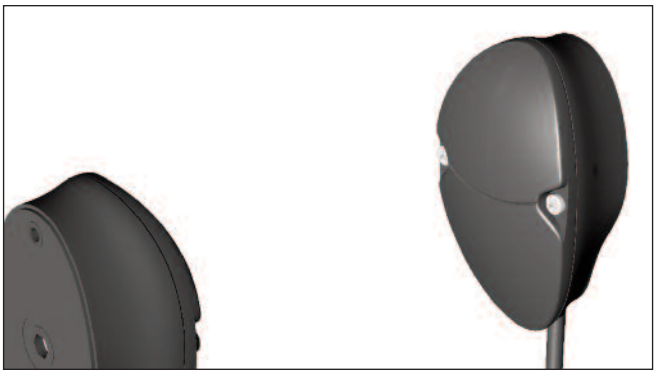
Photoelectrics
Through-beam, Relay Output
Type PD98CNT30QMU



- **Domestic garage door control**
- **Range 15 m or 30 m**
- **Modulated, infrared light**
- **Supply voltage: 12 to 24 VAC/DC**
- **SPDT relay output**
- **LED for output indication**
- **Protection: reverse polarity, transients**
- **Connection, terminal block**
- **Emitter mute and gain adjustment**
- **CE and UL325 approved**

Product Description

The PD98CNT30QMU sensor is developed specifically for the domestic and industrial door market. The sensor meets the new regulations for industrial doors in Europe . The compact size of the outdoor sensor allows easy on-wall-mounting without building the sensor into the wall. The sensor is easy to use and no sensitivity adjustments are necessary. The spherical lens design is superior to previous design of sensors with built-in parabolic reflectors that had corrosion and dust problems.

Increased safety by build-in:
- Sensor test function; the emitter has a built-in test input designed to mute the emitter and thus evaluate the sensor function. Test function is to be activated by the door controller.

High neighbour immunity can be achieved using the synchronization feature.
The sensor works with a power-supply from 12 to 24 VAC/DC. The housing is made of Polycarbonate for maximum lifetime and outstanding impact strength.

Ordering Key

PD98CNT30QMU

- **Type**
- **Housing style**
- **Housing size**
- **Housing material**
- **Sensor code**
- **Detection principle**
- **Sensing distance**
- **Output type**
- **Output configuration**
- **Mute function**

Type Selection

Housing size	Range S_n	Ordering no. Receiver + Emitter
98 x 56 x 37 mm	**30 m**	**PD98CNT30QMU**

Specifications Emitter

Rated operational volt. (U_e)	12 V to 24 VAC/DC
Ripple (U_{rrp})	≤ 10%
Supply current	≤ 20 mA
Protection	Reverse polarity, transients
Control input	
Normal oper.	< 1.5 VAC or < 1 VDC
Mute	> 3.5 VAC or > 2 VDC

Light source	LED, 880 nm
Light type	Infrared, modulated
Optical angle	± 5° (using aperture)*
Synchronization	
Sync. ON	PCB patch** “SYNC” closed
Sync. OFF	PCB patch** “SYNC” open (factory settings)

* With aperture the distance is reduced by 30 %
** Solder bridge

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Specifications Receiver

Rated operating dist. (S_n)	30 m with open PCB gain patch** 15 m with closed PCB gain patch** (factory settings)
Blind zone	None
Temperature drift	≤ 0.4%/°C
Hysteresis (H)	3 - 20%
Rated operational volt. (U_e)	12 to 24 VAC/DC
Ripple (U_{rrp})	≤ 10%
Output current	
Continuous (I_e)	1 A / 30 VDC 0,5 A / 30 VAC
Lifetime contacts	> 100 000 AC11 or DC11
No load supply current (I_o)	≤ 30 mA

** Solder bridge

Ambient light		>20.000 LUX
Optical angle		± 5° (using aperture)***
Protection		Reverse polarity, transients
Operating frequency (f)		25 Hz
Response time	OFF-ON (t_{ON})	≤ 20 ms
	ON-OFF (t_{OFF})	≤ 20 ms
Power ON delay (t_v)		≤ 300 ms
Indication function		
Output ON		LED, yellow
Synchronization		
Sync. ON		PCB patch** “SYNC” closed
Sync. OFF		PCB patch** “SYNC” open (factory settings)

