



### Note on instructions

These instructions contain the information required for using the mating connector in accordance with its intended purpose. They are addressed to technically qualified personnel. The instructions provide a summary of the most important safety measures and must be read by everyone working with the product so that they will be familiar with the correct handling of the product. The instructions have to be kept for future reference and must be available throughout the expected life of the product.

### Description

The mating connectors, assembly kit 03-9320-0168 to -0174, are compatible with the LOCA-proof limit switches, type 37-2937-1130/..., from the firm of BARTEC GmbH. They are resistant to ionising radiation, high temperatures and vibrations and feature a high level of strain relief. The mating connectors are suitable for use in the construction of machines and turbines and also in nuclear technology. BARTEC GmbH supplies an assembly kit, which contains all the components for assembling a connection cable.

### Technical data

#### Radiation exposure

At normal condition up to 50 kGy

#### Approved accident conditions

Radiation resistance up to 800 kGy:

$$\vartheta_{\max} = 156 \text{ °C}/10 \text{ h}$$

$$p_{\max} = 7.0 \text{ bar abs.}$$

Radiation resistance up to 200 kGy:

$$\vartheta_{\max} = 152 \text{ °C}/24 \text{ h}$$

$$p_{\max} = 6.5 \text{ bar abs.}$$

#### Ambient temperature

-25 °C to +85 °C (-13 °F to 185 °F)

#### Protection class

In conformance to DIN EN 60529 in locked position: IP 65

### Material

Cable gland  
Enclosure: Nickel-plated brass  
Sealing: Fluoroelastomer  
Kink protection: Fluoroelastomer

Hood  
Enclosure: Stainless steel

Female insert  
Enclosure: Ryton

Crimp contact  
Material: Brass  
Plating: Gold plated

### Mechanical service life

Contact durability: min. 500

### Electronic data

Rated current: 10 A  
Rated voltage: 250 V  
Rated impulse voltage: 4 kV

### Cable gland clamping range

#### Pin assignment 2-5-7

Assembly kit 03-9320-0168:  
7.5 - 9 mm, (0.3 - 0.35 in)

Assembly kit 03-9320-0169:  
8.5 - 11 mm, (0.33 - 0.43 in)

Assembly kit 03-9320-0170:  
10.5 - 13 mm, (0.41 - 0.51 in)

#### Pin assignment 1-2-3

Assembly kit 03-9320-0171:  
7.5 - 9 mm, (0.3 - 0.35 in)

Assembly kit 03-9320-0172:  
8.5 - 11 mm, (0.33 - 0.43 in)

Assembly kit 03-9320-0173:  
10.5 - 13 mm, (0.41 - 0.51 in)

Assembly kit 03-9320-0174:  
12 - 15 mm, (0.47 - 0.59 in)

### Conductor cross-section

0.5 mm<sup>2</sup> (20 AWG)

### Type of lock

Locking lever

### Dimensions

see under dimensions

### Safety Instructions

The mating connector may be used only within the specified ambient and operating temperature range. Utilisation in areas other than those specified or the alteration of the product by anyone other than the manufacturer will exempt BARTEC from liability for defects or any further liability. The generally applicable statutory rules and other binding directives relating to workplace safety, accident prevention and environmental protection must be observed. Before commissioning or re-starting operation, check compliance with the applicable laws and directives. The mating connector may be used only if it is clean and not damaged in any way. It is not permissible to modify the mating connector in any way.

### Marking

Particularly important points in these instructions are marked with a symbol:



DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.



WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.



NOTICE is used to address practices not related to personal injury.



Important instructions and informations on effective, economical and environmentally compatible handling.

### Standards conformed to

DIN EN 175 301-801, DIN EN 60 664-1, DIN EN 61 984

### Transport, Storage



Transport and storage is permissible in original packaging only.



**Assembly, Installation, and Commissioning**

**⚠ WARNING**

- The system-specific regulations regarding the establishment of a LOCA-proof connection have to be observed.
- Leads on electrical engineering devices and machines which are moved under normal use must be protected in compliance with EN 50565-1:2014 against excessive bending.
- Use suitable tools.

