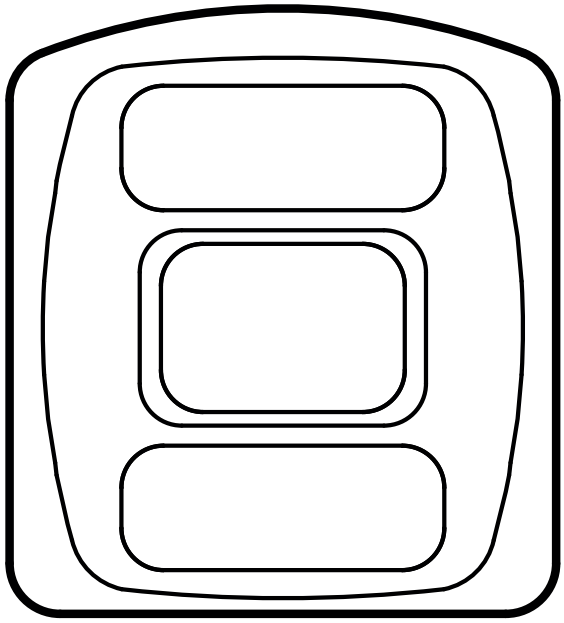
CE

Quick reference guide
3D sensor
O3D3xx

UK



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Contents

1 Preliminary note

This document is intended for specialists. These specialists are people who are qualified by their appropriate training and their experience to see risks and to avoid possible hazards that may be caused during operation or maintenance of the device. The document contains information about the correct handling of the device.

Read this document before use to familiarise yourself with operating conditions and installation. Keep this document during the entire duration of use of the device.

For a detailed description of the device please read the operating instructions and the programming manual.

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

1.2 Warnings used

NOTICE

Warning of damage to property.

2 Safety instructions

These instructions are part of the device. They contain texts and figures concerning the correct handling of the device and must be read before installation or use.

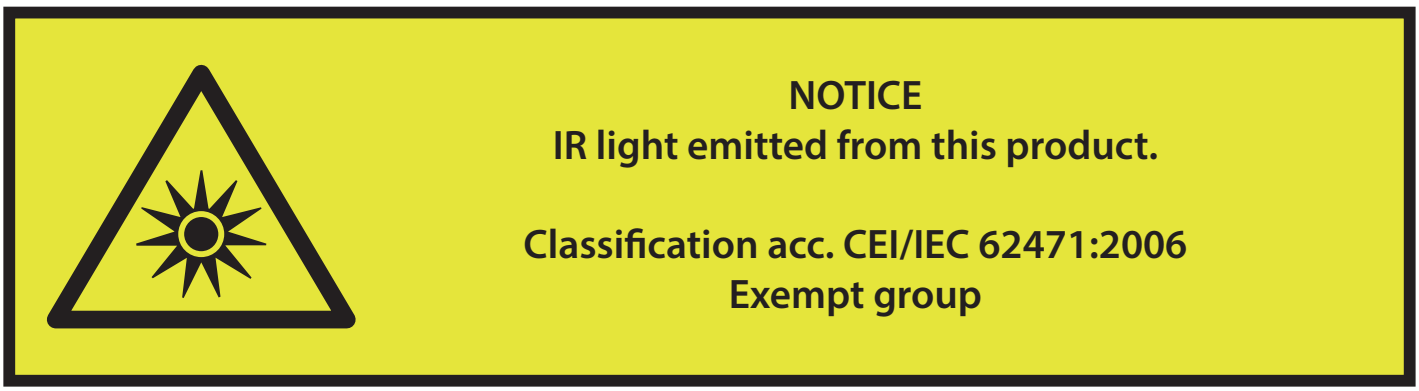
Note the safety instructions. Use the device in accordance with its designated use.

The installation and connection must comply with the applicable national and international standards. Responsibility lies with the person installing the device.

Only the signals indicated in the technical data or on the device label may be supplied to the connections or wires.

The unit may only be opened by the manufacturer or by a person authorised by the manufacturer.

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 solve the following applications:

- Completeness monitoring
- Level monitoring
- Distance monitoring
- Dimensioning of rectangular objects

- Sorting of rectangular objects

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

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

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 sensor is intended for use in industrial environments. The sensor is not designed for use in domestic areas.