*** With aperture removed the distance and angle will be increased, and the sensor no longer meets ESPE type 2.

General Specifications

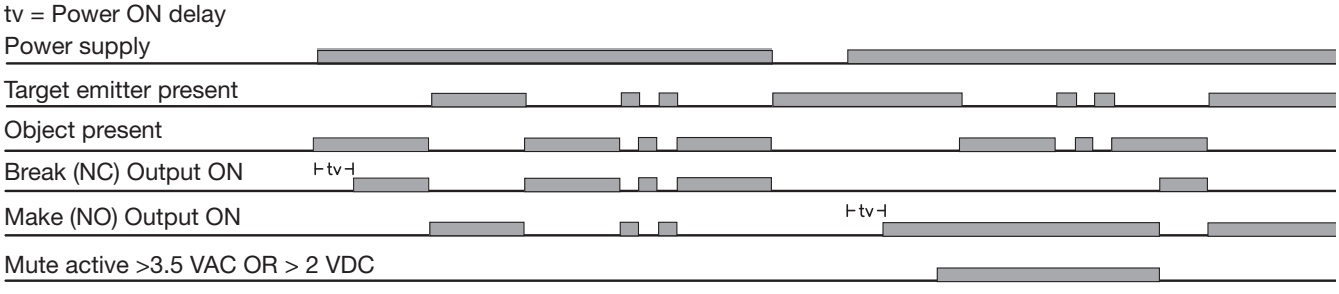
Environment	
Overvoltage category	II (IEC 60664/60664A, 60947-1)
Pollution degree	3 (IEC 60664/60664A, 60947-1)
Degree of protection	IP 54 (IEC 60529, 60947-1)
Temperature	
Operating	-20° to +60°C (-4° to +140°F)
Storage	-25° to +80°C (-13° to +176°F)
Vibration	10 to 150 Hz, 0.5 mm/7.5 g (IEC 60068-2-6)
Shock	2 x 1 m & 100 x 0.5 m (IEC 60068-2-32)

Rated insulation voltage		50 VDC
Housing material		
Front		PC black
Backpart		ABS
Connection		
Emitter		3 pole terminal block
Receiver		5 pole terminal bock
Weight		
Set		185 g
CE-marking		EN12445, EN12453, EN12978
UL-Approval	cRus	UL325, CSA-C22.2 No.247

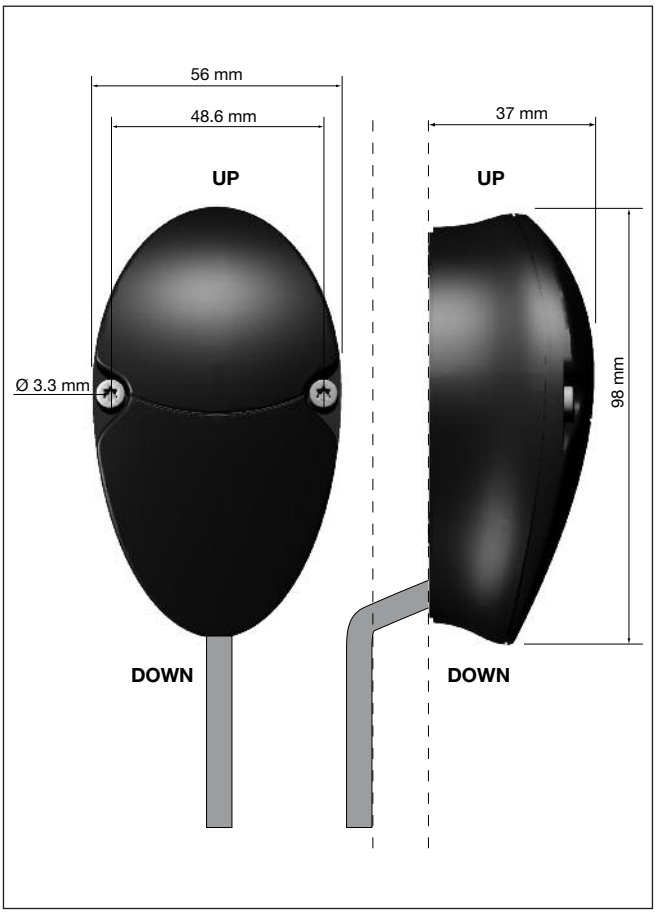
Operation Description

- The sensor shall be mounted with the draininghole facing down.
- The sensor must be mounted with silicone between the sensor and mounting wall to avoid water entering the sensor.
- The cable must be mounted pointing downwards to avoid water entering the sensor (See Dimensions).
- This product can only be used to detect direct interruption between Tx and Rx; it must not be reflected
- The sensors must be mounted on a hard vibration-free surface
- In order to obtain an “ESPE type 2” safety device, the sensors must be connected to a control system fittet with “Photo test”

