



Operating instructions
Ultrasonic diffuse-reflection sensor with IO-Link

GB

UIT30x
UGT30x

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1 Preliminary note

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

4.1 Switching mode

In switching mode, the sensor is directly connected to the process control unit and transmits the state via the switching output.

4.2 IO-Link

IO-Link is a communication system for connecting intelligent sensors and actuators to automation systems. IO-Link is standardised in the IEC 61131-9 standard.



General information on IO-Link at io-link.ifm



Input Output Device Description (IODD) with all parameters, process data and detailed descriptions of the device at documentation.ifm.com

IO-Link offers the following advantages:

- Interference-free transmission of all data and process values
- Parameter setting in the running process or presetting outside the application
- Parameters for identifying the connected devices in the system
- Additional parameters and diagnostic functions
- Automatic backup and restore of parameter sets in case of device replacement (data storage)
- Logging of parameter sets, process values and events
- Device description file (IODD - Input Output Device Description) for easy project planning
- Standardised electrical connection
- Remote maintenance

5 Installation

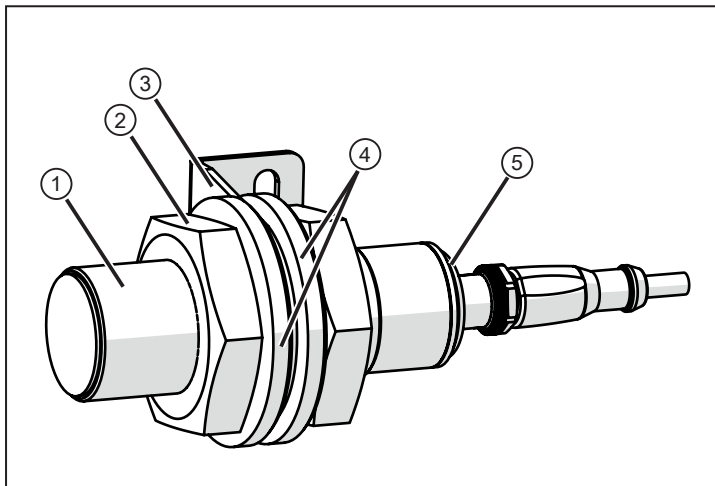


Fig. 1: Installation example

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

► 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.

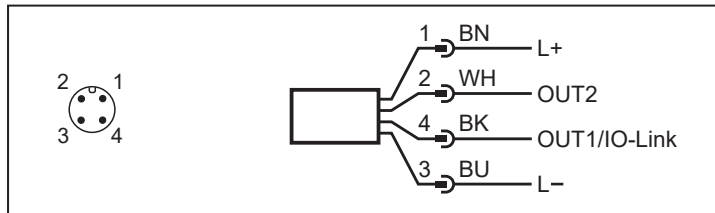
6 Electrical connection



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

7 Parameter setting

Parameters can be set before installation or during operation.



If you change parameters during operation, this will influence the function of the plant.

- ▶ Ensure that there will be no malfunctions in your plant.

During parameter setting the unit remains in the operating mode. It continues to monitor with the existing parameter until the parameter setting has been completed.



Depending on the parameter setting, the parameters available in the menu may change.

Requirements for parameter setting via the IO-Link interface:

- ✓ A suitable parameter setting software, e.g. ifm moneo|configure
- ✓ The Input Output Device Description (IODD) for the device, see documentation.ifm.com
- ✓ One IO-Link master
- ▶ Connect the IO-Link master to a parameter setting software.
- ▶ Set the port of the master to the IO-Link operating mode.
- ▶ Connect the device to a free port of the IO-Link master.
- ▷ The unit switches to IO-Link mode.
- ▶ Change parameter settings in the software.
- ▶ Write parameter settings to the unit.



Notes on parameter setting → Manual of the parameter setting software

8 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.

9 Factory setting

The factory settings of the parameters are available at documentation.ifm.com (PDF – IO-Link interface description).