



**Model Number**

**ML29-P/59/102/143-Y807709**

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

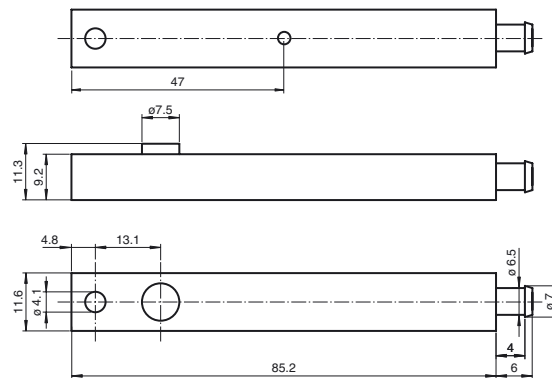
**Features**

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

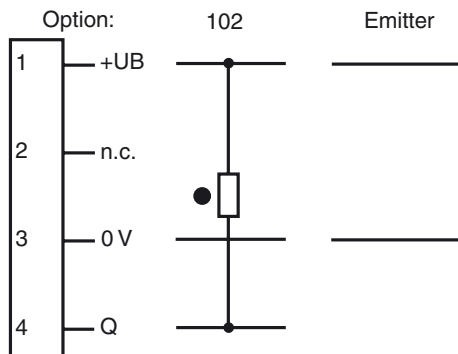
**Product information**

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**



○ = Light on  
● = Dark on

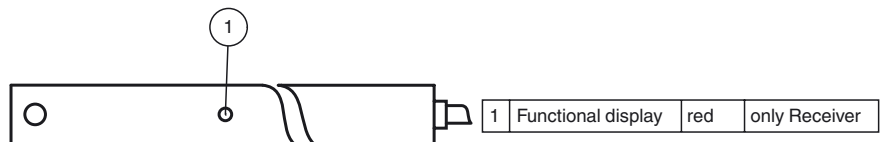
**Pinout**



Wire colors in accordance with EN 60947-5-2

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

**Indicators/operating means**



Release date: 2019-12-18 11:19 Date of issue: 2019-12-18 807709\_eng.xml

**Technical data**

**General specifications**

Effective detection range	0 ... 1.5 m
Threshold detection range	2.5 m
Light source	IREL
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
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**Electrical specifications**

Operating voltage	U <sub>B</sub>	11 ... 30 V DC
No-load supply current	I <sub>0</sub>	Emitter: ≤ 20 mA Receiver: ≤ 10 mA

**Input**

Test input	emitter deactivation at +U <sub>B</sub> ≤ 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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**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	
Standards	EN 61000-6-2, EN 61000-6-3

**Approvals and certificates**

CCC approval	CCC approval / marking not required for products rated ≤36 V
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**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.

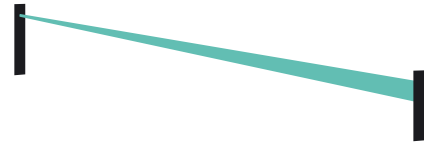
		Electronic output
Light detection /25	Person in the beam	Inactive
	No person in the beam	Active
Dark detection /59	Person in the beam	Active
	No person in the beam	Inactive

**Optics:**

**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](http://www.pepperl-fuchs.com)

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.