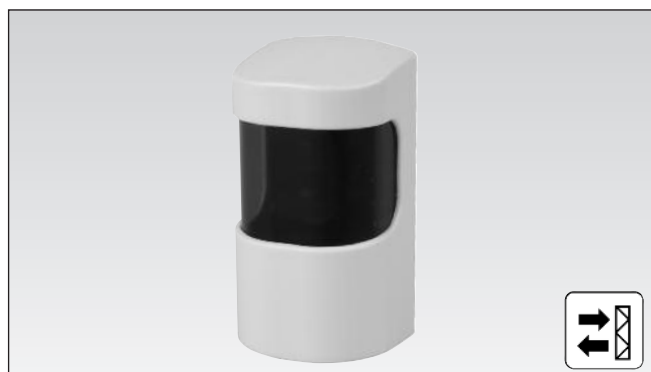


Photoelectrics

Retro-reflective, Industrial Door Market

Type PD86, Polarized, Relay Output, Mute Input

CARLO GAVAZZI



- Range: 12 m @ ER 4 (15 m @ ER100)
- Modulated, visible light, polarized
- Make or break switching function, selectable by DIP-switch
- Active high or active low mute function (switch selectable)
- LED-indication for target detected and power
- Multi supply voltage: 12-24 VDC/VAC, 50/60 Hz
- 86 x 44 x 39 mm reinforced PC/ABS-housing, IP 66
- SPST relay output
- High EMC and ambient light immunity
- CE, UL325 and UL508 approved



Product Description

The PD86 is a powerful polarized retro reflective sensor. The sensor is designed to meet the harsh requirements in industrial door and gate environments. With a sensing distance of 12 m, the sensor is useful in applications where dust and weather conditions

will influence on the sensing distance. The sensor is made of a strong glass reinforced PC housing. With the mute input, the sensor fulfills European and North American regulations for industrial doors.

Ordering Key

PD86CNP12QPMU

Type _____
Housing style _____
Housing size _____
Housing material _____
Not used _____
Detection principle _____
Sensing distance _____
Supply voltage _____
Output Function _____
Mute function _____

