



Operating instructions
Capacitive sensor

GB

**KB / KD /
KI**



Contents

1	Preliminary note	3
1.1	Symbols used	3
2	Safety instructions	4
3	Intended use	5
4	Installation	6
4.1	Minimum distance for flush installation	6
4.2	Minimum distance for non-flush installation	6
4.3	Minimum distance when installing several units	6
4.4	Minimum distance when installing type KD	7
5	Electrical connection	8
5.1	Connection systems	8
5.1.1	2-wire technology	8
5.1.2	3-wire technology	8
5.2	Setting the output function for type KGE	8
5.3	Setting the output function for type KDE	8
5.3.1	2-wire technology	9
5.3.2	3-wire technology	9
6	Settings	10
6.1	Sensing range	10
6.2	Setting the output function via wire link for type KI with connector	10
6.3	Setting the output function via wire link for type KIE / KGE	10
7	Operation	11
8	Maintenance, repair and disposal	12

1 Preliminary note

You will find instructions, technical data, approvals, accessories and further information using the QR code on the unit / packaging or at www.ifm.com.

1.1 Symbols used

- ✓ Requirement
- ▶ 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

- The unit described is a subcomponent for integration into a system.
 - The system architect is responsible for the safety of the system.
 - The system architect 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 architect 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 (→ Intended use).
- Only use the product for permissible media.
- 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 Intended use

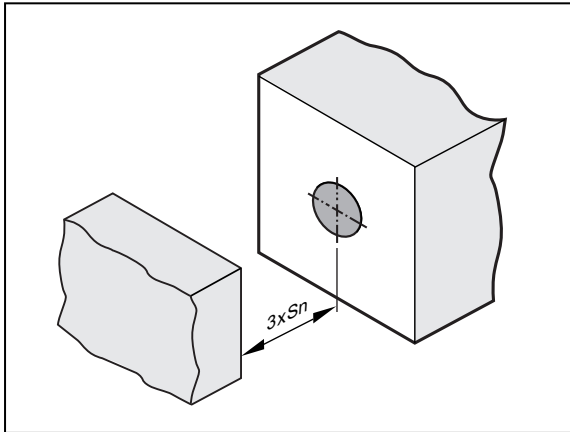
The unit detects without contact metals, almost all plastics, glass, ceramics, wood, paper, oils, greases, water and all hydrous materials and indicates their presence by a switching signal.

4 Installation



For flush installation of non-flush units the sensor properties change and the sensor may remain permanently switched (loss of function).

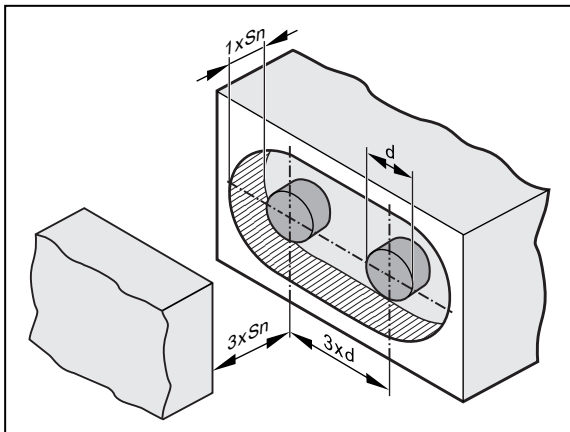
4.1 Minimum distance for flush installation



Sn: Sensing range

Fig. 1: Minimum distance for flush installation

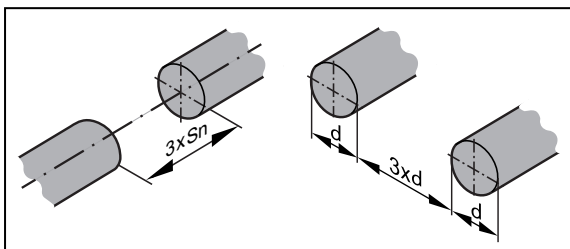
4.2 Minimum distance for non-flush installation



d: Diameter
Sn: Sensing range

Fig. 2: Minimum distance for non-flush installation

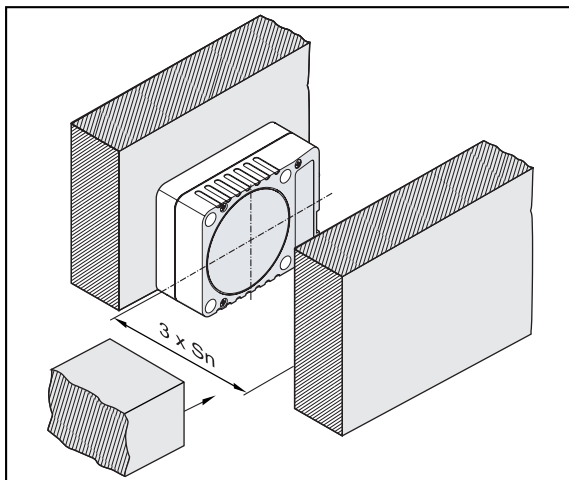
4.3 Minimum distance when installing several units



