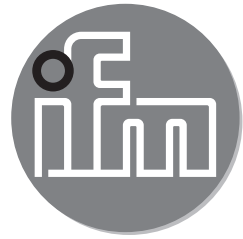


ifm electronic



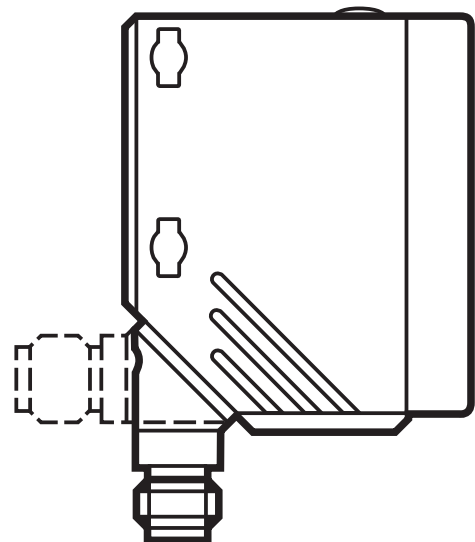
Operating instructions  
Diffuse reflection sensor with  
background suppression

UK

**efector200**

**O5H7xx**

704483 / 00 10 / 2008



# 1 Preliminary note

## 1.1 Symbols used

- ▶ Instruction
- > Reaction, result
- [...] Designation of pushbuttons, buttons or indications
- Cross-reference



Important note

Non-compliance can result in malfunctions or interference.

## 2 Safety instructions

### According to the cULus approval

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

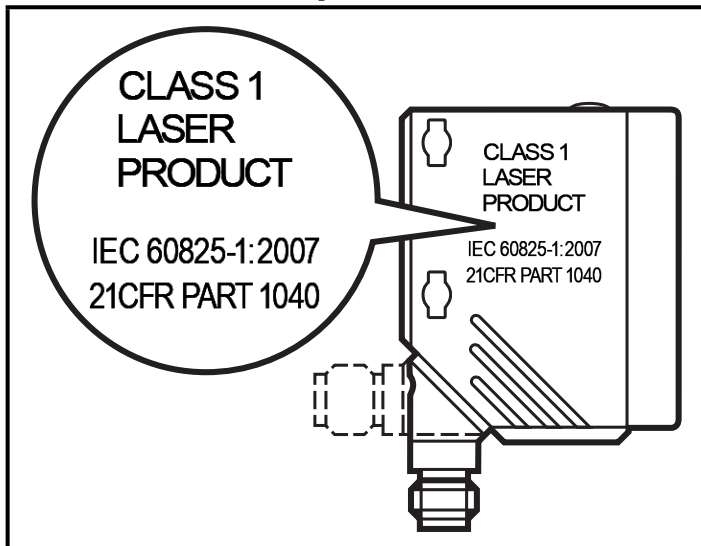


Visible laser light; CLASS 1 LASER PRODUCT.