Type Selection

Housing W x H x D	Range (S _n)	Ordering no.
86 x 44 x 39 mm	12 m	PD86CNP12QPMU

Specifications

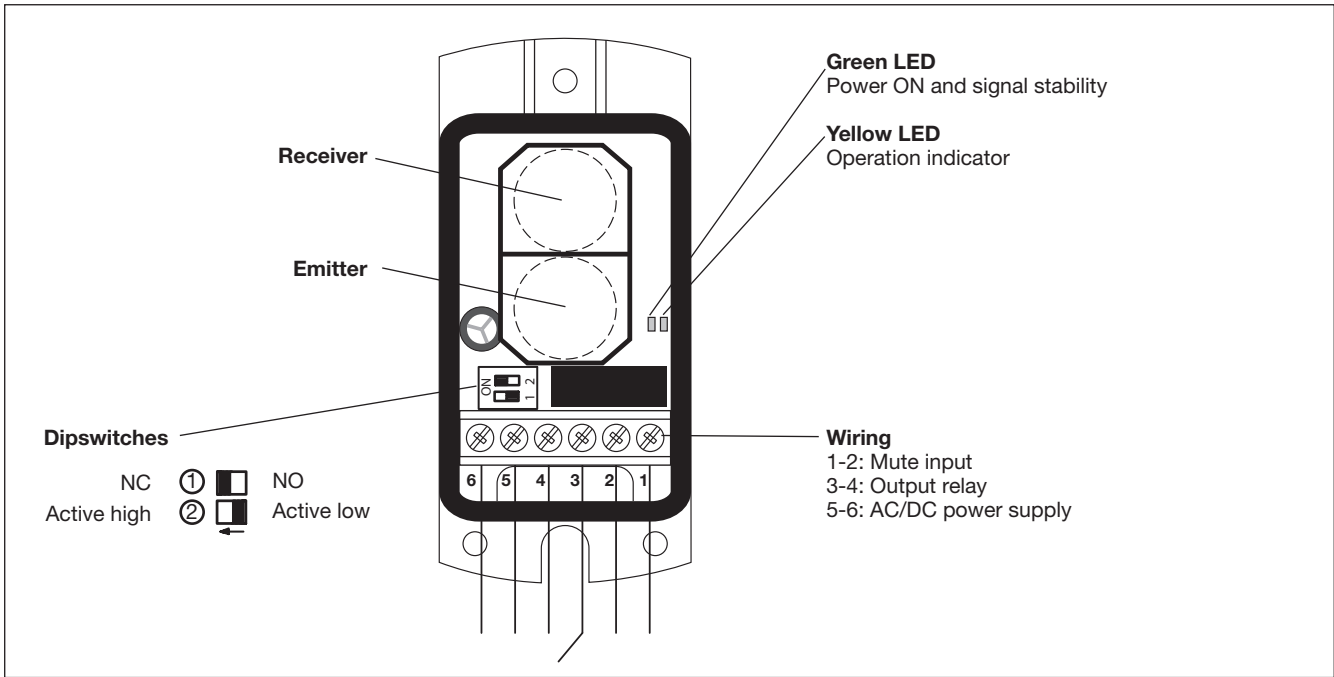
Rated operating dist. (S _n)	12 m @ ER4 ref. target (0 to 5,000 lux)	Dielectric voltage	1,000 VAC (rms) (cont./supply)
Blind zone	≤ 0.15 m	Light source	GaAlAs, LED, 660 nm
Sensitivity	Fixed	Light type	Visible, modulated
Temperature drift	≤ 0.6 %/°C	Optical angle	± 1.5°
Differential travel (H) Hysteresis	3 to 20%	Light spot size	280 mm at 4 m
Rated operational volt. (U _B) AC: 45 to 65 Hz	12-24 VDC, - 15% +20% 12-24 VAC, - 15% +20%	Ambient light	Max. 5,000 lux
Rated operational power (Relay ON)	12 VAC 648 mW 24 VAC 1680 mW 12 VDC 324 mW 24 VDC 840 mW	Operating frequency	20 Hz
Output		Response time (object related) OFF-ON (t _{ON}) ON-OFF (t _{OFF})	≤ 20 ms ≤ 30 ms
Contact ratings (AgCdO)	μ (micro gap)	Power ON delay (t _v)	≤ 300 ms (typ. 100 ms)
Resistive loads AC 1	0.5 A/30 VAC	DIP-switch Selectable functions	
DC 1	1 A/30 VDC	Mute input	active high or active low
Small inductive loads AC 15	0.5 A/50 VAC	Relay output	NO (make) or NC (break)
DC 13	1 A/30 VDC	Mute function	
Mechanical life (typical)	≥ 1,000 000 cycles	Active high	≥ 12 VDC/VAC
Electrical life (typical)	> 100,000 AC11 or DC11	Response time	< 45 ms
Minimum load power	1 mW	Hold time	< 70 ms
		Active low	< 6 VDC/VAC
		Response time	< 70 ms
		Hold time	< 45 ms
		Max current	35 mA @ 24 VDC 70 mA @ 24 VAC



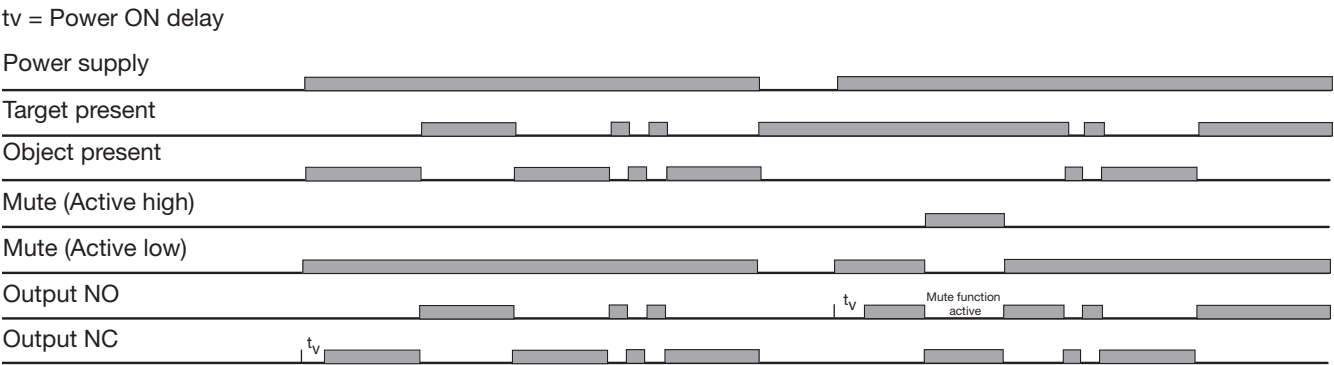
Specifications (cont.)

