

# Photoelectrics Through-beam, Transistor Output Type PD70CNT12..

CARLO GAVAZZI



- Doors and Entrance control
- Range 12 m
- Modulated, infrared light
- Supply voltage: 10 to 30 VDC
- Output: 100 mA, NPN or PNP type
- Make or break switching
- LED for output indication or power supply
- Protection: reverse polarity, short circuit, transients
- Cable versions or M8 connector
- Emitter mute
- CE and UL325 approved



## Product Description

The PD70 sensor family of Photoelectric sensors is specially designed for Doors and Entrance control to meet the requirements in the door market. The slim housing design fits inside the aluminium frame of e.g. sliding doors. The emitter has a test input to turn it off for evaluation of the sensor function. Available in 10-30 VDC version.

## Ordering Key

**PD70CNT12NOM5MH**

Type	_____
Housing style	_____
Housing size	_____
Housing material	_____
Sensor code	_____
Detection principle	_____
Sensing distance	_____
Output type	_____
Output configuration	_____
Connection type	_____
Mute input	_____

## Type Selection

Test	Range S <sub>n</sub>	Con- nec- tor	Ordering no. Receiver NPN, NO	Ordering no. Receiver NPN, NC	Ordering no. Receiver PNP, NO	Ordering no. Receiver PNP, NC	Ordering no. Emitter
Mute Low	12 m	NO	PD70CNT12NO	PD70CNT12NC	PD70CNT12PO	PD70CNT12PC	PD70CNT12ML
Mute Low	12 m	YES	PD70CNT12NOM5	PD70CNT12NCM5	PD70CNT12POM5	PD70CNT12PCM5	PD70CNT12M5ML
Mute High	12 m	NO					PD70CNT12MH
Mute High	12 m	YES					PD70CNT12M5MH

**Note:** Please order emitter and receiver separately

## Specifications Emitter

<b>Rated operational volt. (U<sub>B</sub>)</b>	10 to 30 VDC	<b>Light source</b>	LED, 850 nm
<b>Ripple (U<sub>rrp</sub>)</b>	≤ 10%	<b>Light type</b>	Infrared, modulated
<b>Supply current</b>	≤ 20 mA	<b>Optical angle</b>	< ± 5°
<b>Protection</b>	Reverse polarity, transients	<b>Indication function</b>	LED, green
<b>Test input</b>		Power supply ON	
Test High			
Emitter off	5 to 30 VDC		
Emitter on	< 2.5 VDC or not connected		
Test Low			
Emitter off	< 2.5 VDC		
Emitter on	5 to 30 VDC or not connected		



