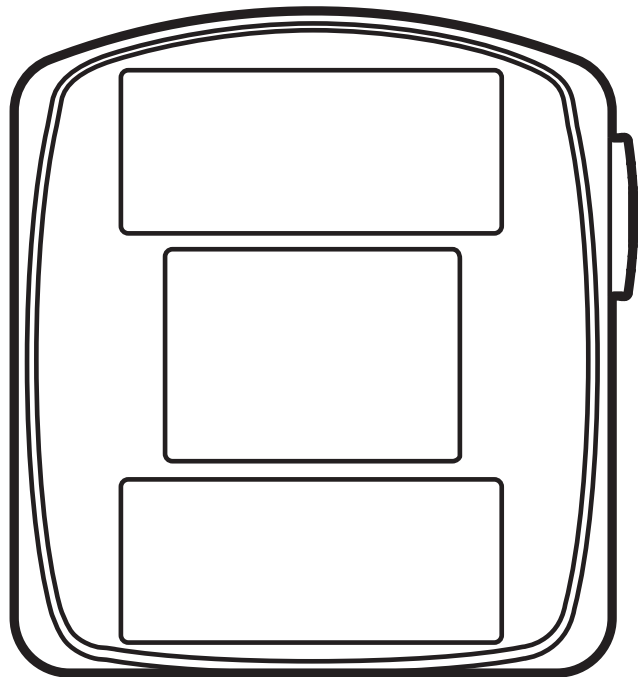


Quick reference guide
3D sensor
O3D3XX

UK

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1 Preliminary note

Technical data, approvals, accessories and further information → www.ifm.com.

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

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1.2 Warnings used

ATTENTION!

- Type and source of the hazard
 - > Damage to property may result.
 - ▶ Actions to refrain from.
 - ▶ Measures to take.

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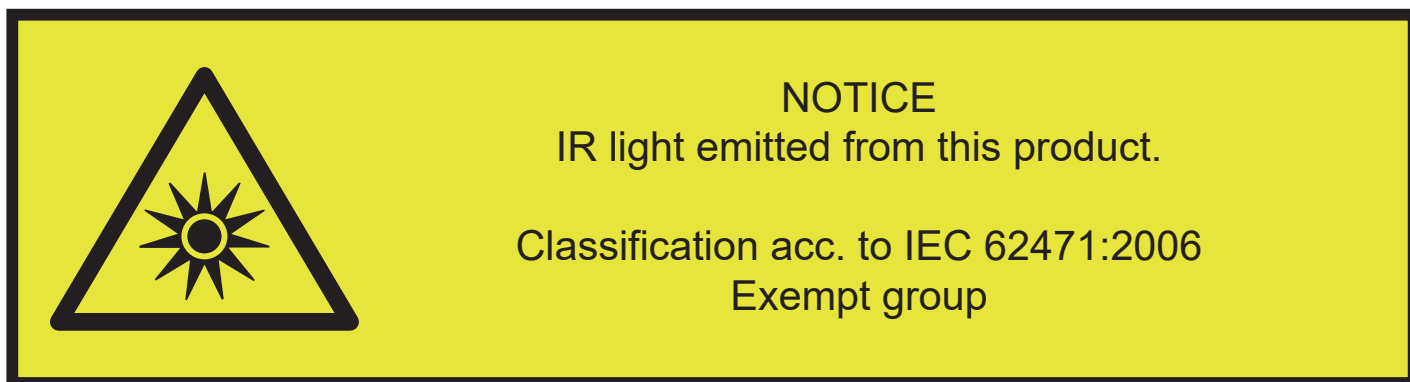
We charge €30 for each request. Please write “source for product Y” in the memo line of your payment. Your request should include (i) the name of the covered binary, (ii) the name and the version number of the ifm product, (iii) your name and (iv) your return address.

This offer is valid to anyone in receipt of this information. This offer is valid for at least three years (from the date you received the GLP/LGPL covered code).