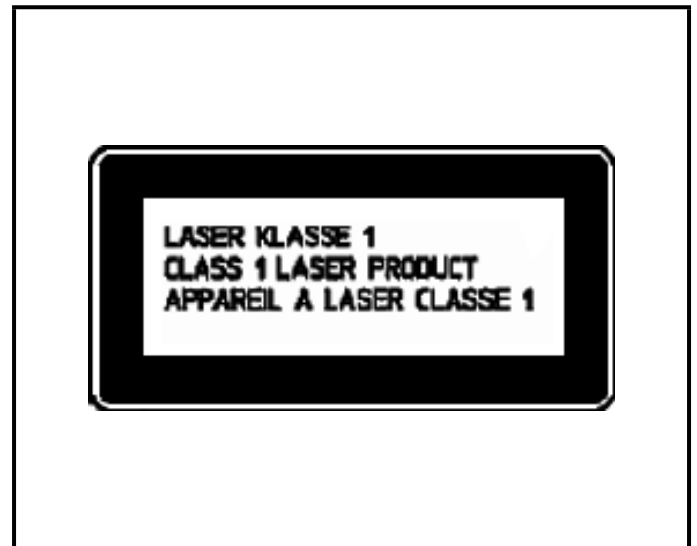
IEC 60825-1 : 2007

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

### Position of the product label



### Additional label

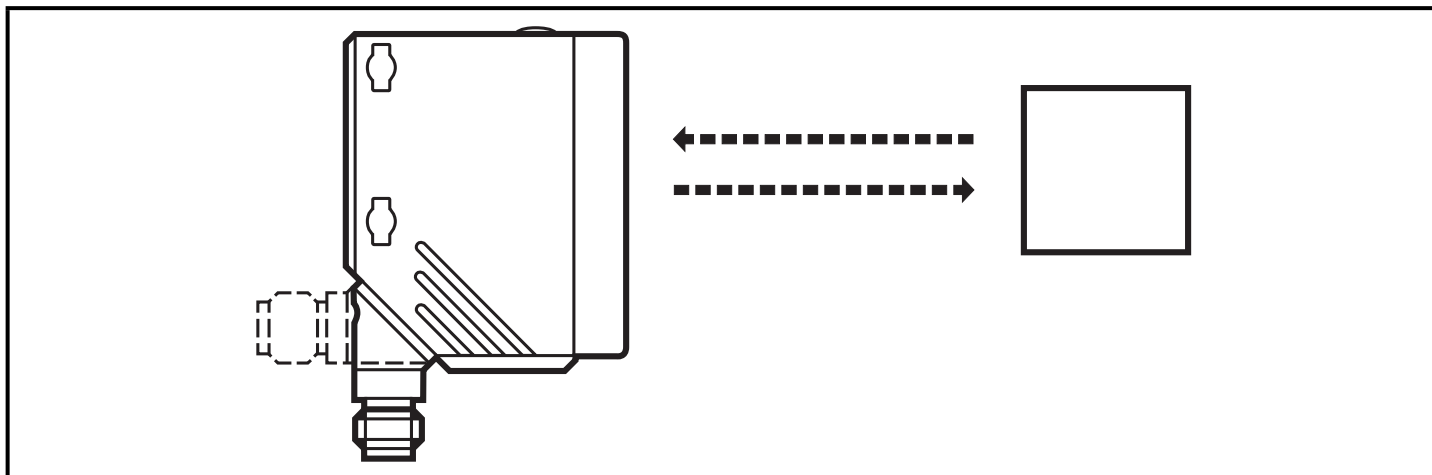


## 3 Functions and features

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

Range 20 ... 200 mm (on white paper 200 x 200 mm, 90 % remission)

## 4 Installation

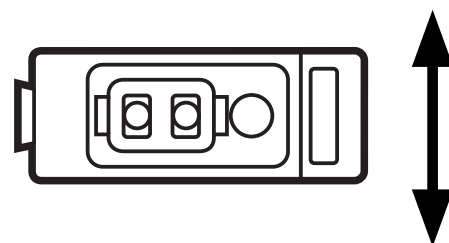


- ▶ Align the diffuse reflection sensor to the object to be detected.
- ▶ Secure it to a bracket.

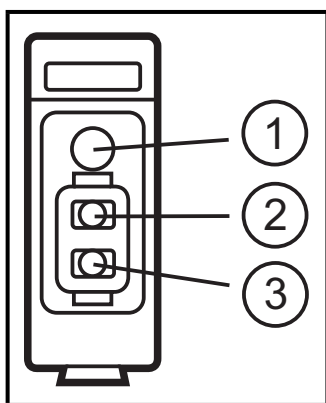
### Note:

The objects to be detected are to move transversally to the lens of the sensor.

- ▶ In case of other directions of movement it should be tested before whether safe switching is guaranteed.



## 5 Operating and display elements



- 1: LED
- 2: [OUT on]
- 3: [OUT off]

## 6 Electrical connection

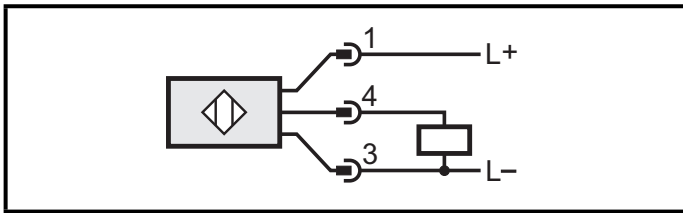


The unit must be connected by a qualified electrician.

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

- ▶ Disconnect power.
- ▶ Connect the unit as follows:

### DC PNP



pin 1 = L+ (10...36 V DC)  
 (pin 2 = not connected)  
 pin 3 = L-  
 pin 4 = load (PNP, 200 mA)

## 7 Settings

### 7.1 The sensor is to switch when the object is detected

1	<p>▶ Position the object.</p>
	<p>▶ Press [OUT on] for 2 s.</p> <ul style="list-style-type: none"> <li>&gt; The sensitivity is set to the object.</li> <li>&gt; The yellow LED flashes.</li> </ul>
2	<p>▶ Remove the object.</p>
	<p>▶ Press [OUT off].</p> <ul style="list-style-type: none"> <li>&gt; The sensitivity is set without object.</li> <li>&gt; The yellow LED goes out. The programming is finished.</li> </ul>

### 7.2 The sensor is not to switch when the object is detected

- ▶ Position the object (see figure 1) and press [OUT off].
- ▶ Remove the object (see figure 2) and press [OUT on].

The setting can also be carried out first without object (step 1) and then with object (step 2).

## 7.3 Setting of the maximum sensitivity

- ▶ Align the sensor so that no light is reflected.

### The sensor is to switch when the object is detected

- ▶ First press [OUT on] and then [OUT off].

### The sensor is to switch when the object is not detected

- ▶ First press [OUT off], then [OUT on].

## 7.4 Programming unsuccessful

- > The LED flashes quickly, 8 Hz.
  - Measured value difference too small.
  - Max. programming time of 15 min. exceeded.

## 7.5 Electronic lock

Lock or unlock the buttons

- Press [OUT on] and [OUT off] simultaneously for 10 s.
- > Acknowledgement is indicated by a change of the LED status.

## 8 Operation

- ▶ Check whether the unit operates correctly.
- > The LED lights when the switching output is switched.

## 9 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 try to open the module enclosure. There are no user - serviceable components inside.

Technical data and further information at  
[www.ifm.com](http://www.ifm.com) → Select your country → Data sheet direct: