Operating instructions

Ultrasonic diffuse-reflection sensor with IO-Link

UIT300
UIT301
UIT302

Contents

1 Preliminary note

You will find instructions, technical data, approvals and further information using the QR code on the unit / packaging or at www.ifm.com.

1.1 Symbols used

✓	Requirement
▶	Instructions
▷	Reaction, result
[...]	Designation of keys, buttons or indications
→	Cross-reference
⚠	Important note Non-compliance may result in malfunction or interference.
ⓘ	Information Supplementary note

1.1.1 Warnings used

|	**ATTENTION**
	Warning of damage to property.

2   Safety instructions

- The unit described is a subcomponent for integration into a system.

  – The system architect is responsible for the safety of the system.

  – The system architect undertakes to perform a risk assessment and to create documentation in accordance with legal and normative requirements to be provided to the operator and user of the system. This documentation must contain all necessary information and safety instructions for the operator, the user and, if applicable, for any service personnel authorised by the architect of the system.

- Read this document before setting up the product and keep it during the entire service life.

- The product must be suitable for the corresponding applications and environmental conditions without any restrictions.

- Only use the product for its intended purpose (→ Intended use).

- If the operating instructions or the technical data are not adhered to, personal injury and/or damage to property may occur.

- The manufacturer assumes no liability or warranty for any consequences caused by tampering with the product or incorrect use by the operator.

- Installation, electrical connection, set-up, operation and maintenance of the product must be carried out by qualified personnel authorised by the machine operator.

- Protect units and cables against damage.

3 Intended use

Ultrasonic sensor for monitoring levels and detecting objects.

4 Installation
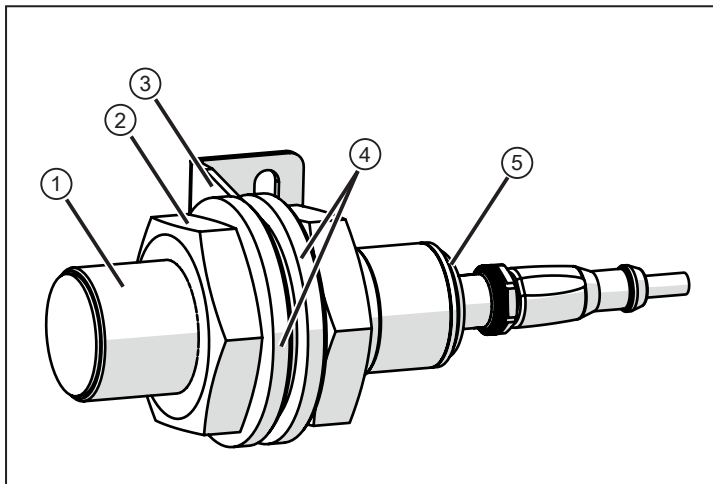
1: Sensor
2: Stainless steel nut
3: Mounting accessories
4: Damping discs
5: Status LED (yellow), output indication

Fig. 1: Installation example

▶ Secure the unit to a bracket.

[!] Damping discs (4) must be used so that the result of measurement is not influenced by the type of fixing.

Sound-absorbing surfaces have a negative effect on a reliable function.

[!] ▶ Consider the dead zone (→ Technical data sheet)
No object detection in the dead zone.

[!] According to UL 508:

▶ Observe a minimum distance of 12.7 mm between the sensor and non-insulated live parts.

ATTENTION

Improper connection of sensor and connector.

▷ Influence on the switch point.

▶ Make sure that the sensor and connector are firmly connected to each other.
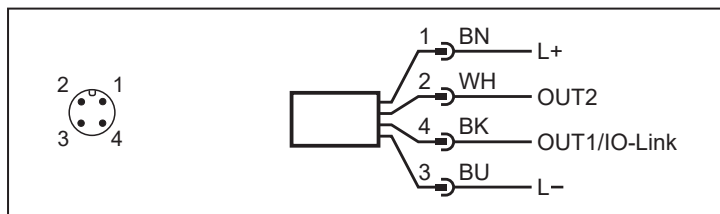
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5   Electrical connection

!   The device must be connected by a qualified electrician.

The national and international regulations for the installation of electrical equipment must be adhered to.

▶ Disconnect power.

▶ Connect the unit as follows:

Article: 1 x digital, 1 x analogue

Pin	Connection
4 (OUT1)	• Switching output / IO-Link
2 (OUT2)	• Analogue output

Article: 2x digital

Pin	Connection
4 (OUT1)	• Switching output / IO-Link
2 (OUT2)	• Switching output

6 Settings

> [i] The unit and the parameters are set by means of IO-Link.

> [i] On delivery the unit can also be used without IO-Link setting with the preset switch points.

6.1 IO-Link

This unit has an IO-Link communication interface which enables direct access to process and diagnostic data. In addition it is possible to set the parameters of the unit while it is in operation. Operation of the unit via the IO-Link interface requires an IO-Link master.

With a PC, suitable IO-Link software and an IO-Link adapter cable communication is possible while the system is not in operation.

The IODDs necessary for the configuration of the unit, detailed information about process data structure, diagnostic information, parameter addresses and the necessary information about the required IO-Link hardware and software can be found at www.ifm.com.

The IO-Link interface provides the following functions using suitable hardware and software:

• Remote parameter setting of the unit.

• Noise-immune signal transmission without measured value losses.

• Transmission of the parameter settings to a replaced unit or to other units of the same type.

• Display of error and event messages.

• Paperless logging of parameter sets, process values and diagnostic information.

7   Operation

Check whether the unit operates correctly. Bring about a sensor response by taking suitable measures.

The yellow status LED 1 signals the switching output.

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