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

4 Items supplied

- O3D3xx 3D sensor
- Brief instructions

The device is supplied without installation and connection accessories.

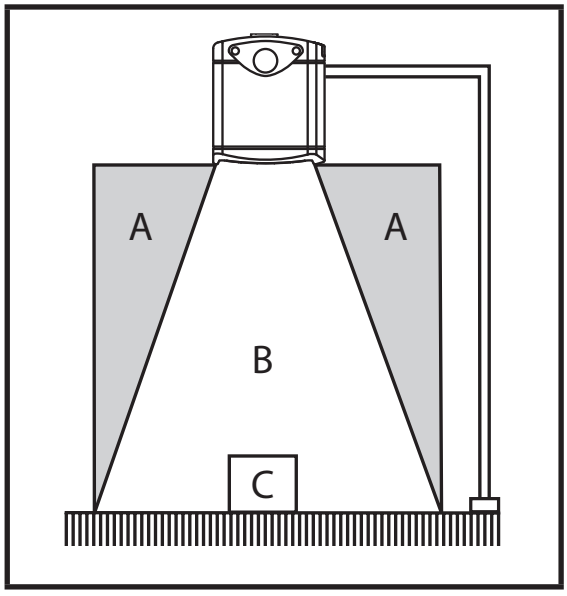
5 Accessories

The following accessories are needed for the operation of the device:

Description	Article no.:
Power supply cable for camera/sensor	E11950
M12 industrial Ethernet connection cable	E11898

The ifm Vision Assistant software is available free of charge on our website www.ifm.com.

6 Installation



During installation note the following:

- ▶ Use cables with strain relief.
- ▶ Keep area "A" clear of objects.
- ▶ Position the object to be detected ("C") closer to the device than any other objects within area "B".
- ▶ Mount the camera so that the focus adjustment screw is freely accessible with a screw driver.

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.

6.1 Mounting accessories

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

Description	Article no.:
Smart Camera mounting set	E3D301
Smart Camera cooling element	E3D302
Smart Camera heat conductor	E3D303
2x Smart Camera cooling element	E3D304

You can find more information about the accessories at www.ifm.com.

7 Electrical connection

NOTICE

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

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

NOTICE

The unit must be connected by a qualified electrician.
Camera 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 UL61010-2-201, fig. 102.

- ▶ Disconnect power before connecting the unit.