2 Safety instructions

- The device described is a subcomponent for integration into a system.
 - The manufacturer is responsible for the safety of the system.
 - The system manufacturer 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 manufacturer 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 (→ 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.

2.1 Safety note



3 Functions and features

The O3D3xx 3D sensor is a photoelectric sensor measuring the distance between the sensor and the nearest surface point by point using the time-of-flight principle. The sensor illuminates the scene with an infrared light source and calculates the distance by means of the light reflected from the surface.

From the image data, process values are generated via internal image processing and compared to threshold values. The comparative and process values are linked to the digital outputs. This allows to implement many applications.

The measured data and process values can be provided via Ethernet and evaluated by the user. Parameter setting of the camera is also done via Ethernet.

The sensor safety is rated for use under the following operating conditions:

- Indoor use
- Altitudes up to 2000 m
- Relative air humidity up to max. 90%, non condensing
- Pollution degree 3

Because of the requirements for electromagnetic interference emissions, the device is intended for use in industrial environments. The device is not suitable for use in domestic areas.



The sensor may only be used under the operating conditions specified in the data sheet.

4 Items supplied

- O3D3xx 3D sensor
- Spring washers (only O3D30x)
- Quick reference guide



► Only use accessories from ifm electronic.

Available accessories: www.ifm.com

The optimum function is not ensured when using components from other manufacturers.



The device is supplied without installation and connection accessories.



Software manual and software: www.ifm.com

5 Installation

During installation note the following:

- ▶ Use cables with strain relief.
- ▶ Keep areas ① clear of objects.
- ▶ Within area ② position the object to be detected ③ closer to the device than any other objects.
- ▶ Mount the device so that the focus adjustment screw is freely accessible with a screw driver.
- ▶ Mount the sensor with spring washers ④ with max. 3 Nm.
- > Use spring washers for the O3D30x devices only.

