



Model Number

ML29-P/59/102/143-Y807709

Thru-beam sensor
4-pin plastic connector, 6.5 mm diameter

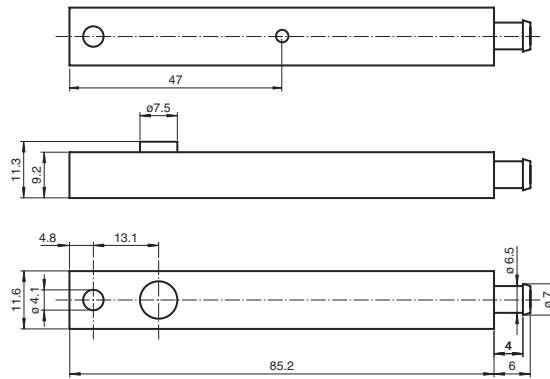
Features

- Miniature design
- Ideal for installation in door profiles or frames
- Dark-On switching
- Supplied with connection cable

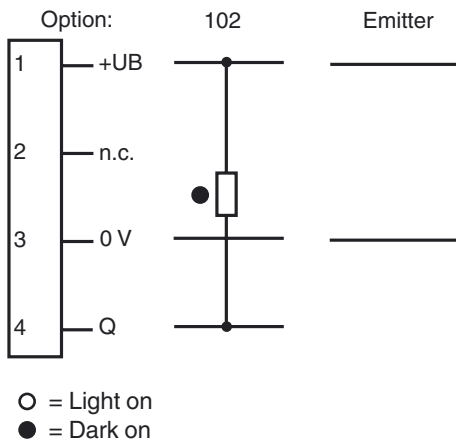
Product information

The narrow miniature thru-beam sensors are a small and cost-effective solution, fitting in virtually any door frame. The ML29 and ML30 series offer fast, reliable detection at a distance of up to 8.5 m. The sensors are easy to mount on the profile, either using adhesive strips or a screw. A large opening angle ensures problem-free alignment. Several sensors can be mounted in a cross formation to offer multi-beam protection.

Dimensions



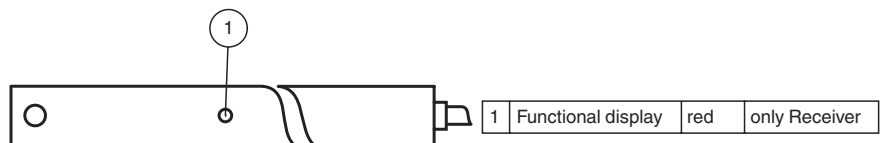
Electrical connection



Pinout



Indicators/operating means



Release date: 2015-02-09 10:36 Date of issue: 2015-02-09 807709_eng.xml

Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

Technical data

General specifications

| | |
|---------------------------|-----------------------------------|
| Effective detection range | 0 ... 1.5 m |
| Threshold detection range | 2.5 m |
| Light source | IREDD |
| Light type | modulated infrared light , 880 nm |
| Angle of divergence | Emitter +/- 3° |
| Optical face | lateral |
| Ambient light limit | 40000 Lux |

Indicators/operating means

| | |
|--------------------|---|
| Function indicator | LED red in receiver : lights up when receiving the light beam |
|--------------------|---|

Electrical specifications

| | | |
|------------------------|----------------|---------------------------------------|
| Operating voltage | U _B | 11 ... 30 V DC |
| No-load supply current | I ₀ | Emitter: ≤ 20 mA Receiver: ≤ 10 mA |

Input

| | |
|------------|--|
| Test input | emitter deactivation at +U _B ≤ 5 V DC |
|------------|--|

Output

| | |
|---------------------|---|
| Switching type | dark on |
| Signal output | 1 NPN output, short-circuit protected, reverse polarity protected, open collector |
| Switching voltage | max. 30 V DC |
| Switching current | max. 0.1 A |
| Switching frequency | f 100 Hz |
| Response time | 5 ms |

Ambient conditions

| | |
|---------------------|-------------------------------|
| Ambient temperature | -20 ... 60 °C (-4 ... 140 °F) |
| Storage temperature | -20 ... 75 °C (-4 ... 167 °F) |
| Relative humidity | 90 % , noncondensing |

Mechanical specifications

| | |
|----------------------|--|
| Degree of protection | IP65 |
| Connection | 4-pin plastic connector, 6.5 mm diameter |
| Material | |
| Housing | PMMA , black |
| Optical face | Plastic pane |
| Mass | per device 120 g |

Compliance with standards and directives

| | |
|---------------------|---|
| Standard conformity | |
| Product standard | EN 60947-5-2:2007 IEC 60947-5-2:2007 |
| Standards | EN 61000-6-2, EN 61000-6-3 |

Approvals and certificates

| | |
|--------------|--|
| CCC approval | CCC approval / marking not required for products rated ≤36 V |
|--------------|--|

Function principle

The thru-beam sensor requires a pair of devices for operation, comprising a light transmitter and a light receiver. The emitter and receiver must be arranged in optical alignment with each other. The infrared light from the emitter is detected by the receiver and evaluated.

Function

Static detection:

The light beam switch detects persons and objects independently of movement and surface structure for as long as the object breaks the detection beam.

| | | Electronic output |
|---------------------|-----------------------|-------------------|
| Light detection /25 | Person in the beam | Inactive |
| | No person in the beam | Active |
| Dark detection /59 | Person in the beam | Active |
| | No person in the beam | Inactive |

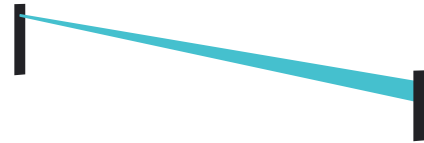
Optics:

The relatively wide opening angles enable the light beam switches to be installed quickly, without alignment problems. Even if there is a light distortion of the installation profiles the function is retained.

Typical applications

- Person detection for automatic doors and gates
- Closing edge protection on sliding and revolving doors
- Threshold monitoring for elevator doors
- Step monitoring for doors on public transport vehicles
- Trigger function for restarting escalators

Detection area



Accessories

ML29 Front Plate

Front plate for thru-beam sensors in series ML29

Other suitable accessories can be found at www.pepperl-fuchs.com

Testing:

Testing is used to check the function of the light beam switch.

With supply voltage $+U_B < 5 \text{ V}$ the emitter device is switched off. This simulates a light beam interruption. By means of this, the function of the light barrier can be tested easily without using a separate test input.

Installation:

Thanks to its small dimensions, the light beam can be fitted in a U-profile or behind a face panel. The hole diameter for both the emitter and the receiver is 8 mm.

Even fixing by means of the adhesive tape contained in the delivery package can be considered.