

# Supplementary instructions

## Plug connector Harting HAN 7D

For point level sensors



Document ID: 34456



**VEGA**

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### Safety instructions for Ex areas

Please note the Ex-specific safety information for installation and operation in Ex areas. These safety instructions are part of the operating instructions and come with the Ex-approved instruments.

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## 1 For your safety

### 1.1 Appropriate use

The plug connectors belong to the accessories for level, switching and pressure sensors. They provide a detachable connection to power supply/signal processing for level switches.

### 1.2 General safety instructions

The safety information in the operating instructions manual of the respective sensor must be noted.

### 1.3 Safety instructions for Ex areas

Please note the Ex-specific safety information for installation and operation in Ex areas. These safety instructions are part of the operating instructions and come with the Ex-approved instruments.

For instruments with Exd or StEx approval, the use of plug connectors is not allowed.

## 2 Product description

### Scope of delivery

The scope of delivery encompasses:

- Screwed housing with pin insert
- Connector housing with insert
- Contact sleeves for connector housing
- Documentation
  - This supplementary instructions manual

### Function

The plug connector is an accessory part for sensors with single or double chamber housing. It is used as separable connection to power supply and signal processing.

### Configuration

The plug connector consists of the screwed housing, the connection cable to the sensor electronics as well as the connector housing. The individual cores of the connection cable are marked with figures for the terminals of the electronics module. The connector housing is available in straight and bent version.

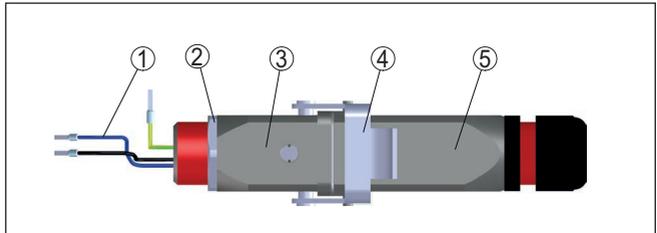


Fig. 1: Configuration plug connector Harting HAN 7D - Example straight version

- 1 Connection cable
- 2 Counter nut
- 3 Screwed housing
- 4 Locking clip
- 5 Connector housing

### Versions

The plug is available in straight or bent version.

The bent version may only be used on the following houses:

- Stainless steel - precision cast housing
- Aluminium housing

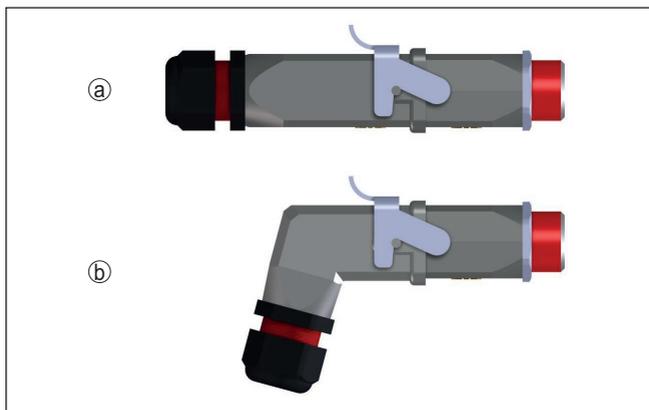


Fig. 2: Plug connector Harting HAN 7D - straight and bent version

a Straight version

b Bent version

### Application area

The plug connector is used instead of the cable gland in the single or double chamber housing. It is available Ex factory, either integrated in the sensor or unassembled as retrofitting set.

## 3 Mounting

### 3.1 Mounting preparations

#### Tools

The following tools are required for mounting:

- Spanner SW 24 for unscrewing the cable gland
- Screwdriver SW 24 for tightening the counter nut

### 3.2 Installation procedure

#### Position in the housing

The following illustration shows the position of the plug connector in the respective housing:

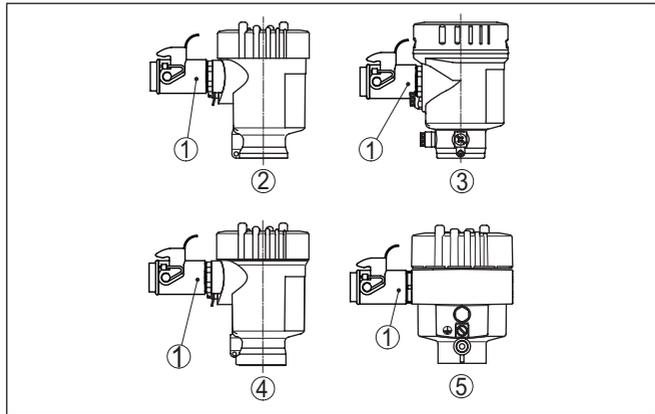


Fig. 3: Position of the plug connector on different instrument versions

- 1 Plug connector
- 2 Plastic single chamber
- 3 Stainless steel single chamber (electropolished)
- 4 Stainless steel single chamber (precision casting)
- 5 Aluminium - single chamber

#### Mounting of the plug connector

Proceed as follows to mount the plug connector:

1. Open the cover of the electronics or connection compartment
2. Unscrew the cable gland
3. Screw in the plug connector and secure it with the counter nut
4. Connect the wires according to chapter "Connect"

The mounting of the plug connector is finished.