## Specifications Receiver

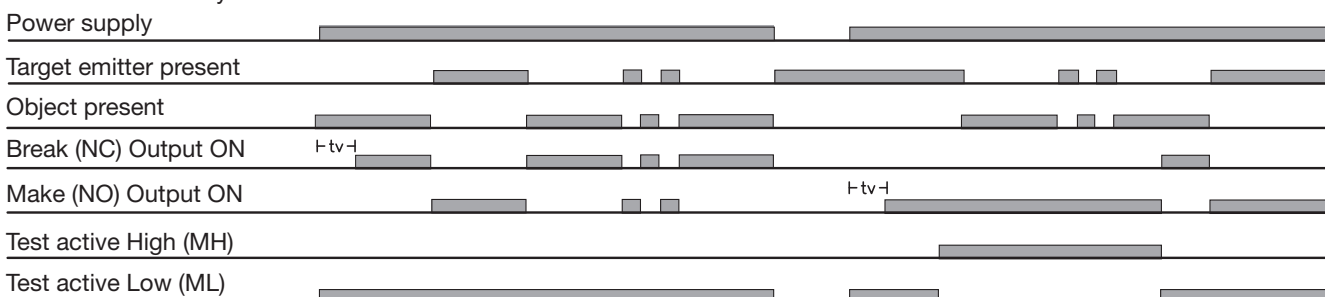
<b>Rated operating dist. (S<sub>n</sub>)</b>	12 m	<b>Optical angle</b>	± 5°
<b>Blind zone</b>	None	<b>OFF-state current (I<sub>r</sub>)</b>	≤ 100 µA
<b>Temperature drift</b>	≤ 0.2%/°C	<b>Voltage drop (U<sub>d</sub>)</b>	≤ 1.8 VDC @ 100 mA
<b>Hysteresis (H)</b>	10 - 15%	<b>Protection</b>	Short-circuit, reverse polarity, transients
<b>Rated operational volt. (U<sub>B</sub>)</b>	10 to 30 VDC (ripple included)	<b>Operating frequency (f)</b>	100 Hz
<b>Ripple (U<sub>rrp</sub>)</b>	≤ 10%	<b>Response time</b>	OFF-ON (t <sub>ON</sub> ) < 5 ms ON-OFF (t <sub>OFF</sub> ) < 5 ms
<b>Output current</b>		<b>Power ON delay (t<sub>v</sub>)</b>	≤ 200 ms
Continuous (I <sub>a</sub> )	≤ 100 mA	<b>Output function</b>	NPN or PNP
Short-time (I)	≤ 100 mA, (max. load capacity 100 nF)	<b>Indication function</b>	Output ON
<b>No load supply current (I<sub>o</sub>)</b>	≤ 16 mA		LED, yellow
<b>Minimum operational current (I<sub>m</sub>)</b>	0.5 mA		
<b>Ambient light</b>	100.000 LUX		

## General Specifications

<b>Environment</b>		<b>Housing material</b>	
Overvoltage category	II (IEC 60664/60664A, 60947-1)	Housing	PC black
Pollution degree	3 (IEC 60664/60664A, 60947-1)	Backpart receiver	PC Green
Degree of protection	IP 67 (IEC 60529, 60947-1)	Backpart emitter	PC Red
<b>Temperature</b>		<b>Connection</b>	
Operating	-25° to +55°C (-13° to +131°F)	Cable	PVC, TX: grey / RX: black, 5 m, 3 x 0.14 mm <sup>2</sup> , Ø 2.9 mm
Storage	-40° to +70°C (-40° to +158°F)	Plug	M8 - 3 pole
<b>Vibration</b>	10 to 150 Hz, 0.5 mm/7.5 g (IEC 60068-2-6)	<b>Weight (each sensor)</b>	
<b>Shock</b>	2 x 1 m & 100 x 0.5 m (IEC 60068-2-32)	With cable	90 g
<b>Rated insulation voltage</b>	50 VDC	With plug	20 g
		<b>CE-marking</b>	EN12445, EN12453, EN12978
		<b>UL-Approval</b>	cULus UL325, CSA-C22.2 No.247