d: Diameter
Sn: Sensing range

Fig. 3: Minimum distance when installing several units

4.4 Minimum distance when installing type KD



Sn: Sensing range

Fig. 4: Minimum distance for non-flush installation of type KD



The distances need to be checked and determined by the users themselves according to their application.

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.

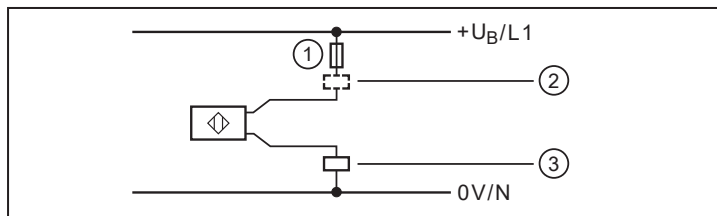
- ▶ Disconnect power.
- ▶ Connect the unit as specified in the data sheet / type label.



Use a miniature fuse according to the technical data sheet, if specified. Recommendation: Check the safe functioning of the unit after a short circuit.

5.1 Connection systems

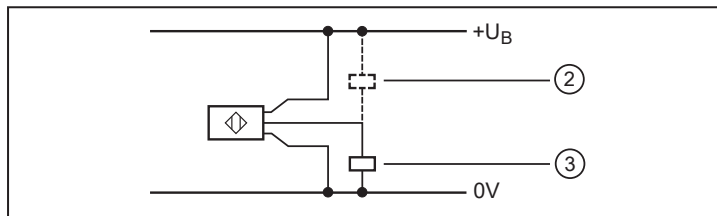
5.1.1 2-wire technology



- 1: Miniature fuse (for AC units)
- 2: Negative switching
- 3: Positive switching