**Assembly/Installation**

**📄 NOTE**

Assembly drawings and terminal assignment, see next page.

**Commissioning**

Before commissioning check that:

- The mating connector has been installed in compliance with regulations?
- Mating connector and limit switch are not damaged?
- The limit switch connection has been established properly?
- Check that the cable entries are secure
- All screws have been tightened securely

**Operation**

**📄 NOTICE**

- Limit switch and mating connector may be operated only within the technical limits that apply to it (see Technical data)

**Maintenance and Fault Clearance**

**⚠ WARNING**

Only authorized qualified personnel may do any of the work relating to maintenance and fault clearance.

**Maintenance**

**📄 NOTICE**

Check mating connector, sealings, and cables regularly for cracks and damage. Make sure that they are properly established. The operator of the mating connector must keep it in good condition, operate it properly, monitor it and clean it regularly.

**Fault Clearance**

**📄 NOTICE**

The mating connector is defective, if it is damaged and/or if the cable no longer fits securely. Defective mating connectors cannot be repaired; they must be replaced considering this operational instruction. Use original parts only as replacements.

**Accessories, Spare Parts**

For accessories and spare parts, contact the firm of BARTEC GmbH at the service address.

**Disposal**

The components in the mating connector contain metal and plastic parts. Therefore the statutory requirements for disposing of electronic scrap must be observed (e.g. disposal by an approved disposal company).

**Service Address**

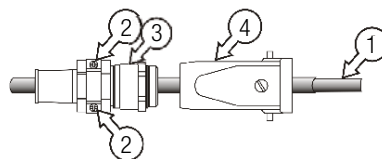
BARTEC GmbH  
 Max-Eyth-Str. 16  
 97980 Bad Mergentheim  
 Germany  
 Phone: +49 7931 597 0  
 Fax: +49 7931 597 119

**Assembly drawings**

**⚠ WARNING**

- The system-specific regulations regarding the establishment of a LOCA-proof connection have to be observed.

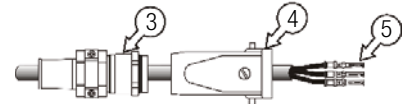
1. Strip approx. 40 mm (1.58 in) sheathing off the cable (1) and remove approx. 8 mm (0.31 in) from the conductor strand insulation. Loosen the two fastening screws (2) on the cable gland. Push the cable (1) through the cable gland (3) and the hood (4).



2. Crimp the crimp contacts onto the individual strands (5). All individual strands must be pushed into the crimp contact completely.

**📄 NOTICE**

Use suitable crimping tool, e.g. Buchanan crimping tool, square compression, setting Ø1.0 mm<sup>2</sup> (supplier www.harting-co.uk). The crimping is correct if a pull-out force of 70 N is attained between the crimp contact and the strand. Push the hood (4) backwards and screw the cable gland (3) onto the block.

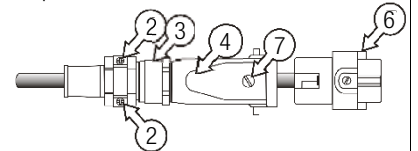


3. Push the crimp contacts (5) into the female insert (6) until the snap-on contact as shown in the terminal assignment (see page 3). Push the female insert into the hood and secure it by means of the countersunk head screw M3x6 (7).

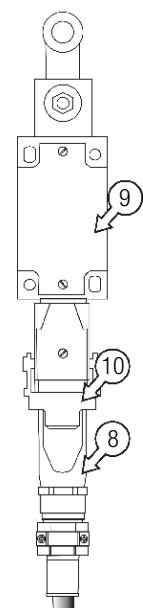
**📄 NOTICE**

Take care that the individual strands are not damaged/short-circuited when pushed back and when screwing the female insert to the hood.

Tighten both fastening screws (2) on the cable gland (3) until the cable is clamped firm to touch to resist the expected strain and cannot be pulled out.



