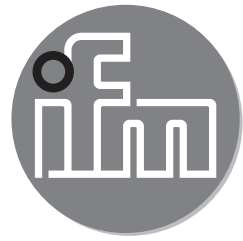


ifm electronic



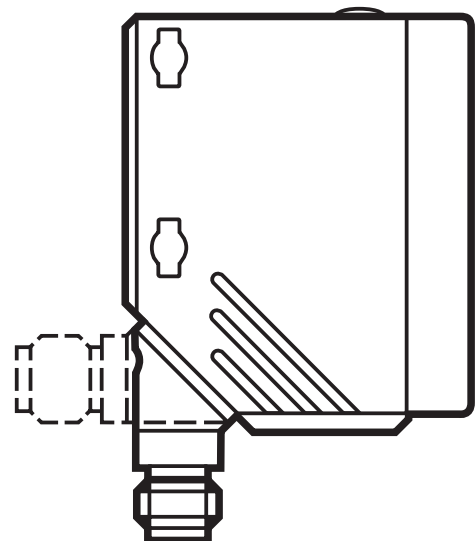
Operating instructions
Optical distance sensor

efector200[®]

O5D15x

UK

706307 / 01 08 / 2014



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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.

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2 Safety instructions

- 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 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 complies with 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.

According to cULus

Caution - Use of controls or adjustments or procedures other than those specified herein may result in hazardous radiation exposure.

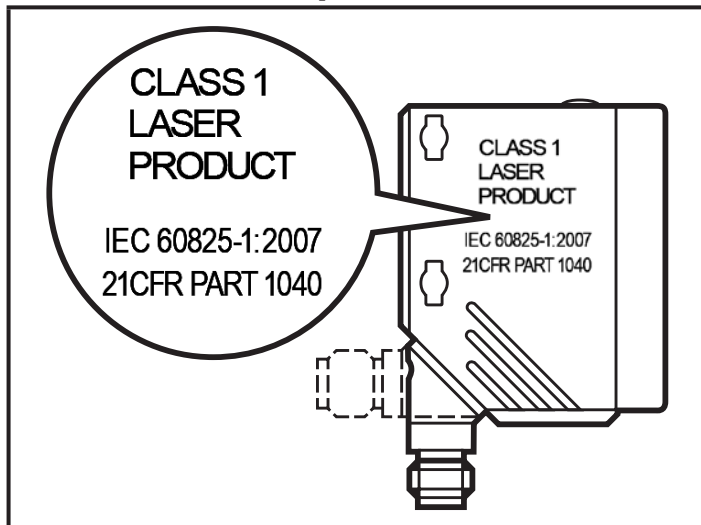


Visible laser light; CLASS 1 LASER PRODUCT.

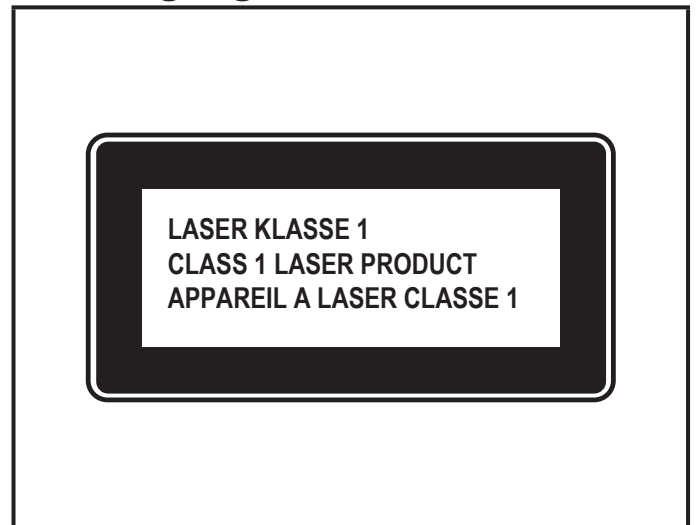
IEC 60825-1:2007

Complies with 21 CFR 1040.10 except for deviations according to Laser Notice No. 50, dated June 2007

Position of the product label



Warning sign



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 complementary.




The distance between the sensor and the background must be limited to max. 20 m by the customer. Otherwise measured values can be ambiguous → 4.1 Installation conditions.

4 Installation

4.1 Installation conditions

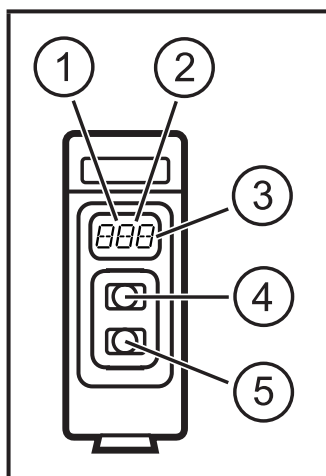
- ▶ Install the unit so that the object to be detected is within a measuring range of 0.03...2 m.

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

-  Reflecting surfaces 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 can be ambiguous.

