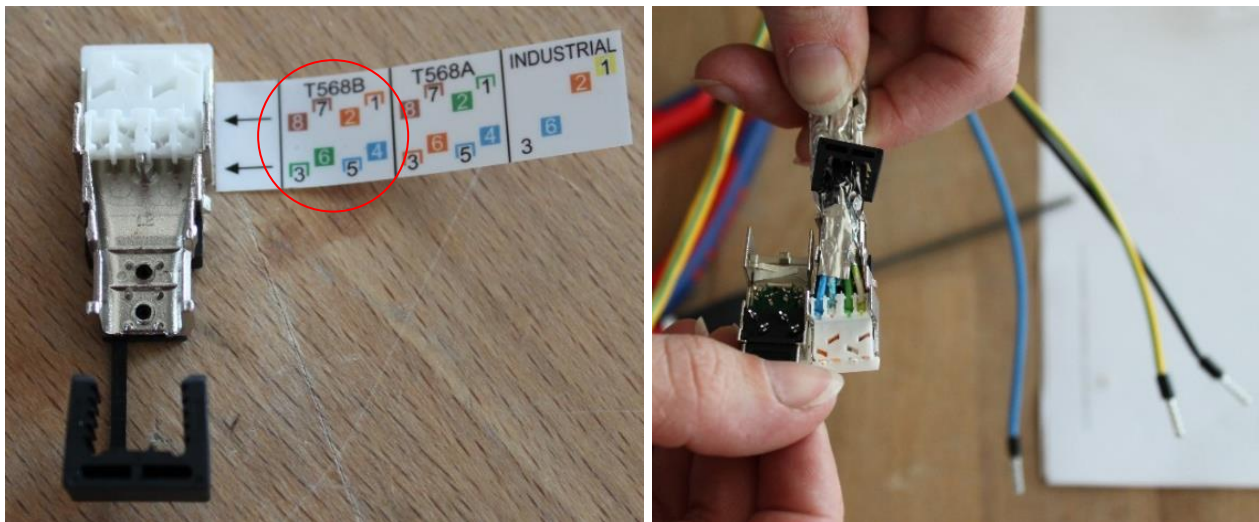


Figure 4.1 – Connecting the RJ 45 plug

With a gripper, press together the plug until it snaps and remove the piece of paper.

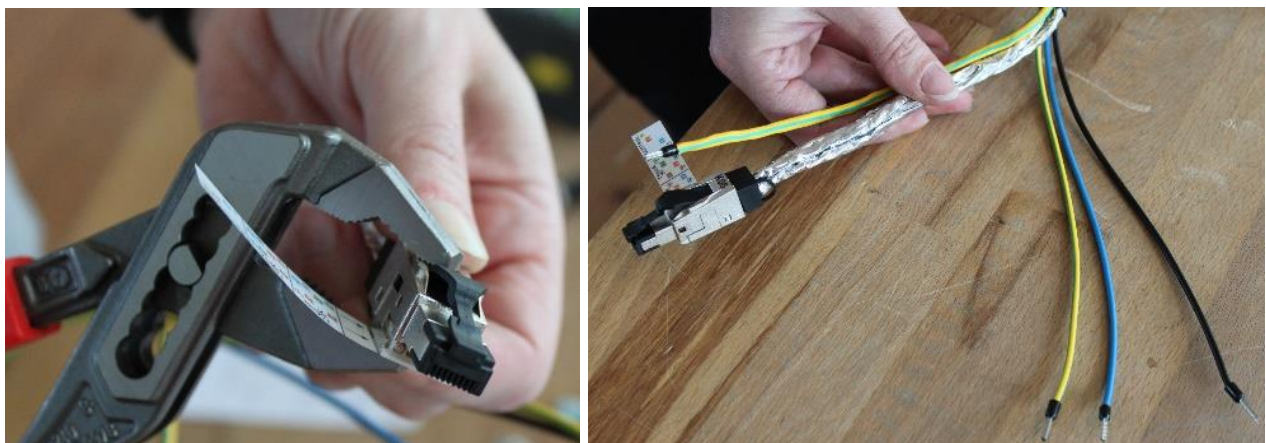


Figure 4.2 – Completed cable with a RJ 45 plug

For detailed instructions regarding the connection of the RJ 45 plug please refer to our YouTube tutorial: [https://www.youtube.com/watch?v=LOJ\\_7drnn4E&feature=youtu.be](https://www.youtube.com/watch?v=LOJ_7drnn4E&feature=youtu.be)



## 5 Connecting the power channel (24VDC)

In hazardous areas, the power cable is connected by using a barrier gland. In safe areas, it is sufficient to use a common cable gland.

Cable distribution: Black +24 VDC  
Blue 0 VDC  
Green-yellow to earth potential

## 6 Support / contact

If you have any questions or if you need our support please contact us at:

Mail: [support@samcon.eu](mailto:support@samcon.eu)

Tel.: +49 6426 9231-0

<https://www.samcon.eu/en/contact/>

## 7 Notes



design: carson\_orey@liquiverse.com  
printed in germany



**SAMCON**  
Prozessleittechnik GmbH

Schillerstrasse 17, 35102 Lohra-Altenvers  
[www.samcon.eu](http://www.samcon.eu), [info@samcon.eu](mailto:info@samcon.eu)  
fon: +49 6426 9231-0, fax: - 31