## Operation Diagram

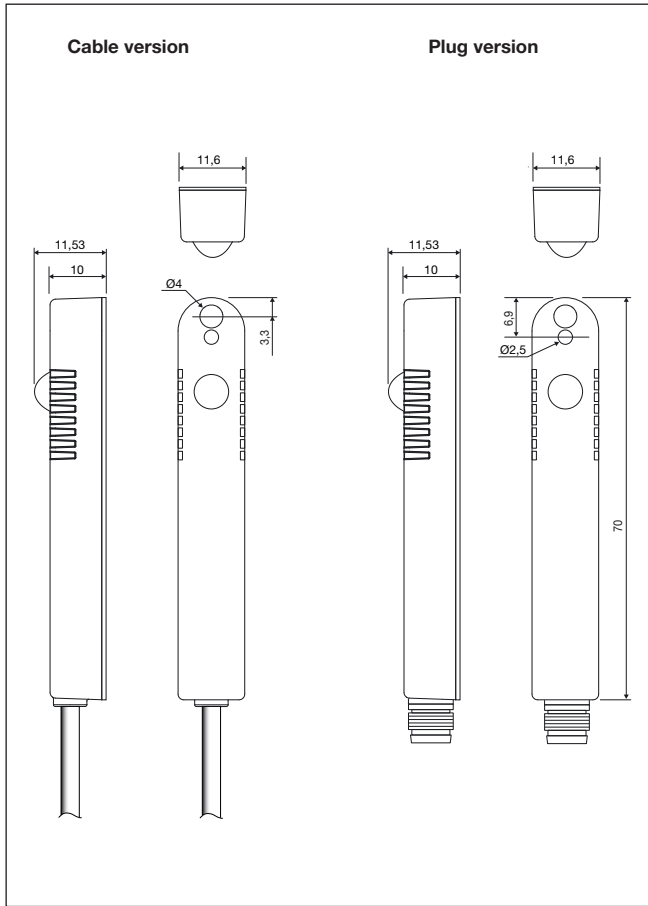
t<sub>v</sub> = Power ON delay



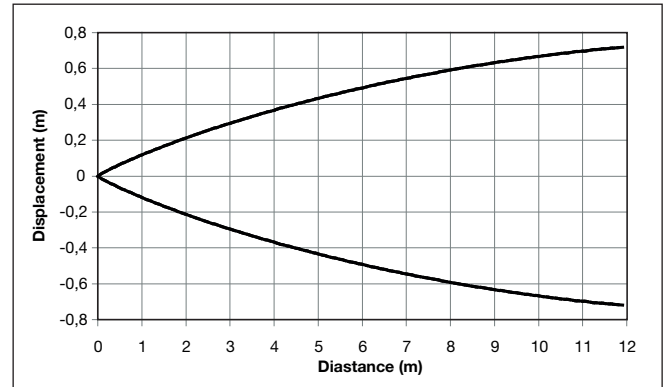
## Installation Hints

<p>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</p>	<p>Relief of cable strain</p> <p>Incorrect</p> <p>Correct</p> <p>The cable should not be pulled</p>	<p>Protection of the sensing face</p> <p>A proximity switch should not serve as mechanical stop</p>	<p>Switch mounted on mobile carrier</p> <p>Any repetitive flexing of the cable should be avoided</p>
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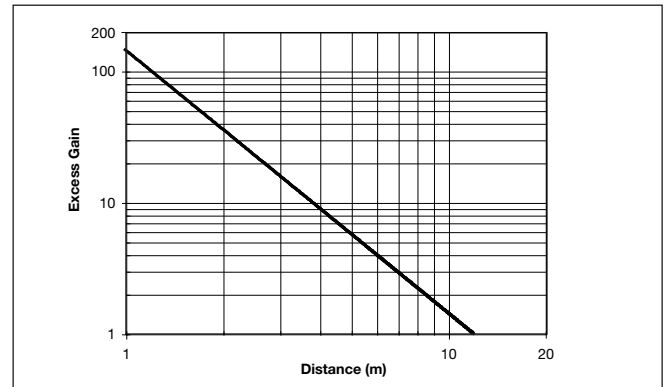
## Dimensions



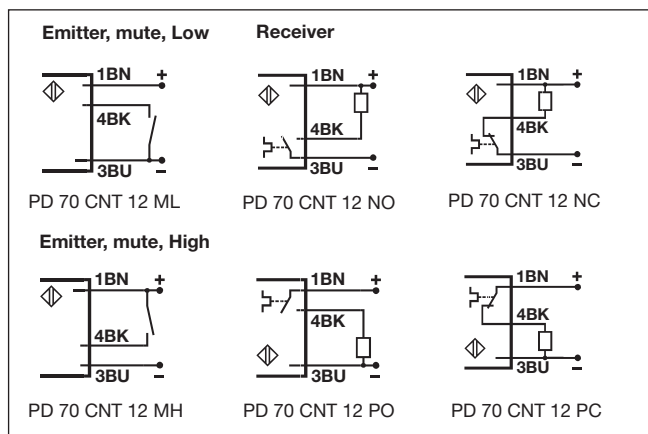
## Detection Diagram



## Excess Gain



## Wiring Diagram



## Delivery Contents

- PD70
- **Packaging:** plastic bag

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