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5 Operating and display elements



- 1: LED green: operation
- 2: LED yellow: switching status
- 3: 3-digit alphanumeric display
- 4: Range +
- 5: Range -

6 Electrical connection



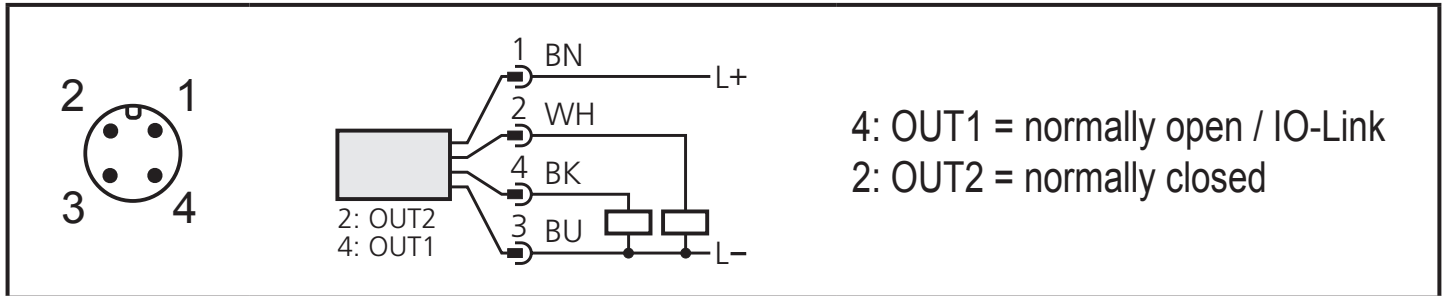
The unit must be connected by a qualified electrician.

- ▶ The national and international regulations for the installation of electrical equipment must be adhered to.
- ▶ Ensure voltage supply to EN 50178.

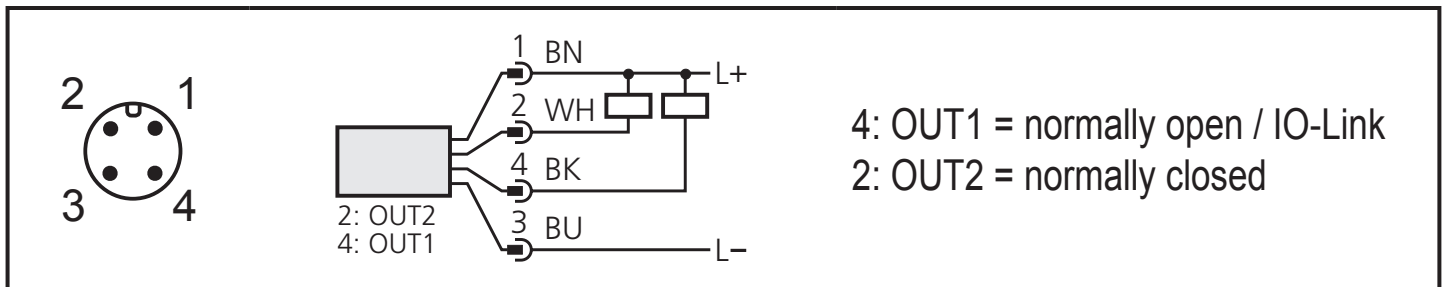
▶ Disconnect power.

▶ Connect the unit as follows:

DC PNP



DC NPN



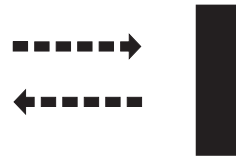
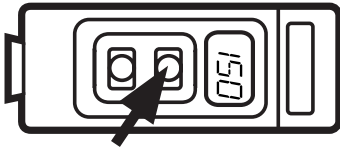
Core colours of ifm sockets:

1 = BN (brown), 2 = WH (white), 3 = BU (blue), 4 = BK (black)

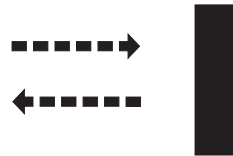
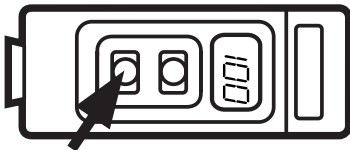
7 Settings

7.1 The sensor is to switch when the object is detected

- ▶ Position the object.



- ▶ Press [+] to increase the range.
 - > The set distance value is shown flashing in the display.
 - > The yellow LED lights when the object is detected.



- ▶ Press [-] to decrease the distance value.
 - > The set distance value is shown flashing in the display.
 - > During operation, the currently detected distance value is shown in the display.

8 IO-Link

8.1 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.

8.2 Device-specific information

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

8.3 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.

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9 Operation

- ▶ Check whether the unit operates correctly.
- > The LED lights when the switching output is switched.
- > The detected distance value is shown in the display.

9.1 Electronic lock

The unit can be locked electronically to prevent unauthorised setting. On delivery the unit is not locked.

Locking

- ▶ Make sure that the unit is in the normal operating mode.
- ▶ **Keep [+]** + **[-]** pressed until **[Loc]** is displayed.
- > The unit is locked.

Unlocking

- ▶ **Keep [+]** + **[-]** pressed until **[uLo]** is displayed.
- > The unit is unlocked.

9.2 Fault indications

Display	Possible cause	Switching output	
		[Hno]	[Hnc]
[++]	Too much light, e.g. reflective surfaces	ON	OFF
[--]	Not enough light, no object	OFF	ON
[nEA]	Object to be measured outside the measuring range < 30 mm	ON	OFF
[FAr]	Object to be measured outside the measuring range > 2500 mm	OFF	ON
[ERP]	Plausibility (e.g. object too fast)	unchanged	unchanged
[SC]	Short circuit at the switching output		

10 Maintenance, repair and disposal

- ▶ Keep the front pane of the sensor free from soiling.
- ▶ For cleaning do not use any solvents or cleaning agents which could damage the plastic material.
- ▶ Do not open the module housing. There are no user-serviceable components inside.

Technical data and further information at www.ifm.com