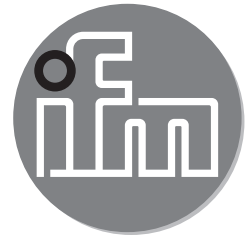


ifm electronic



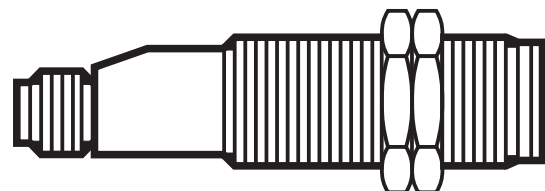
Operating instructions
Diffuse reflection sensor
with background suppression

efector200[®]

OGH

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701166 / 03 09 / 2005



Function and features

The diffuse reflection sensor detects objects and materials without contact and indicates their presence by a switched signal.

Range (r): see type label (value referred to white paper 200mm x 200mm).

Electrical connection



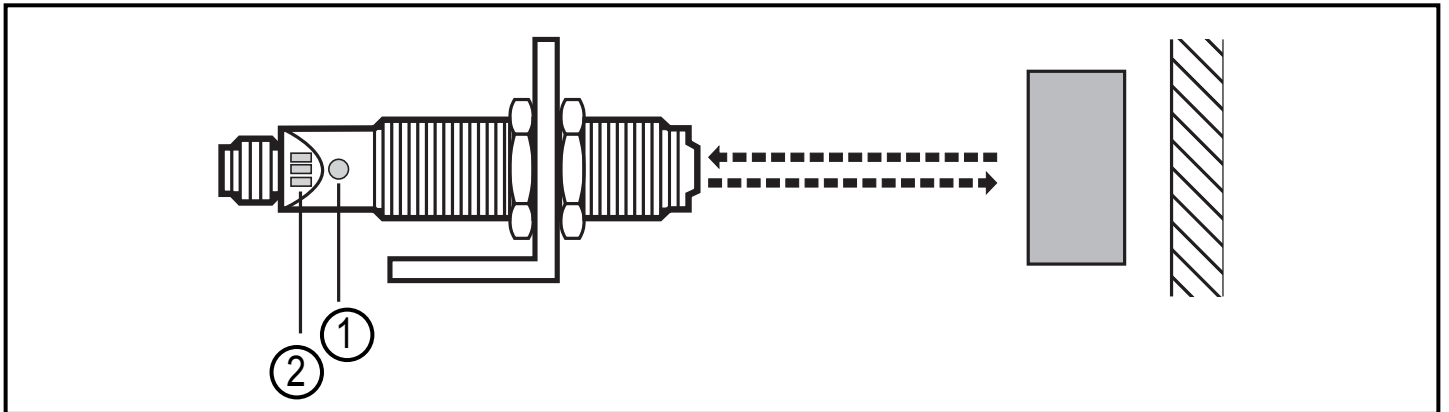
The device shall be supplied from an isolating source and protected by an overcurrent device such that the limited voltage circuit requirements in accordance with UL 508 are met.

Isolate power, then connect the unit (see page 5 or type label).

Core colours (for sensors with cable connection): BN = brown, BU = blue, BK = black.

Programming of the output function (light-on or dark-on) by wiring (see page 5 or type label).

Installation



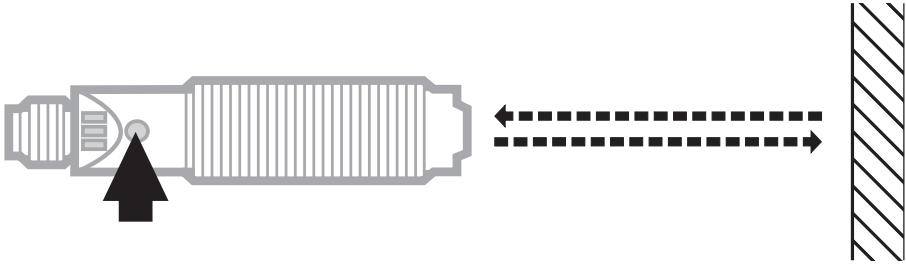
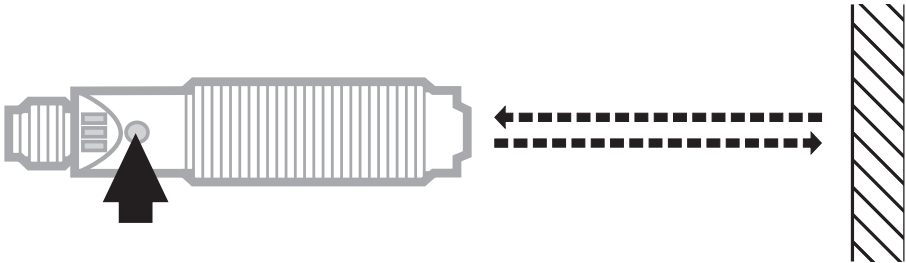
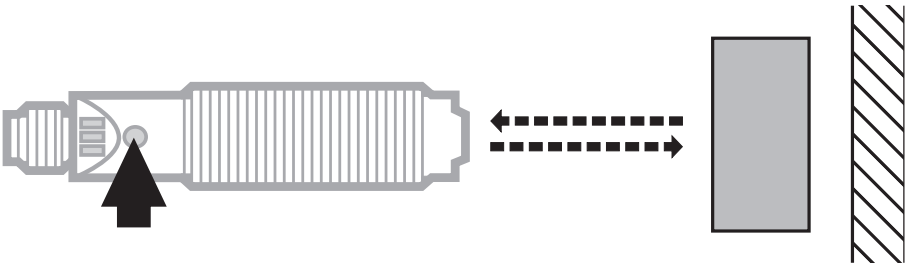
1: Pushbutton

2: LEDs red, green, yellow

Align the photocell and fasten it to a mounting bracket.

