

# Photoelectrics Through-beam, Transistor Output Type PD40CNT40

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- Range: 4 m
- Adjustable sensitivity
- Modulated, visible red light
- Supply voltage: 10 to 30 VDC
- Output: 100 mA, NPN or PNP
- Make and break switching function selectable
- LED for output indication
- Protection: reverse polarity, short circuit, transients
- Cable and plug versions

## Product Description

The PD40CNT. is a family of general purpose through-beam sensors in a mini square 10 x 40 x 13.5 mm reinforced ABS-housing. They are useful in applications where mini square sensors provide adequate sensing performance.

The sensing range together with sensitivity adjustment gives a very flexible sensor. They are with a NPN transistor or PNP transistor output and the configuration is programmable NO and NC.

## Ordering Key

**PD40CNT40PPM5**

Type	_____
Housing style	_____
Housing size	_____
Housing material	_____
Housing length	_____
Detection principle	_____
Sensing distance	_____
Output type	_____
Output configuration	_____
Connection type	_____

## Type Selection

Housing W x H x D	Range S <sub>n</sub>	Connection	Ordering no. Receiver, NPN Make or break	Ordering no. Receiver, PNP Make or break	Ordering no. Emitter
10 x 40 x 13.5 mm	4 m	Cable	PD 40 CNT 40 NP	PD 40 CNT 40 PP	PD 40 CNT 40
10 x 40 x 13.5 mm	4 m	Plug	PD 40 CNT 40 NPM5	PD 40 CNT 40 PPM5	PD 40 CNT 40 M5

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

## Specifications Emitter

Rated operational volt. (U <sub>B</sub> )	10 to 30 VDC	Light source	LED, 644 nm
Ripple (U <sub>rp</sub> )	≤ 10%	Light type	Visible red, modulated
Supply current	≤ 25 mA	Ambient light (sunlight)	Max. 10.000 lux
Protection	Reverse polarity	Light spot size	18 mm at 80 mm

## Specifications Receiver

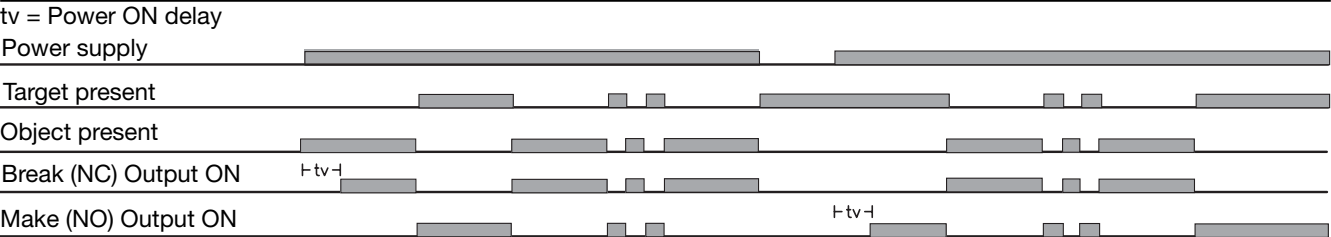
Rated operating dist. (S <sub>n</sub> )	4 m	OFF-state current (I <sub>r</sub> )	≤ 1 μA
Blind zone	None	Voltage drop (U <sub>d</sub> )	≤ 2.0 VDC @ 100 mA
Sensitivity	Adj. by multiturn pot.meter	Protection	Short-circuit, reverse polarity, overload
Temperature drift	± 0.4%/°C	Operating frequency (f)	500 Hz
Hysteresis (H)	3 - 20%	Response time	OFF-ON (t <sub>ON</sub> ) ≤ 1 ms ON-OFF (t <sub>OFF</sub> ) ≤ 1 ms
Rated operational volt. (U <sub>B</sub> )	10 to 30 VDC (ripple included)	Power ON delay (t <sub>v</sub> )	≤ 1 ms
Ripple (U <sub>rp</sub> )	≤ 10%	Output function	Selectable make or break switching
Output current		Indication function	
Continuous (I <sub>a</sub> )	≤ 100 mA	Output ON	LED, yellow
No load supply current (I <sub>o</sub> )	≤ 25 mA		
Minimum operational current (I <sub>m</sub> )	0.5 mA		