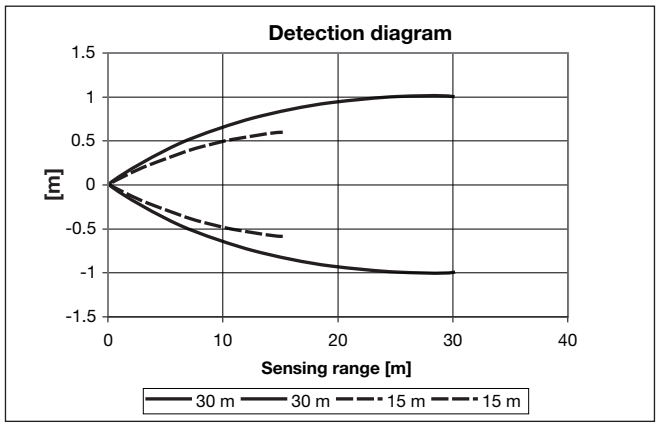
Operation Diagram



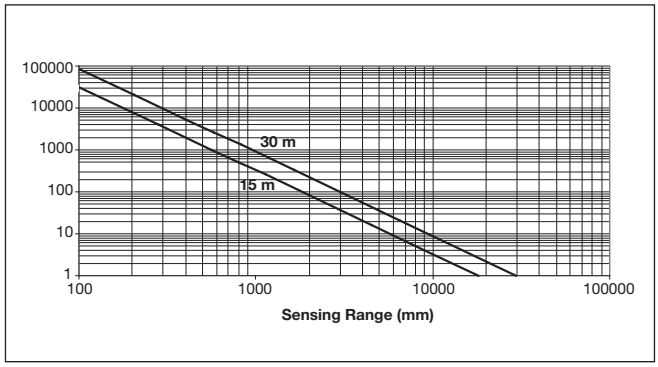
Dimensions



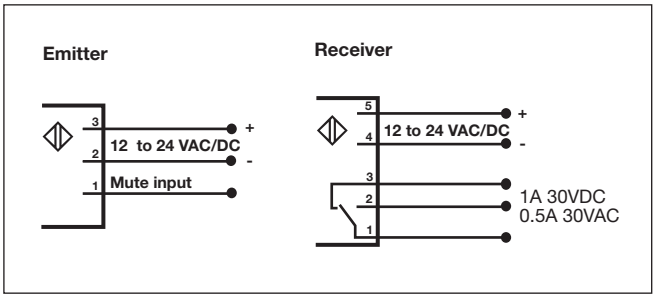
Detection Diagram



Excess Gain



Wiring Diagram

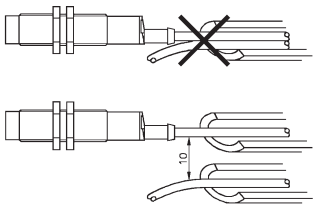


Delivery Contents

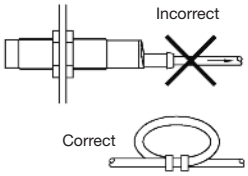
- PD98 emitter & receiver
- Installation instruction
- **Packaging:** Cardboard box
- 4 pcs 3 x 14 mm self cutting screws for top mounting
- 4 pcs screws for raw plugs
- 4 pcs raw plugs

Installation Hints

To avoid interference from inductive voltage/ current peaks, separate the prox. switch power cables from any other power cables, e.g. motor, contactor or solenoid cables

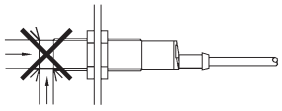


Relief of cable strain



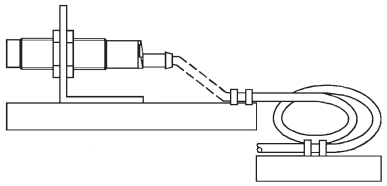
The cable should not be pulled

Protection of the sensing face



A proximity switch should not serve as mechanical stop

Switch mounted on mobile carrier



Any repetitive flexing of the cable should be avoided