ifm electronic

CE

Operating instructions
Optical distance sensor

efector200　UK

OID20x
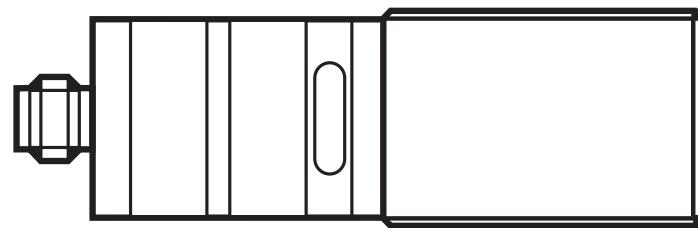
Contents

1 Preliminary note

1.1 Symbols used

▶   Instruction

>   Reaction, result

[…]   Designation of pushbuttons, buttons or indications

→   Cross-reference

!   Important note
         Non-compliance can result in malfunctions or interference.

ⓘ   Information
         Supplementary note.

1.2 Warning signs used

> ⚠ **WARNING**
>
> Warning of serious personal injury.
> Death or serious irreversible injuries may result.

2 Safety instructions

- Please read this document prior to set-up of the unit. Ensure that the product is suitable for your application without any restrictions.

- Improper or non-intended use may lead to malfunctions of the unit or to unwanted effects in your application. That is why installation, electrical connection, set-up, operation and maintenance of the unit must only be carried out by qualified personnel authorised by the machine operator.

- In case of malfunction of the unit please contact the manufacturer. If the unit is tampered with and/or modified, any liability and warranty is excluded.

- The unit conforms to the standard EN 61000-6-4. The unit may cause radio interference in domestic areas. If interference occurs, the user must take appropriate remedial actions.

⚠ **WARNING**

Visible laser light; laser protection class 2.

Use of controls or adjustments other than those specified herein may result in hazardous radiation exposure. Damage to the retina is possible.

▶ Do not stare into the laser beam!
▶ Apply the enclosed labels (laser warning) in the immediate vicinity of the unit.
▶ Adhere to the caution and warning notes on the product label.
▶ Use the enclosed label for the power supply cable.

Label for supply cable

ATTACH TO CABLE

WARNING:

**CLASS 2 LASER PRODUCT
DO NOT STARE INTO BEAM
– AVOID EXPOSURE
– UNPLUG CONNECTOR TO
EXTINGUISH LASER BEAM**

ifm electronic gmbh   D-45128 Essen

Product label

AVOID EXPOSURE
LASER RADIATION EMITTED
FROM THIS APERTURE

CAUTION LASER RADIATION
CLASS 2 LASER PRODUCT
21 CFR PART 1040, IEC 60825-1:2007

DO NOT STARE INTO BEAM
max. POWER ≤ 4.0mW
PULSE 1.3ns, λ = 650nm

| POWER | OID2xx | CLASS 2 LASER PRODUCT | www.ifm.com | CE | TS AA 1301 | OUT |

3 Functions and features

The unit is used as an optical distance sensor.

3.1 Applications

• The optical distance sensor measures distances between 0.03 and 2 m.

• It has a background suppression of up to 20 m.

• The switching outputs are complimentary.

> [!] The distance between the sensor and the background must be limited to max. 20 m by the customer. Otherwise the measured value may be ambiguous. → 4.1 Installation conditions

4 Installation

4.1 Installation conditions

▶ Install the unit so that the object to be detected is within a measuring range of 0.03...2 m.

Any object between the set switch point and a distance of 20 m from the sensor is suppressed.

> [!] Reflecting objects in the direct beam path of the sensor - also in the range > 20 m – are to be avoided by the customer. Otherwise the measured values may be ambiguous.

5 Electrical connection

> [!] The unit must be connected by a qualified electrician.
> ▶ The national and international regulations for the installation of electrical equipment must be adhered to.
>
> ▶ Ensure voltage supply according to EN 50178, SELV, PELV.

▶ Disconnect power.

▶ Connect the unit as follows:

DC PNP

1 BN — L+
2 WH
4 BK
2: OUT2
4: OUT1
3 BU — L−
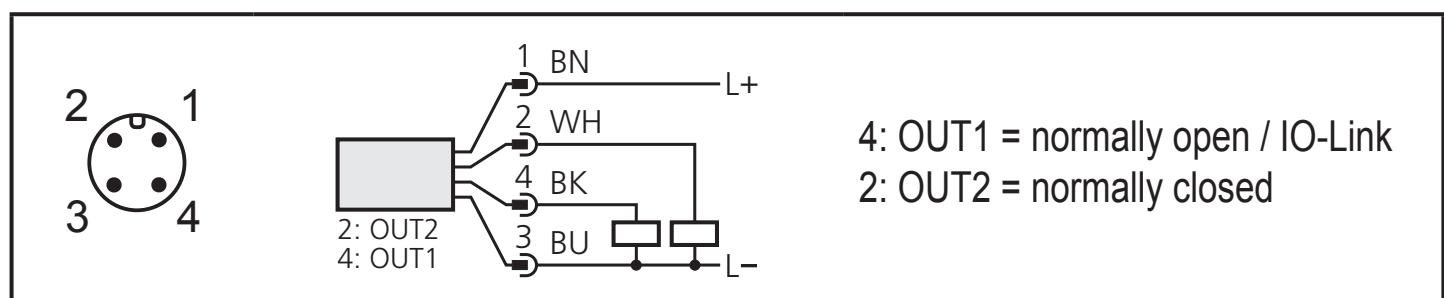
4: OUT1 = normally open / IO-Link
2: OUT2 = normally closed