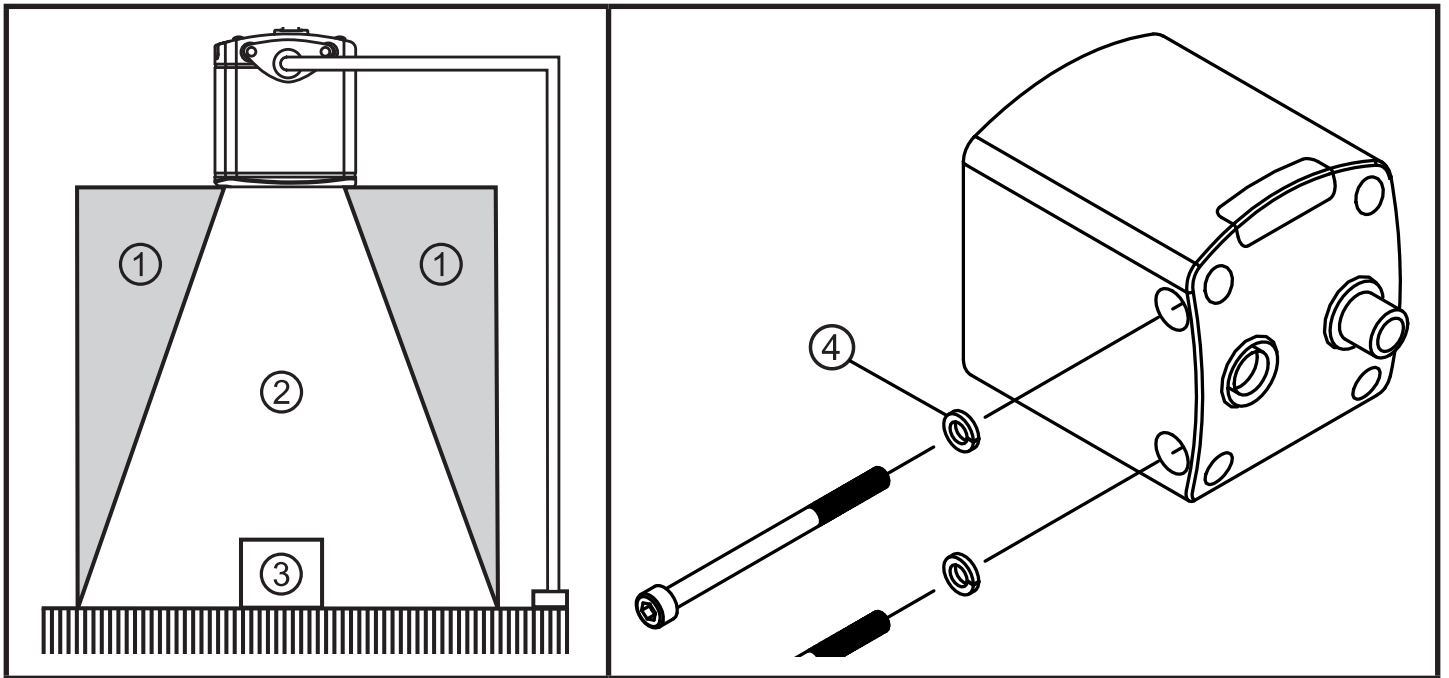


Fig 1: installation with clamp (left fig.) and spring washers (right fig.)



If the device is permanently used in wet areas, the nut of the M12 Industrial Ethernet cable (e.g. E11898) may corrode. Use a cable with a high-grade stainless steel nut for permanent use in wet areas.

5.1 Mounting accessories

Depending on the location and type of installation, you can use the following mounting accessories:

Description	Article no.
Smart Camera mounting set	E3D301
Smart Camera cooling element	E3D352
Smart Camera heat conductor	E3D353
2x Smart Camera cooling element	E3D354



Available accessories: www.ifm.com

6 Electrical connection

ATTENTION!

Depending on the operating mode, the device may heat up. The difference between the camera's surface temperature and the ambient temperature must not exceed 25 degrees. Take one or several of the following measures:

- ▶ Adjust the operating mode.
- ▶ Make sure the device is sufficiently cooled (e.g. with cooling element and heat conductor).
- ▶ Use a contact protection.

ATTENTION!

The device must be connected by a qualified electrician. Device of protection class III (PC III)
The electric supply must only be made via PELV circuits. Electric supply must comply with UL61010-1, chap. 9.4 - Limited Energy. The separation of external circuits must comply with UL 61010-2-201, figure 102.

- ▶ Disconnect power before connecting the device.

ATTENTION!

The IP rating indicated in the data sheet is only guaranteed if the M12 connectors are firmly screwed. The device can be damaged by insufficiently tightened M12 connectors.

- ▶ Firmly screw the M12 connectors to the device.



For the scope of validity cULus:

