



Model Number

ML29T-P/32/59/115 100mm

Thru-beam sensor
with fixed cable

Features

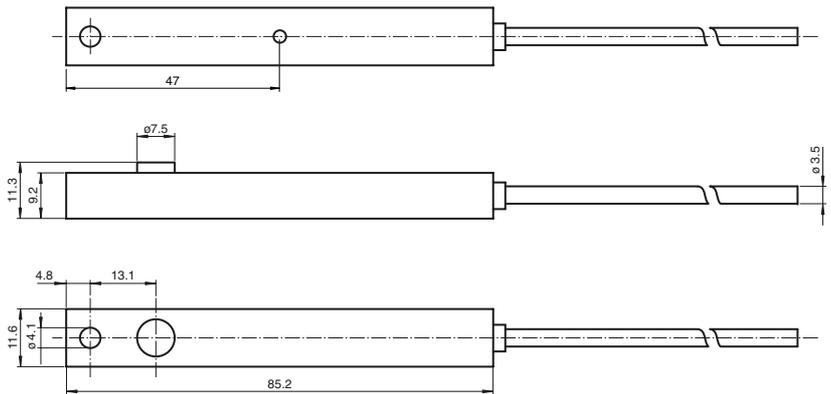
- Single-beam monitoring with extremely narrow sensor
- Integrated circuit
- Test
- Simple installation - Plug & Play
- Ideal for installation in door profiles or frames
- Version with Certification in accordance with railway standard EN50155

Product information

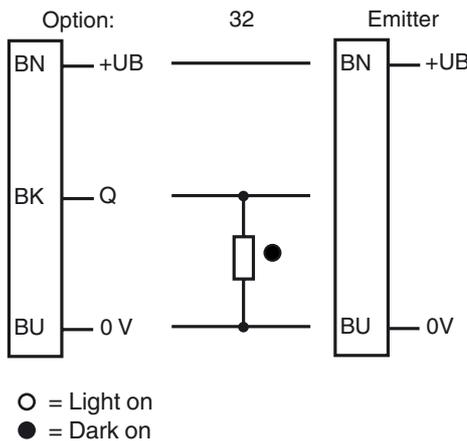
The narrow miniature thru-beam sensors are a small and cost-effective solution, fitting in virtually any door frame. The ML29 and ML30 series offer fast, reliable detection at a distance of up to 8.5 m. The sensors are easy to mount on the profile, either using adhesive strips or a screw. A large opening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

Release date: 2015-02-05 09:15 Date of issue: 2015-02-05 128935_eng.xml

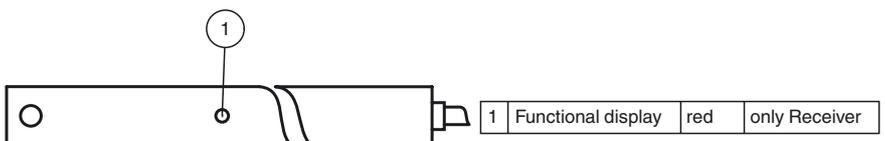
Dimensions



Electrical connection



Indicators/operating means



Technical data

System components

Emitter	ML29T-T/115
Receiver	ML29T-R/32/59/115

General specifications

Effective detection range	0 ... 2.5 m
Threshold detection range	3.5 m
Light source	IREDD
Light type	modulated infrared light
Angle of divergence	+/- 8 °
Optical face	lateral
Ambient light limit	40000 Lux

Functional safety related parameters

MTTF _d	1440 a
Mission Time (T _M)	20 a
Diagnostic Coverage (DC)	0 %

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	10 ... 32 V DC
No-load supply current	I ₀	Emitter: ≤ 25 mA Receiver: ≤ 10 mA

Input

Test input	Test: Transmitter switches off at +U _B ≤ 5 V DC
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Output

Switching type	dark on	
Signal output	1 PNP output, short-circuit protected, reverse polarity protected, open collector	
Switching voltage	max. 32 V DC	
Switching current	max. 0.2 A	
Switching frequency	f	10 Hz
Response time	50 ms	

Ambient conditions

Ambient temperature	-25 ... 60 °C (-13 ... 140 °F)
Storage temperature	-25 ... 75 °C (-13 ... 167 °F)
Relative humidity	90 % , noncondensing

Mechanical specifications

Degree of protection	IP65
Connection	100 mm fixed cable
Material	
Housing	PMMA , black
Optical face	Plastic pane
Mass	per device 120 g

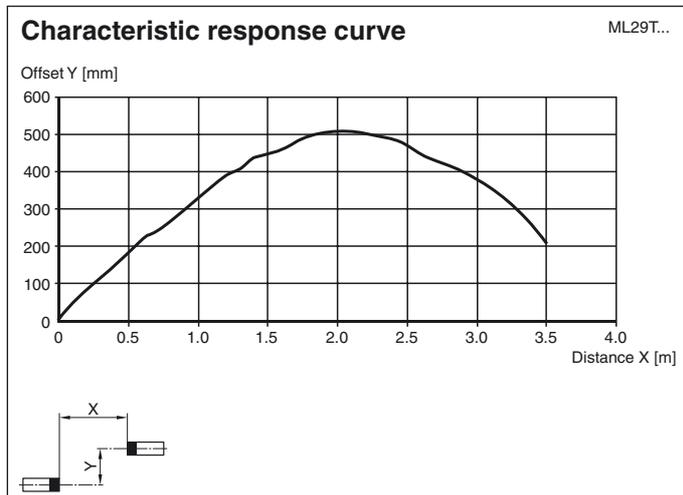
Compliance with standards and directives

Standard conformity	
Product standard	EN 60947-5-2:2007 IEC 60947-5-2:2007
Standards	EN 50121-3-2 , EN 50155

Approvals and certificates

CCC approval	CCC approval / marking not required for products rated ≤36 V
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Curves/Diagrams



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

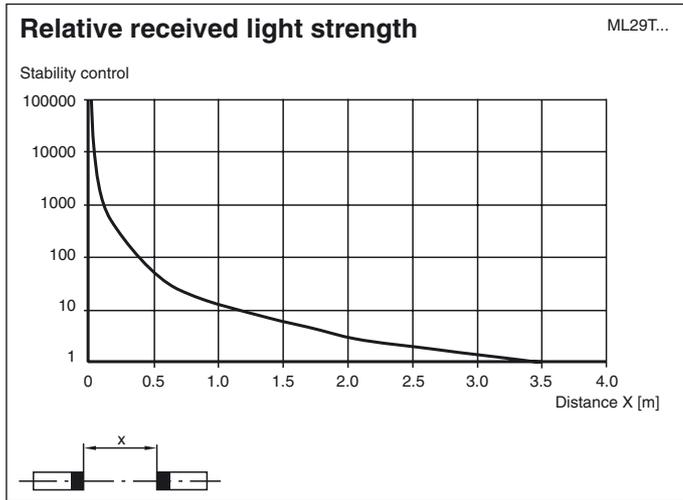


Accessories

ML29 Front Plate

Front plate for thru-beam sensors in series ML29

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



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.

Test input:

The test input is used to check the function of the light beam switch.

The test signal at the emitter switches the emitter off at $+U_B \leq 5\text{ V}$ and thereby simulates a light beam interruption. It thus enables a complete check of the sensor from the optical path through to the output.

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.

Installation of twin-beam arrangement:

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A twin-beam version requires 2 emitters and receivers. Care should be taken that the beam separation is not less than 20 cm. The transmitters and receivers must be arranged in the form of a cross.