Maximum range is only possible with precise alignment.

Setting of the sensitivity with stationary objects

1	Activate the programming mode of the unit without object. 
	Press for about 2s until the red LED flashes. The red LED goes out; the yellow and green LEDs flash alternately. The unit is in the programming mode. If in addition the red LED is lit, the reflection of the background is too intensive (e.g. reflecting surface). Angle the unit in the horizontal plane until the red LED goes out. If you continue with step 3 although the red LED is lit, programming is interrupted. The unit then passes into the operating mode with the setting being unchanged.
2	Setting without object.  Press once.
	The yellow and green LEDs go out for approx. 1s, then flash again alternately.
3	Setting with object.  Press once.
	The yellow and green LEDs go out for approx. 1s, then the green LED is on. The unit is in the operating mode.

Programming is only possible if you keep to this order (first background, then object).

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If the setting of the sensitivity is not possible (e.g. object signal and background signal are about the same), the red LED flashes after step 3 for approx. 2s. The unit then passes into the operating mode with the sensitivity being unchanged.

Setting of the maximum sensitivity

- Go into the programming mode (step 1).
- Align the unit so that no light is reflected.
- Press the setting button twice (see steps 2 and 3).

Locking / Unlocking

 Press for 10s		The red LED lights for a short time, then the yellow and green LEDs flash alternately; after 10s the LEDs go out, the unit is locked.
 Press for 10s		After 10s the LEDs go out, locking is cancelled.

Operation

Check the safe functioning of the diffuse reflection sensor. Display by LEDs.

LED green lights	Unit is ready for operation.
LED yellow lights	Output is switched.
LEDs yellow + red	Flash alternately, 2 Hz: output short-circuited. Flash alternately, 1 Hz: internal malfunction, (output is not switched).

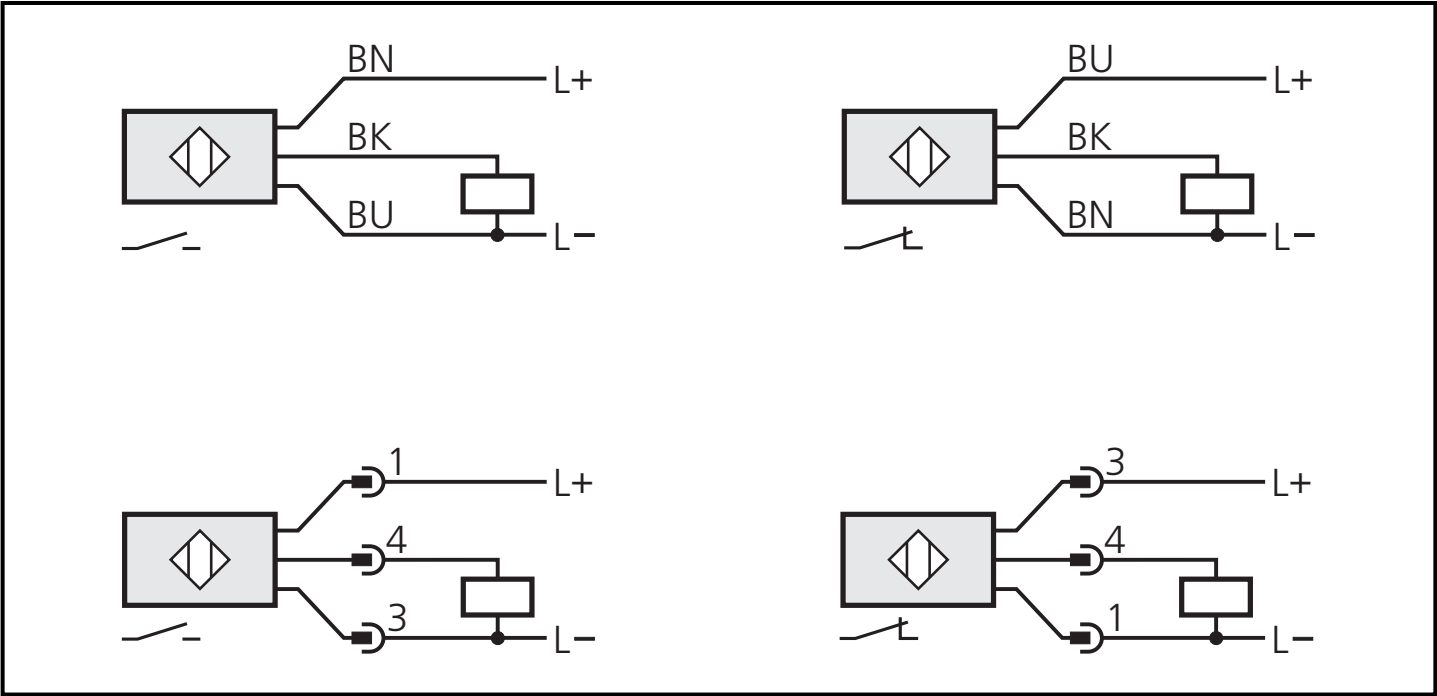
Maintenance

Keep the lens of the sensor free from soiling.

For cleaning do not use any solvents or cleaning agents which could damage the plastic lenses.

Wiring

DC PNP



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DC NPN