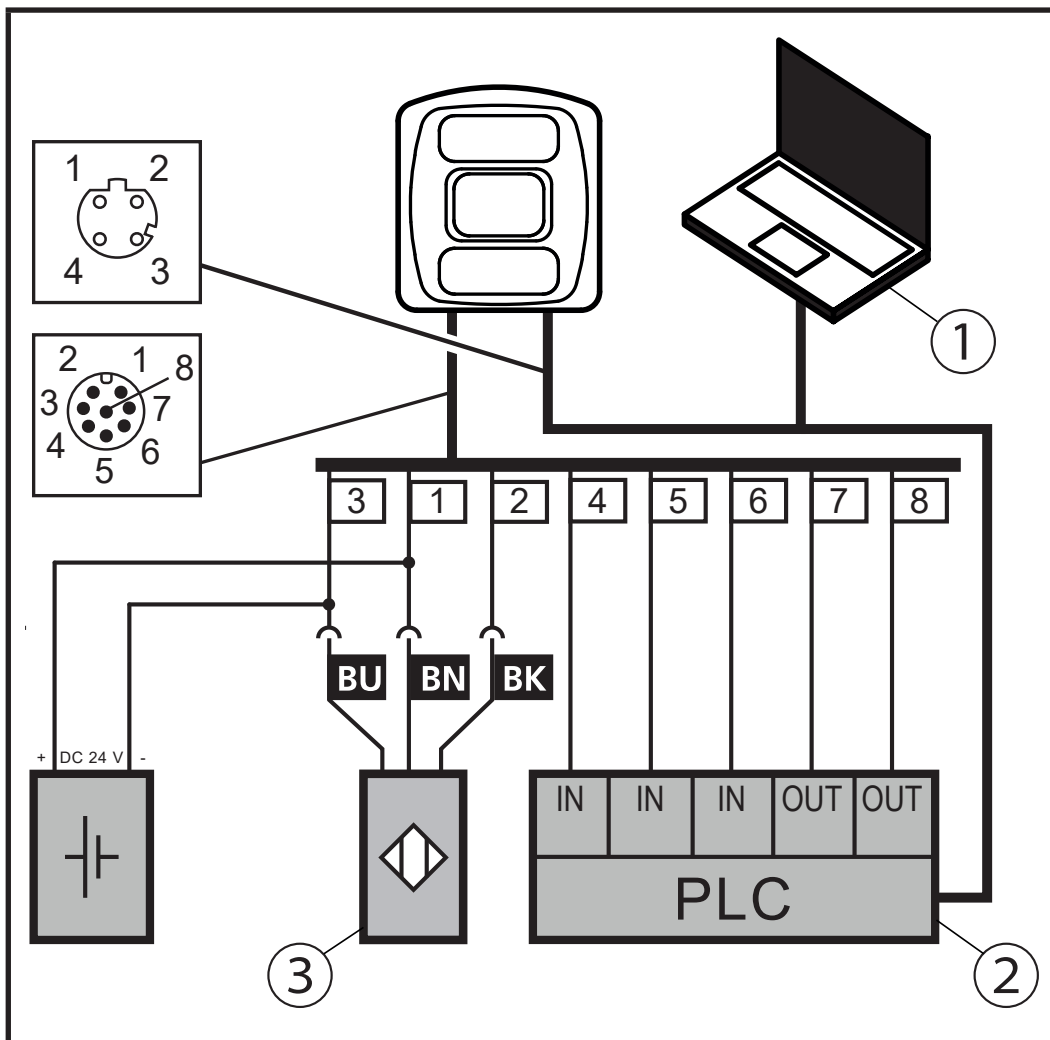
- Minimum temperature rating of the cable to be connected to the field wiring terminals: 70 °C.
- The IP class was not assessed by UL.



Moisture can penetrate into the device if the connected cables and protective caps are not fully tightened.

- ▶ Firmly tighten the power supply and connection cables. Tightening torque 0.6...0.8 Nm.
- ▶ Firmly tighten the protective caps to the unused sockets (article no. E73004). Tightening torque 0.6...0.8 Nm.

6.1 Wiring example



①: Notebook for parameter setting

②: Controller for evaluation and triggering

③: Proximity sensor

Fig 2: Wiring example of a trigger circuit

6.2 Wiring

	(1) Ethernet	
	M12 socket, D-coded, 4 poles	
		<ul style="list-style-type: none"> 1 TD + 2 RD + 3 TD - 4 RD - S Shield
	(2) Power supply	
M12 connector, A-coded, 8 poles		
	<ul style="list-style-type: none"> 1 U+ 2 trigger input 3 GND 4 switching output 1 (digital or analogue) 5 switching output 3 ready 6 switching output 2 (digital) 7 switching input 1 8 switching input 2 	

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Fig 3: Wiring



Available accessories: www.ifm.com

7 Maintenance, repair and disposal

If used correctly, no maintenance and repair measures are necessary.

- ▶ The device must only be repaired by the manufacturer.
- ▶ After use dispose of the device in an environmentally friendly way in accordance with the applicable national regulations.
- ▶ Keep the front lens free from soiling.
- ▶ Use glass cleaner as cleaning agent.
- > Cleaning agents containing solvents can damage the front glass.
- ▶ Do not open the device.
- > Only the manufacturer is allowed to open the device.

8 Approvals/standards

The EU Declaration of Conformity is available at www.ifm.com.