Disassembly is carried out in reverse order.

## 4 Connecting to power supply

### 4.1 Connection procedure

Proceed as follows:

1. Loosen the screw on the rear of the connector housing
2. Remove the socket insert from the connector housing

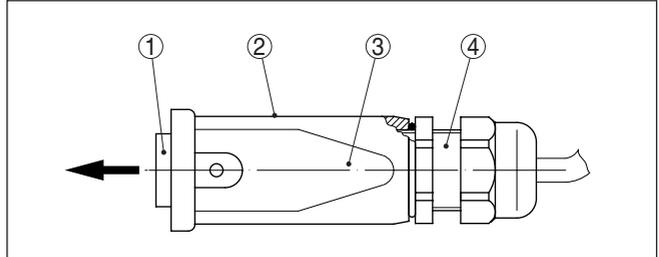


Fig. 4: Loosen the socket insert

- 1 Socket insert
- 2 Screw
- 3 Connector housing
- 3 Cable gland
3. Remove approx. 5 cm of the cable mantle, strip approx. 1 cm insulation from the individual wires
4. Lead the cable through the cable gland into the plug housing
5. Solder the wire ends into the contact socket according to the wiring plan

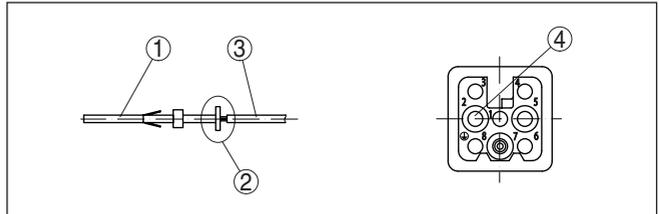


Fig. 5: Insert contact socket

- 1 Individual contact socket
- 2 Crimp connection
- 3 Wire end
- 4 Contact sleeves, plug side
6. Snap the contact socket from the rear into the socket insert
7. Screw the socket insert into the connector housing
8. Put the screwed housing and the connector housing together and close the safety catch

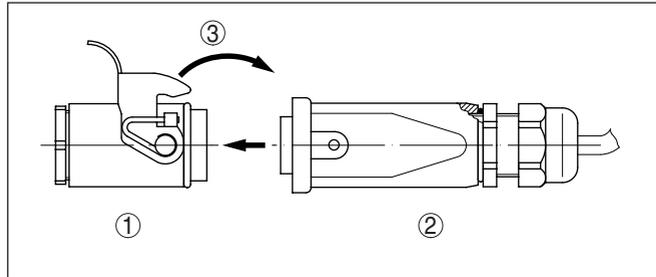


Fig. 6: Connecting

- 1 Screwed housing
- 2 Connector housing
- 3 Securing strap

The electrical connection is finished.

## 4.2 Wiring plan

Each respective wiring plan shows the assignment of the individual pins of the plug connector to the respective signal outputs. The table shows the assignment of the individual contact pins to the terminals of the sensor electronics.

### Transistor output

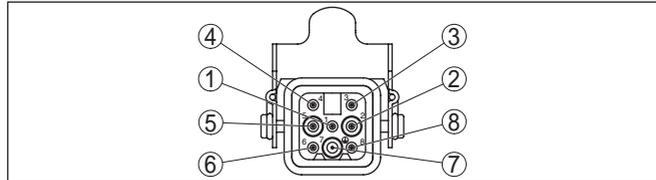


Fig. 7: Top view of the plug connector

- 1 + (Pin 1)
- 2 Transistor output (Pin 2)
- 3 Transistor output (Pin 3)
- 4 - (Pin 4)
- 5 free (Pin 5)
- 6 free (Pin 6)
- 7 free (Pin 7)
- 8 Screen (Pin 8)

Contact pin	Colour Connection cable	Terminal Electronics module		
		VEGACAP VEGAWAVE VEGAVIB VEGASWING 66 VEGAKON	VEGAMIP R61, R62	VEGAMIP T61
Pin 1	Black	1	1	1