Fig. 5: 2-wire technology

5.1.2 3-wire technology



- 2: Negative switching
- 3: Positive switching

Fig. 6: 3-wire technology

5.2 Setting the output function for type KGE

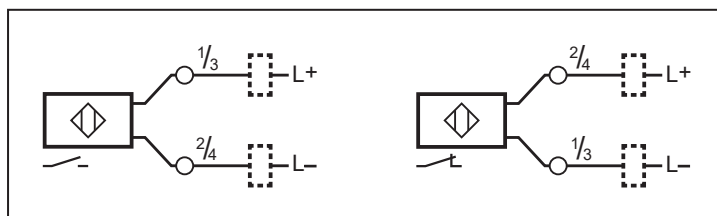


Fig. 7: Terminal chamber DC PNP/NPN

5.3 Setting the output function for type KDE

5.3.1 2-wire technology

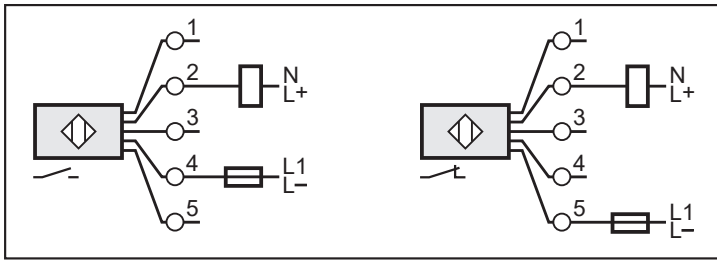


Fig. 8: Terminal chamber AC/DC PNP/NPN

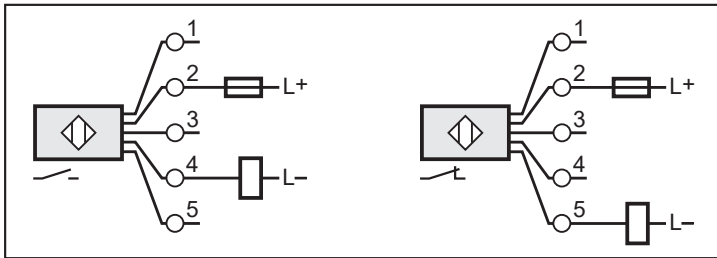


Fig. 9: Terminal chamber DC PNP/NPN

5.3.2 3-wire technology

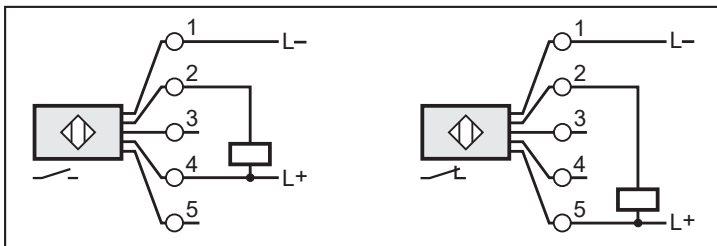


Fig. 10: Terminal chamber DC NPN

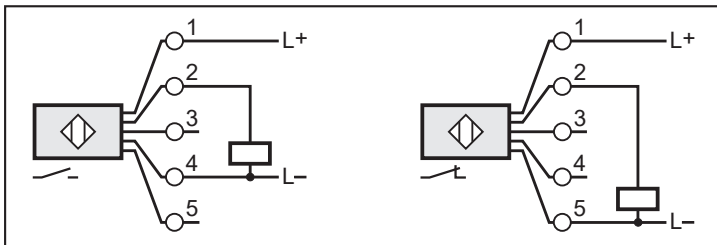


Fig. 11: Terminal chamber DC PNP

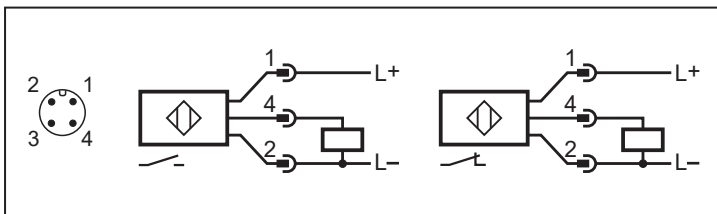
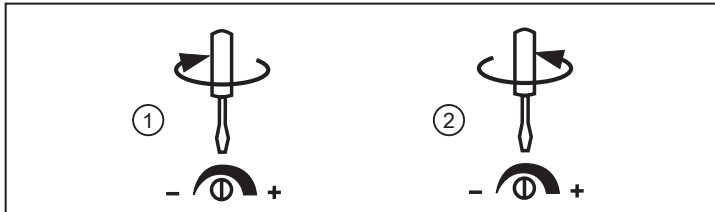


Fig. 12: Connector DC PNP

6 Settings

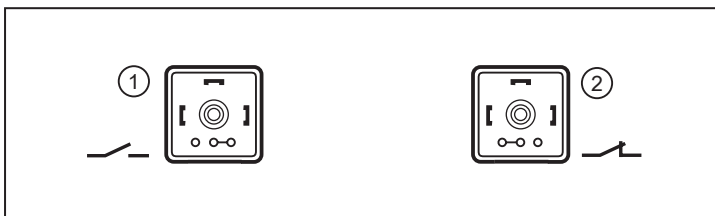
6.1 Sensing range

► Set the sensing range via the potentiometer using a screwdriver.



- 1: Increase the sensing range
- 2: Reduce the sensing range

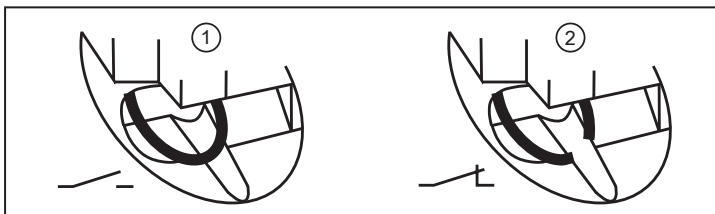
6.2 Setting the output function via wire link for type KI with connector



- 1: NO (factory setting)
- 2: NC

Fig. 13: Setting the output function via the link in the connector

6.3 Setting the output function via wire link for type KIE / KGE



- 1: NO (wire link closed, factory setting)
- 2: NC (wire link open)

Fig. 14: Setting the output function via the wire link

► Use an appropriate tool to disconnect the wire link.

7 Operation

- ▶ Check whether the unit operates correctly.
- ▶ Bring about a unit response by taking suitable measures.

LED display

LED yellow out: switching output disabled

LED yellow ON: switching output enabled

8 Maintenance, repair and disposal

The operation of the unit is maintenance-free.

To ensure correct functioning, please note the following:

- ▶ Keep the sensing face and any clear spaces free from deposits and foreign bodies.

It is not possible to repair the unit.

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