ATTENTION

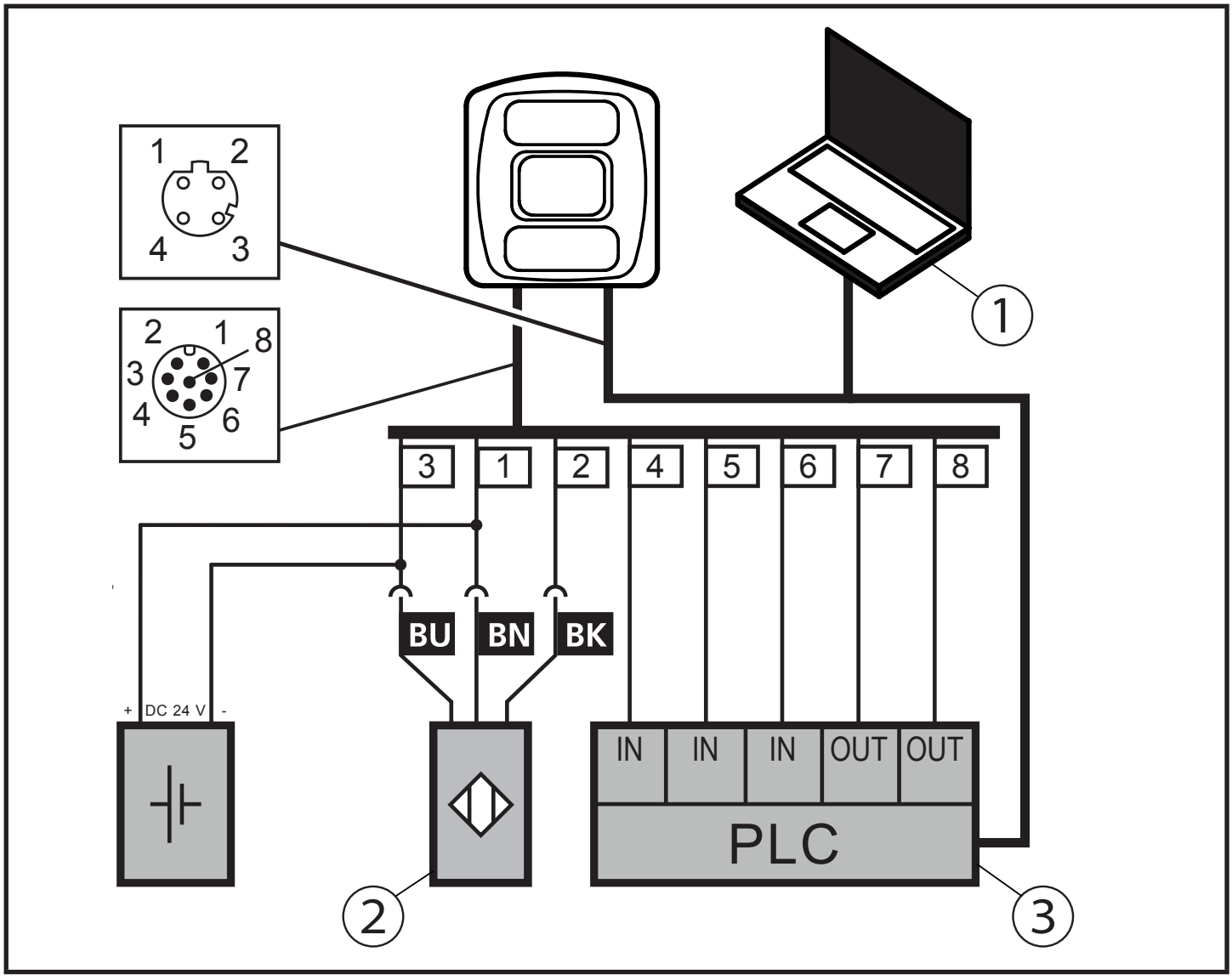
The IP rating given in the data sheet is only guaranteed if the M12 connectors are firmly screwed.
The unit can be damaged by insufficiently tightened M12 connectors.

- ▶ Firmly screw the M12 connectors to the unit.

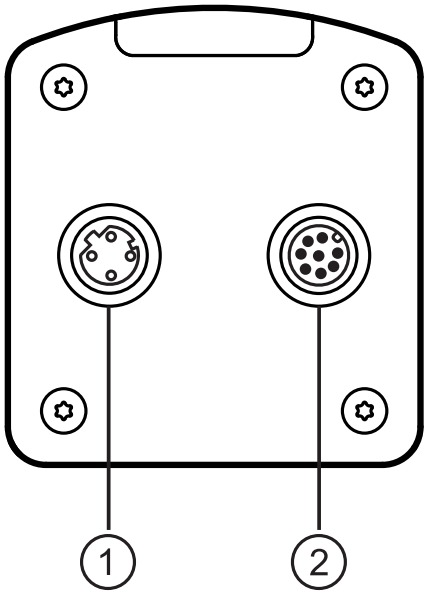
For the scope of validity cULus:
Minimum temperature rating of the cable to be connected to the field wiring terminals: 70 °C.

Cover the unused sockets with protective caps (E73004).

Tightening torque 0.6...0.8 Nm.

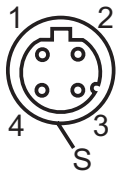

1 2
4 3
2 1 8
3 7
4 6
5
1
3 1 2 4 5 6 7 8
BU BN BK
+ DC 24 V -
IN IN IN OUT OUT
PLC
2
3

7.1 Wiring



(1) Ethernet

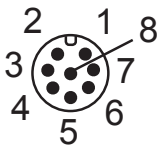
M12 socket, D-coded, 4 poles



1	TD +
2	RD +
3	TD -
4	RD -
S	Shield

(2) Power supply

M12 connector, A-coded, 8 poles



1	U+
2	trigger input
3	GND
4	switching output 1 (digital or analog)
5	switching output 3 ready
6	switching output 2 (digital)
7	switching input 1
8	switching input 2

UK

You can find more information about the accessories at www.ifm.com.

8 Approvals/standards

The EU Declaration of Conformity can be downloaded at www.ifm.com.