Contact pin	Colour Connection cable	Terminal Electronics module		
Pin 2	Blue	4	2	2
Pin 3	Red	3	7	-
Pin 4	Yellow	2	6	-
Pin 8	Green/Yellow			

**Relay output**

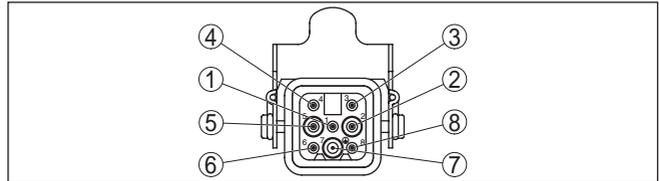


Fig. 8: Top view of the plug connector

- 1 + (Pin 1)
- 2 - (Pin 2)
- 3 free (Pin 3)
- 4 Relay output (Pin 4)
- 5 Relay output (Pin 5)
- 6 Relay output (Pin 6)
- 7 free (Pin 7)
- 8 Screen (Pin 8)

Contact pin	Colour Connection cable	Terminal Electronics module		
		VEGACAP VEGAWAVE VEGAVIB VEGASWING 66 VEGAKON	VEGAMIP R61, R62	VEGAMIP T61
Pin 1	Black	1	1	1
Pin 2	Blue	2	2	2
Pin 4	Yellow	3	3	-
Pin 5	White	4	4	-
Pin 6	Grey	5	5	-
Pin 8	Green/Yellow			

**Two-wire output, contactless electronic switch, NAMUR output**

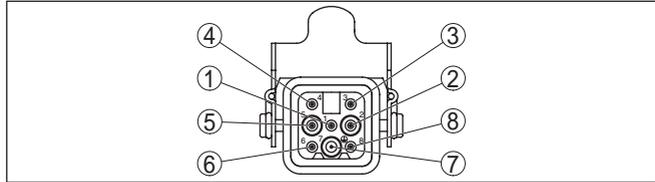


Fig. 9: Top view of the plug connector

- 1 + (Pin 1)
- 2 - (Pin 2)
- 3 free (Pin 3)
- 4 free (Pin 4)
- 5 free (Pin 5)
- 6 free (Pin 6)
- 7 free (Pin 7)
- 8 Screen (Pin 8)

Contact pin plug	Colour Connection cable	Terminal, electronics module
Pin 1	Black	1
Pin 2	Blue	2
Pin 8	Green/Yellow	

## 5 Supplement

### 5.1 Technical data

#### Materials

Contact support	Polyamide
Contact	copper alloy, hard silver plated 0.3 µm Ag
Plug housing	Aluminium die-casting
Housing seal	NBR

#### Temperature range

Plug connector - separate	-25 ... +125 °C (-13 ... +257 °F)
Plug - mounted on the sensor	The lowest temperature is applicable

#### Electrical data acc. to EN 61010-1

Number of contacts	7 + PE
Operating voltage	20 ... 70 V DC 20 ... 33 V AC
Isolation resistance	≥ 10 <sup>10</sup> Ω
Rated current	10 A
Forward resistance	≤ 3 mΩ
Contact durability	≥ 500
Reference surge voltage	800 V
Pollution degree	3

#### Protection rating

Plug connector - separate (locked status)	IP 65 (with seal screw)
Plug connector - mounted on the sensor (connected status)	The lowest protection category applies

### 5.2 Dimensions

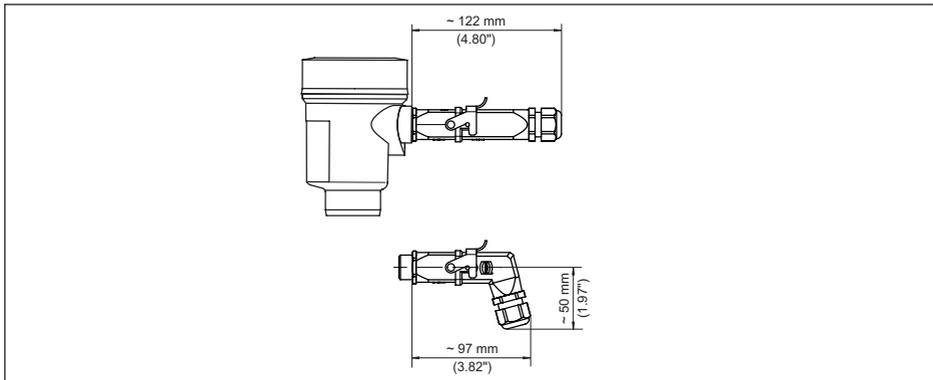


Fig. 10: Harting plug connector

Printing date:

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All statements concerning scope of delivery, application, practical use and operating conditions of the sensors and processing systems correspond to the information available at the time of printing.

Subject to change without prior notice

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