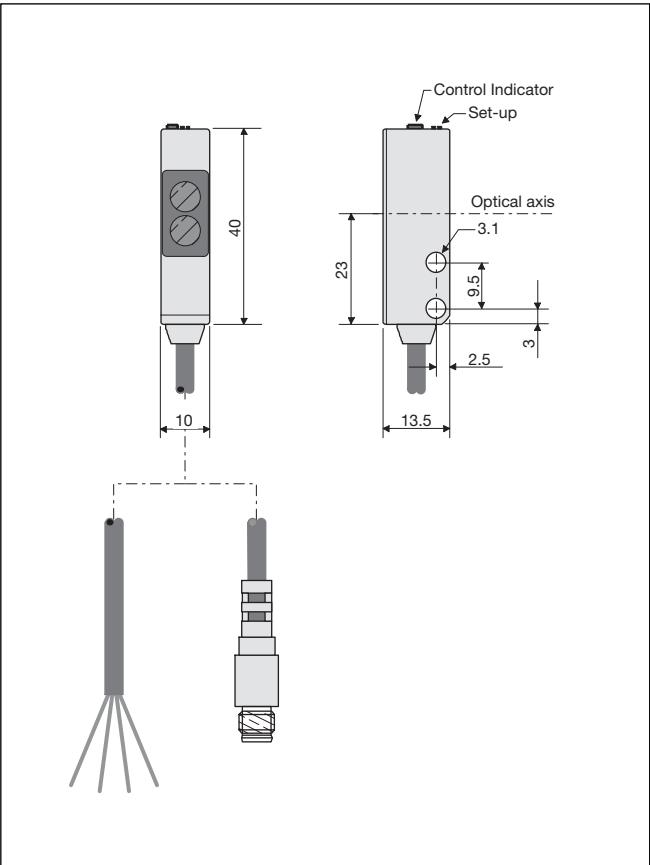
General Specifications

<b>Environment</b>		<b>Connection</b>	
Overvoltage category	II (IEC 60664/60664A, 60947-1)	Cable receiver	PVC, grey, 2 m, 4 x 0.25 mm <sup>2</sup>
Pollution degree	3 (IEC 60664/60664A, 60947-1)	Cable emitter	PVC, grey, 2 m, 4 x 0.25 mm <sup>2</sup>
Degree of protection	IP 67 (IEC 60529, 60947-1)	Plug (M5) pigtail	Santaprene, M8 x 1, 15 cm cable CONG5A-series
<b>Temperature</b>		Cables for plug (M5)	
Operating	-0° to +50°C (-32° to +122°F)	<b>Weight</b>	
Storage	20° to +80°C (-4° to +176°F)	Emitter, receiver, cable	44 g each
<b>Rated insulation voltage</b>		Emitter, receiver, plug	11 g each
<b>Housing material</b>		<b>CE-marking</b>	Yes
Body	ABS, grey		
Front glass	PMMA, red		
Mounting bracket	Steel, galvanized		

