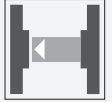


# Thru-beam sensor ML29-P/59/102/143-Y807709



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

## Thru-beam sensor



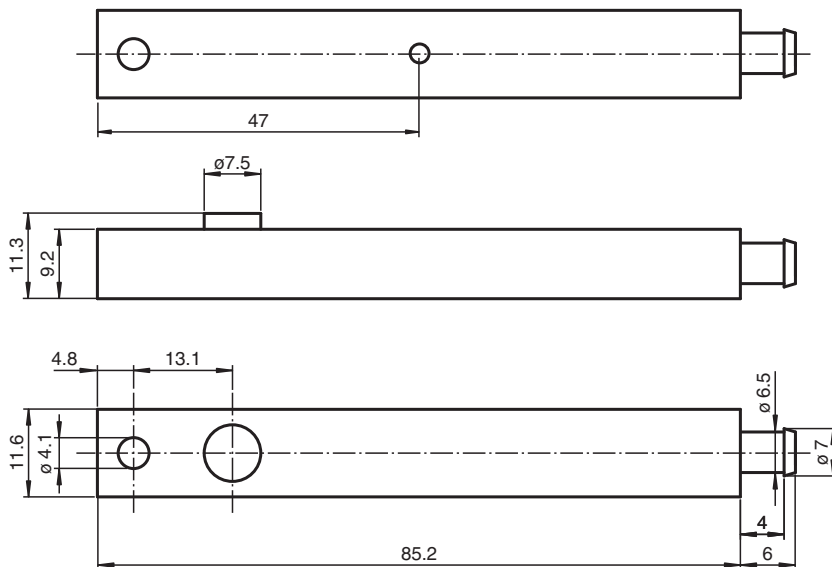
### Function

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.

### Application

- 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

### Dimensions



Release date: 2023-11-08 Date of issue: 2023-11-08 Filename: 807709\_eng.pdf

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

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## Technical Data

### General specifications

Effective detection range	0 ... 1.5 m
Threshold detection range	2.5 m
Light source	IRED
Light type	modulated infrared light , 880 nm
Opening angle	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
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### Electrical specifications

Operating voltage	$U_B$	11 ... 30 V DC
No-load supply current	$I_0$	Emitter: $\leq 20$ mA Receiver: $\leq 10$ mA

### Input

Test input	emitter deactivation at $+U_B \leq 5$ V DC
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### 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

### Conformity

Product standard	EN 60947-5-2
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### Compliance with standards and directives

Standard conformity	
Standards	EN 61000-6-2, EN 61000-6-3

### Approvals and certificates

CCC approval	CCC approval / marking not required for products rated $\leq 36$ V
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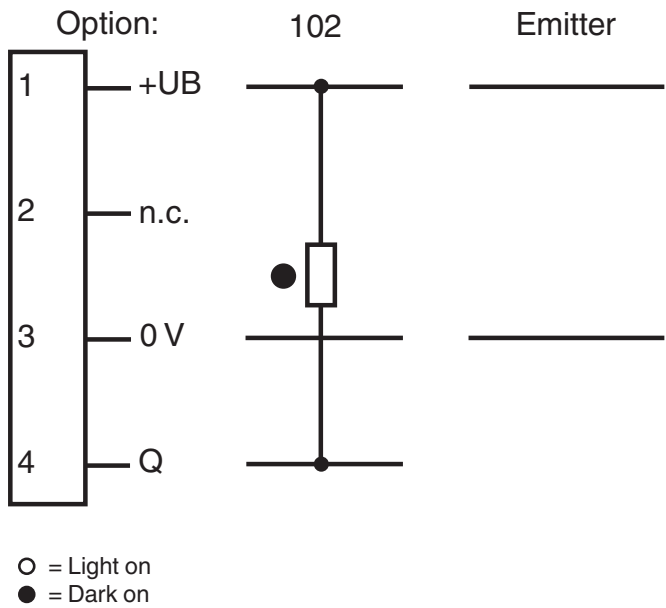
### Ambient conditions

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

Connection Assignment



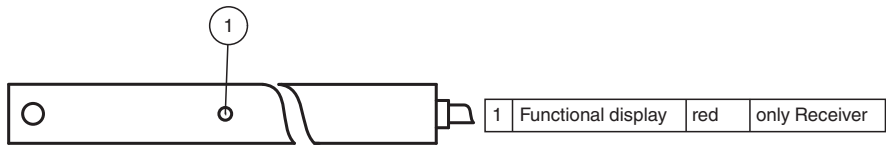
Connection Assignment



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)

Assembly



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.

### 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.