Indication Target detected Power Signal	LED, yellow LED, green LED, green	Rated insulation voltage	250 VAC (rms)
Environment Overvoltage category Pollution degree Degree of protection	III (IEC 60664/60664A; 60947-1) 3 (IEC 60664/60664A; 60947-1) IP 66 (IEC 60529; 60947-1)	Housing material Outer cover Inner cover Backpart Cable outlet	PC, grey PMMA, red ABS, black Kraiburg TC5MLZ or TP5VCZ
Temperature Operating Storage	-25° to +60°C (-76° to +140°F) -35° to +80°C (-31° to +176°F)	Connection Screw terminal One entry	6 x 1.5 mm ² terminal block for cable 3 to 6.5 mm
Vibration	10 to 150 Hz, 0.5 mm/7.5 g (IEC 60068-2-6)	Weight	110 g
Shock	2 x 1 m & 100 x 0.5 m (IEC 60068-2-32)	UL-Approval	UL325, UL508
		CE-marking	Yes EN12453, EN12445, EN12978

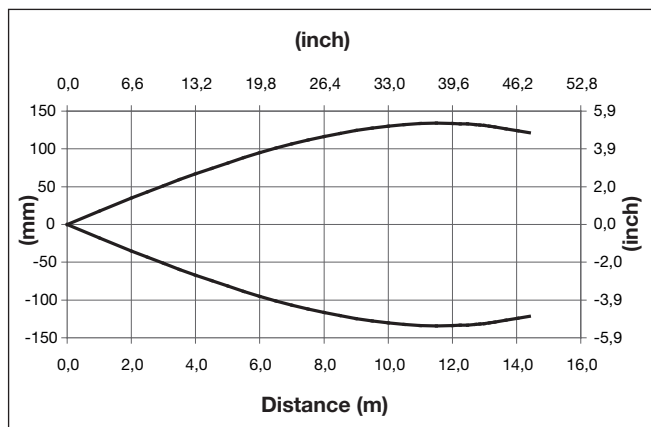
Wiring Diagram



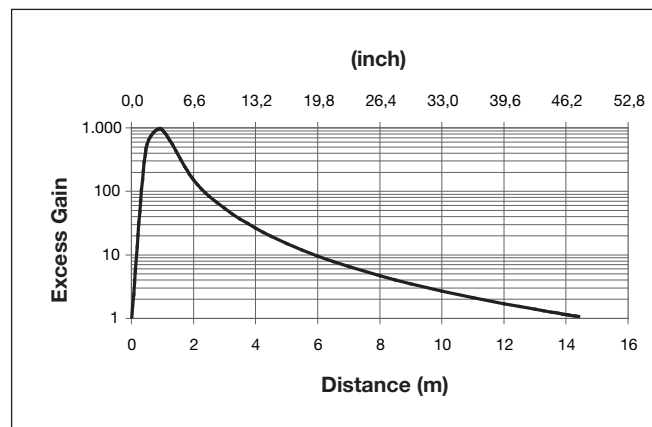
Operation Diagram



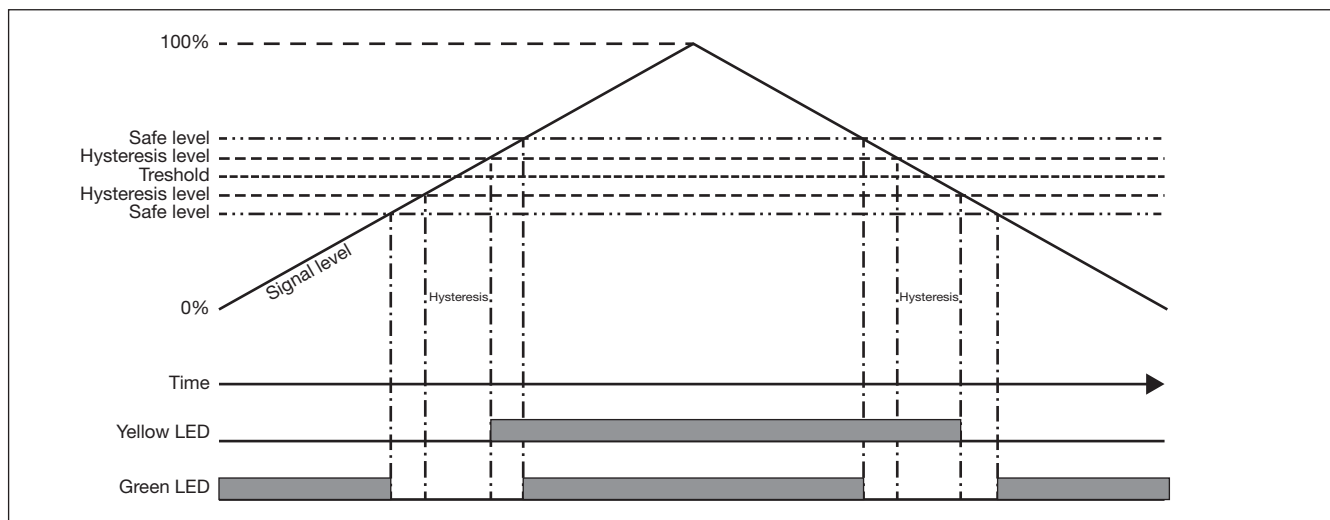
Detection Diagram



