



Operating instructions  
Ultrasonic diffuse-reflection sensor  
without IO-Link

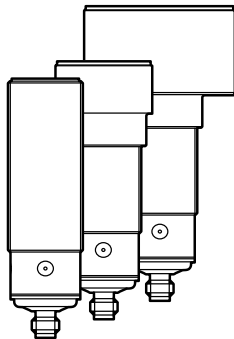
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**UIT509**

**UIT512**

**UIT515**

11487721 / 00 08 / 2018



# 1 Preliminary note

## 1.1 Symbols used

- ▶ Instructions
- > Reaction, result
- [...] Designation of keys, buttons or indications
- Cross-reference



Important note

Non-compliance may result in malfunction or interference.



Information

Supplementary note.

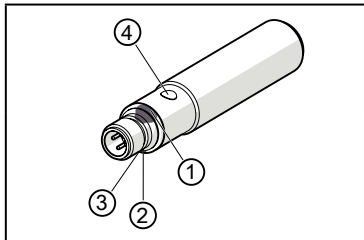
## 2 Safety instructions

- 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 (→ 3 Functions and features).
- 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 Functions and features

Ultrasonic sensor for monitoring levels and detecting objects.

## 4 Installation



► Secure the unit to a bracket.

- 1/2: status LEDs 1/2 (yellow),  
setting aid and output indication  
3: echo LED (green), is on when object or  
background is detected  
4: teach button

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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.



For units with metal housing (according to UL 508):

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



For further information please refer to [www.ifm.com](http://www.ifm.com)  
→ General information about installation and operation.

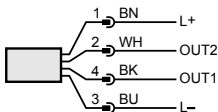
## 5 Electrical connection

► Disconnect power.

► Connect unit (depending on the type selected):



BK: black  
BN: brown  
BU: blue  
WH: white



colours to DIN EN 60947-5-2

- OUT1: switching output
- OUT2: switching output

## 6 Settings



The unit and the parameters are set via the teach button (→ 6.1).

### 6.1 teach button

#### 6.1.1 Start programming mode

- ▶ Press the teach button for 2 s...6 s.
- > Yellow status LEDs 1/2 flash (1 Hz), the unit is in the programming mode.



If programming has not been completed successfully, the unit returns to the previous setting.

#### 6.1.2 Set output response

- ▶ Start programming mode (→ 6.1.1).
- ▶ Position the object in P1 (Fig. 1 or 2).
- ▶ Press the teach button for 1 s.
- > Yellow status LEDs 1/2 flash (2.5 Hz), P1 setting is completed.
- ▶ Position the object in P2 (Fig. 1 or 2).
- ▶ Press the teach button for 1 s.
- > Yellow status LEDs 1/2 flash briefly (4 Hz), P2 setting is completed.

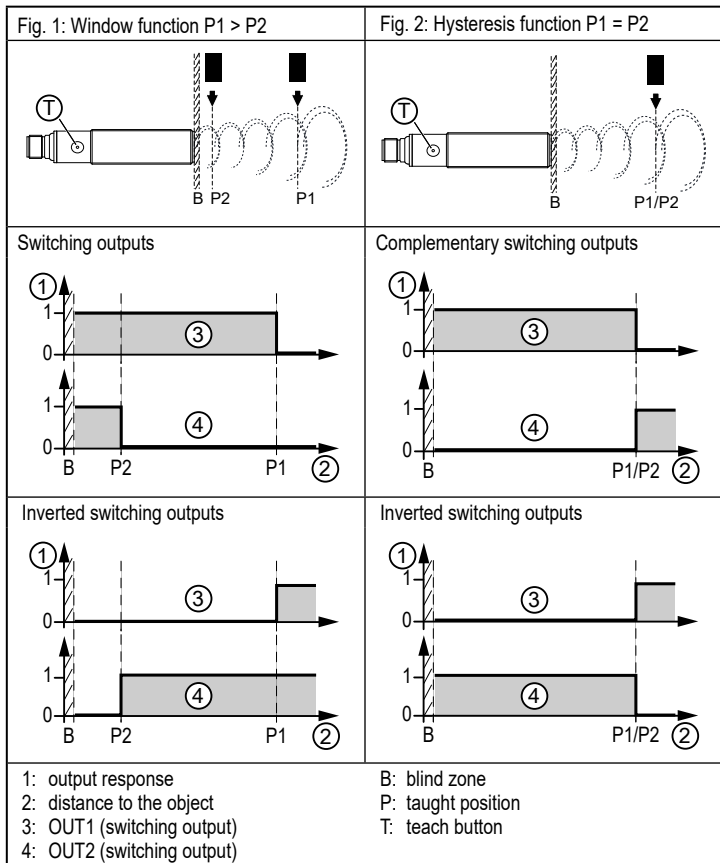
#### 6.1.3 Invert output response

- ▶ Press the teach button for > 6 s.
- > Yellow status LEDs 1/2 flash (> 10 Hz).
- > Yellow status LEDs 1/2 flash briefly (> 4 Hz).
- > Output function is inverted.

#### 6.1.4 Restore factory setting

- ▶ Align the unit so that no echo is received.
- > Green echo LED off.
- ▶ Start programming mode (→ 6.1.1).
- ▶ Press the teach button for 1 s.
- > Yellow status LEDs 1/2 flash briefly (4 Hz), factory setting is restored.

In case of object recognition, the following output signals are provided:



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