4. Put the mating connector (8) onto the position switch (9) and lock in place with the locking lever (10).



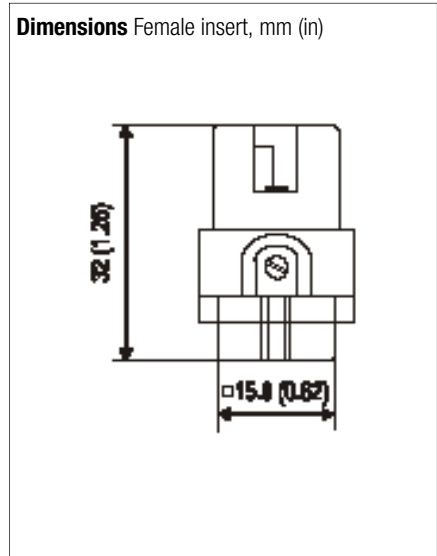


**Terminal assignment**

View of the female insert in the direction of the arrow (see the front, step 5).

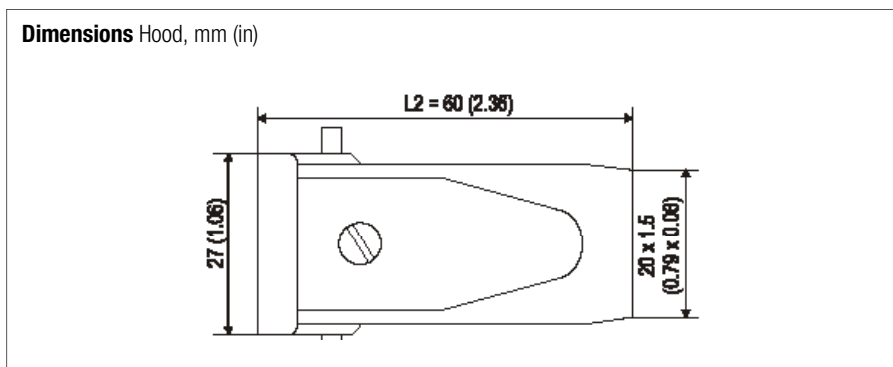
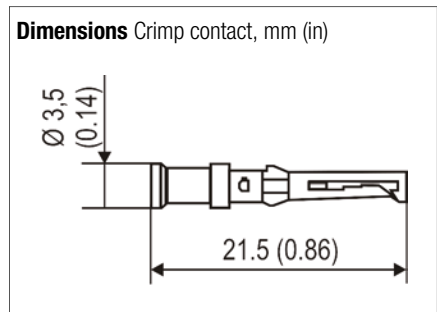
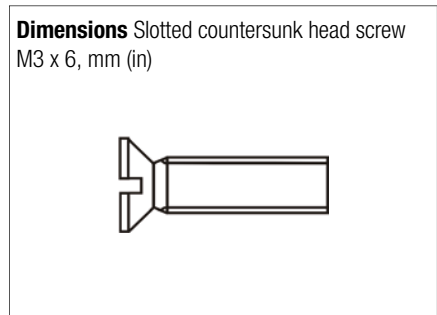
Assembly kit 03-9320-0168/-0169/-0170					
	Mating connector	Limit switch assignment	Limit switch		
	2	2	Root	black	BK
	5	5	NO contact	brown	BN
	7	7	NC contact	blue	BU

Assembly kit 03-9320-0171/-0172/-0173/-0174					
	Mating connector	Limit switch assignment	Limit switch		
	1	1	Root	black	BK
	2	2	NO contact	brown	BN
	3	3	NC contact	blue	BU



**Dimensions** Cable gland, mm (in)

L1	Width across flats A/F1, A/F2	Ø D clamping range cable
61.5 (2.42)	22	7.5 - 9 (0.30 - 0.35)
61.5 (2.42)	22	8.5 - 11 (0.34 - 0.43)
61.5 (2.42)	22	10.5 - 13 (0.41 - 0.51)
66.5 (2.62)	24	12.0 - 15 (0.47 - 0.59)



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**Reservation** Technical data subject to change without notice. Changes, errors and misprints may not be used as a basis for any claim for damages.