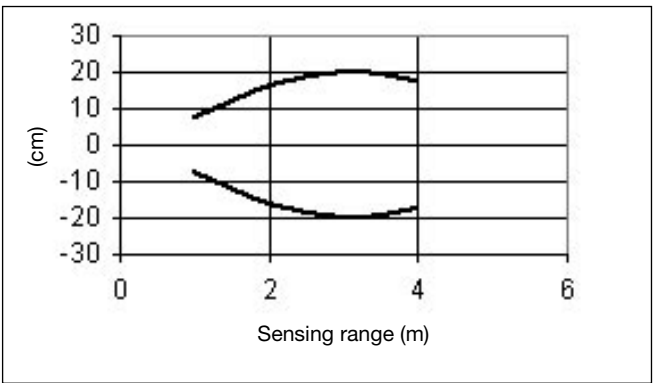
Operation Diagram



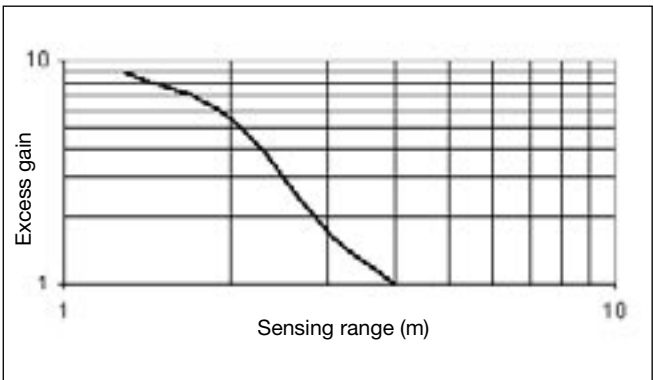
Dimensions



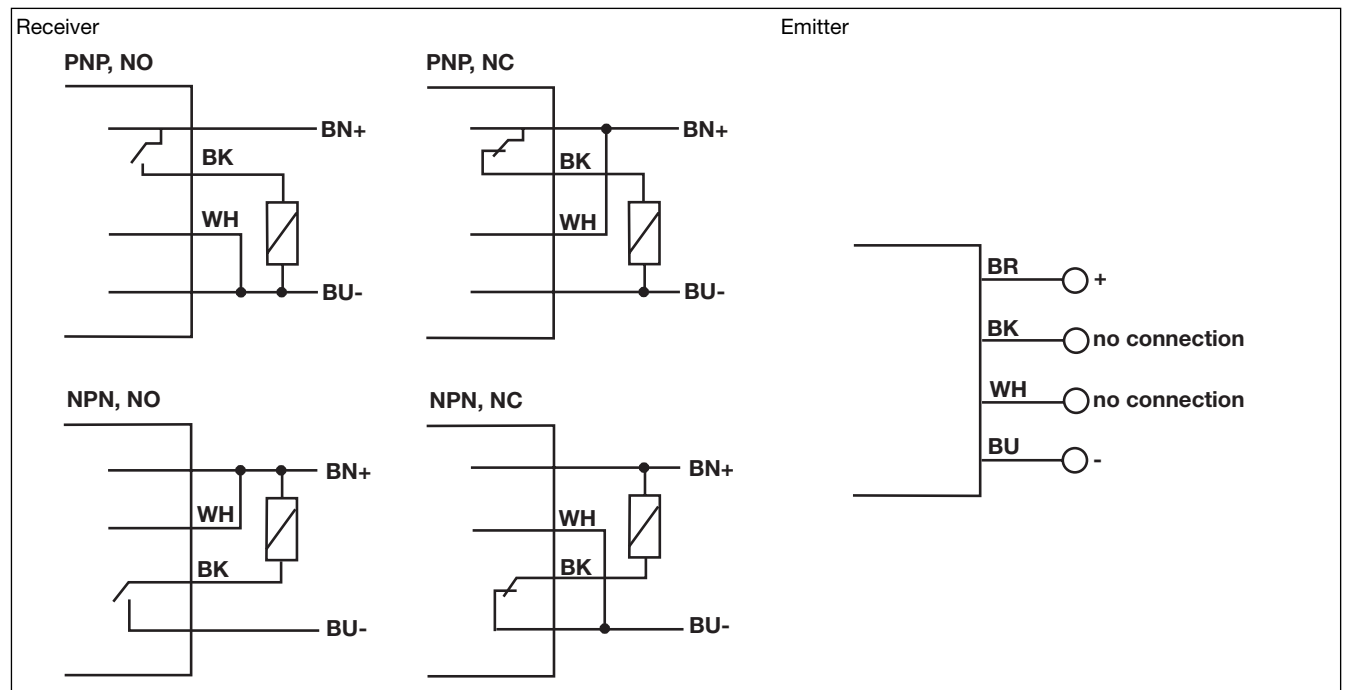
Detection Diagram



Excess Gain



## Wiring Diagrams



## 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>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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## Delivery Contents

- Photoelectric switch: PD40CNT40
- Installation instruction
- Mounting bracket
- **Packaging:** Cardboard box

## Accessories

- Screwdriver 77.001
- Connector type CONG5A..