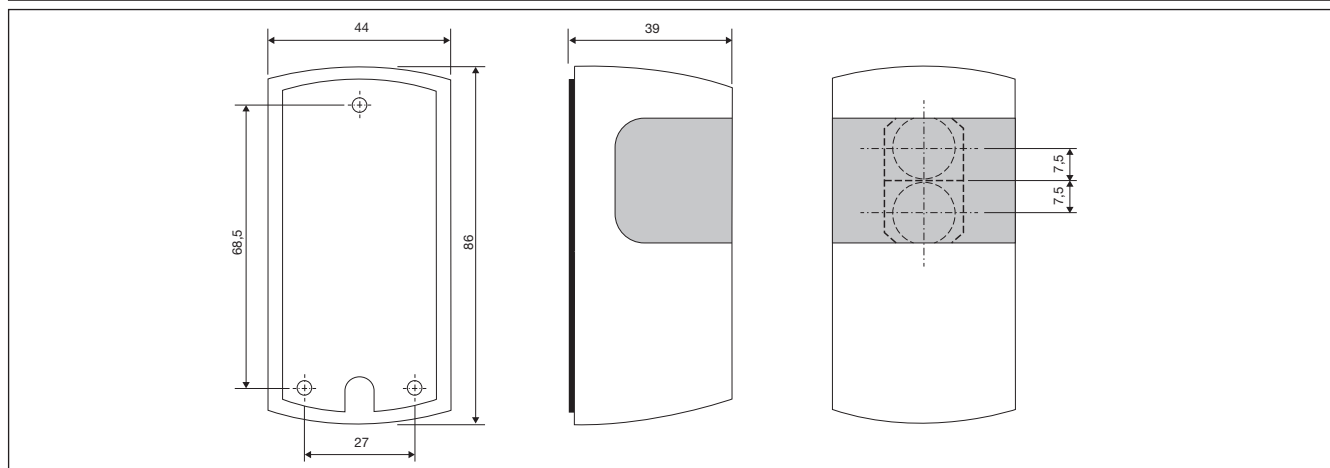
Excess Gain



LED



Dimensions





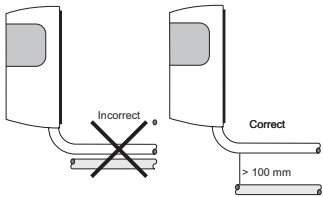
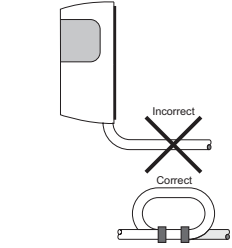
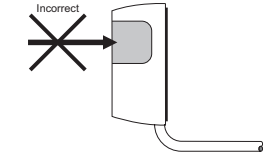
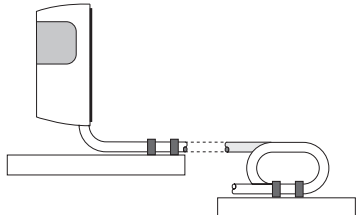
Delivery Contents

- Photoelectric switch: PD86CNP12QPMU
- Screws and rawlplugs
- Installation instruction
- **Packaging:** Cardboard box

Accessories

- Reflectors: ER series

Installation Hints

<i>To avoid interference from inductive voltage / current peaks, separate the proximity switch cables from any other power cables. E.g. Engine, contactor or solenoid cables</i> 	<i>Relief of the cable strain</i>  <i>The cable should not be pulled</i>	<i>Protection of the sensing face</i>  <i>A proximity switch should not serve as mechanical stop</i>	<i>Sensor mounted on a mobile carrier</i>  <i>Any repetitive flexing of the cable should be avoided</i>
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