DC NPN
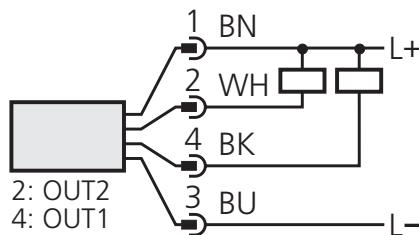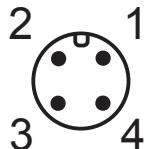
Core colours of ifm sockets:
1 = BN (brown), 2 = WH (white), 3 = BU (blue), 4 = BK (black)

4: OUT1 = normally open / IO-Link
2: OUT2 = normally closed

6 Setting / Operation
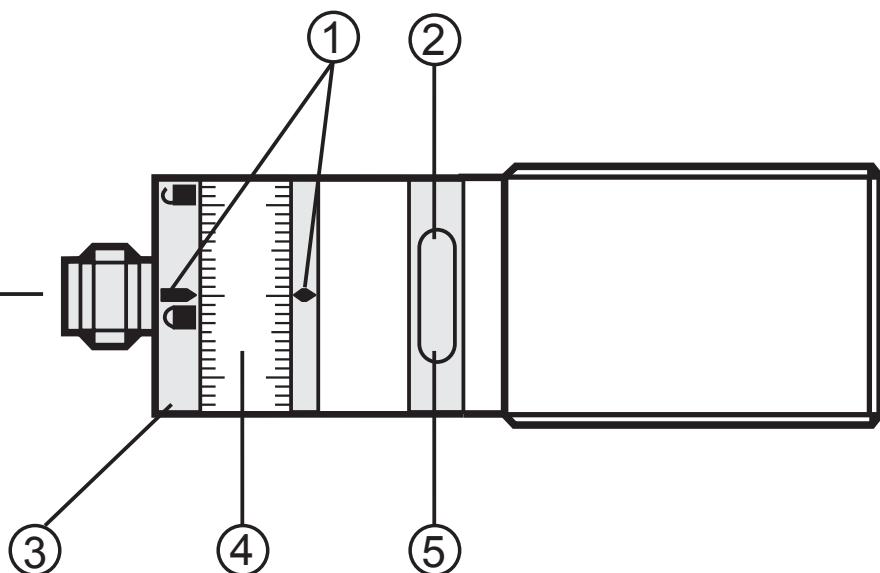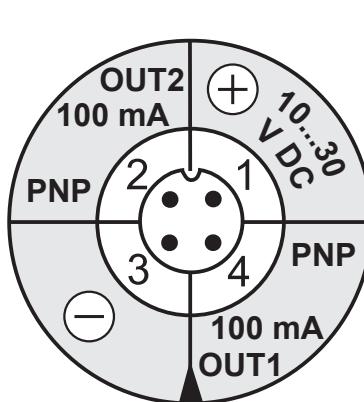
1: Setting marks
2: Yellow LED: Set1 value reached, output = ON
3: Locking ring
4: Setting ring (manually adjustable after unlocking)
5: Green LED: supply voltage O.K.

• To obtain the setting accuracy: Set the ring to the maximum value, then set the requested value.

▶ After mounting, wiring and programming check whether the unit operates correctly.

ℹ Lifetime of a laser diode: 50,000 hours

7 IO-Link

7.1 General information

This unit has an IO-Link communication interface which requires an IO-Link-capable module (IO-Link master) for operation.

The IO-Link interface enables direct access to the sensor values and parameters and provides the possibility to set the parameters of the unit during operation.

In addition communication is possible via a point-to-point connection with a USB adapter cable.

You will find more detailed information about IO-Link at www.ifm.com/uk/io-link.

7.2 Device-specific information

You will find the IODDs necessary for the configuration of the IO-Link unit and detailed information about sensor values, diagnostic information and parameters in the overview table at www.ifm.com/uk/io-link.

7.3 Parameter setting tools

You will find all necessary information about the required IO-Link hardware and software (e.g. ifm LINERECORDER SENSOR ZGS210) at www.ifm.com/uk/io-link.

8 Maintenance, repair and disposal

Faulty sensors must only be repaired by the manufacturer.

▶ Keep the front lens of the sensor free from soiling.

▶ After use dispose of the unit in an environmentally friendly way in accordance with the applicable national regulations.

▶ Do not try to open the module enclosure. There are no user-serviceable components inside.

Technical data and further information at www.ifm.com