

# Photoelectrics, Fibre Optic Sensor Plastic Fibres Type PD40CNX 12 PP ..

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- Range: Fibre dependent
  - typ. 40 mm as diffuse reflective
  - typ. 120 mm as through beam
- Adjustable sensitivity
- Modulated, visible red light
- Supply voltage: 10 to 30 VDC
- Output: 100 mA, PNP
- Make and break switching function selectable
- LED for output indication
- Protection: reverse polarity, short-circuit, transients
- Cable and plug versions
- Small size 10 x 13,5 x 40 mm

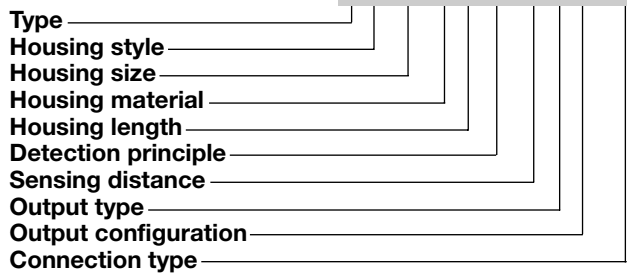
## Product Description

The PD40CNX... is a fibre optic amplifier made specific for plastic fibres. The sensor has a manual distance setup by potentiometer, NO or NC (light or dark mode) output are selectable by wiring. The sensor output is a PNP output which are fully protected against short-circuit, transients and wrong polarity. The

sensor is build in a strong 10 x 13,5 x 40 mm ABS housing. The sensors are suitable for applications that require little space and high accuracy such as: Small part detection, tight locations, checking parts, counting, precise part positioning, material handling and assembly and robotics.

## Ordering Key

**PD40CNX12PPM5**



## Type Selection

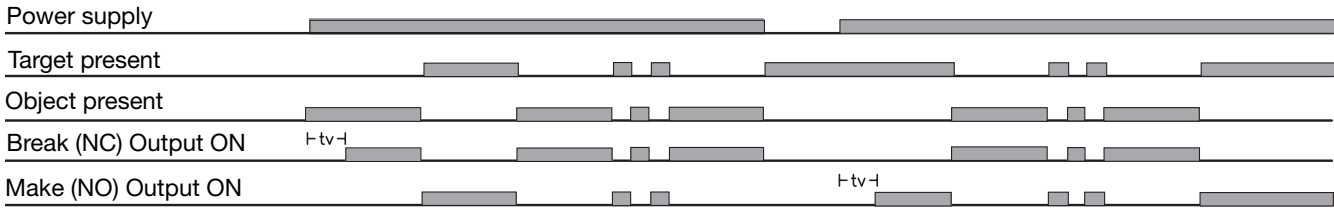
Housing W x H x D	Range S <sub>n</sub> Fibre dependent Diffuse mode/through beam mode	Ordering no. PNP, cable Make or break switching	Ordering no. PNP, plug Make or break switching
10 x 40 x 13.5 mm	40/120 mm	PD 40 CNX 12 PP	PD 40 CNX 12 PP M5

## Specifications

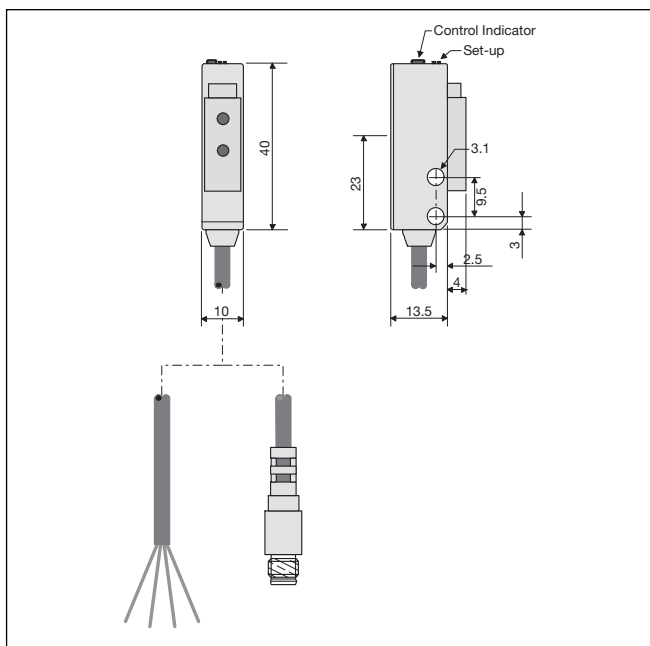
<b>Rated operating distance (S<sub>n</sub>)</b> Diffuse mode Through beam mode	See optical fibres Up to 40 mm Up to 120 mm	<b>Output function</b>	Sel. make or break switching
<b>Sensitivity</b>	Adjustable by multi turn potentiometer	<b>Indication function</b> Output ON	LED, yellow
<b>Hysteresis (diff. travel) (H)</b>	3 - 20%	<b>Environment</b> Installation category	I (IEC 60664/60664A; 60947-1)
<b>Temperature drift</b>	± 0.4%/°C	Pollution degree	3 (IEC 60664/60664A; 60947-1)
<b>Rated operational volt. (U<sub>B</sub>)</b>	10 to 30 VDC (incl. ripple)	Degree of protection	IP 67 (IEC 60529; 60947-1)
<b>Ripple (U<sub>rip</sub>)</b>	≤ 10%	<b>Temperature</b> Operating Storage	0° to +50°C (-32° to +122°F) -20° to +80°C (-4° to +176°F)
<b>Output current (I<sub>e</sub>)</b>	≤ 100 mA (continuous)	<b>Rated insulation voltage</b>	550 Vrms/50 Hz
<b>No load supply current (I<sub>o</sub>)</b>	≤ 25 mA	<b>Housing material</b> Body and front glass Mounting bracket	ABS, grey Steel, galvanized
<b>Minimum operational current (I<sub>m</sub>)</b>	0.5 mA	<b>Connection</b> Cable Plug (M5) pigtail	PVC, grey, 2 m, 4 x 0.25 mm <sup>2</sup> Santaprene, M8 x 1, 15 cm cable CONG5A-series
<b>OFF-state current (I<sub>r</sub>)</b>	Max. 1 µA	Cables for plug (M5)	
<b>Voltage drop (U<sub>d</sub>)</b>	≤ 2.0 VDC @ 100 mA	<b>Weight</b> Cable/plug version	44 g/11 g
<b>Protection</b>	Short-circuit, reverse polarity, transients	<b>CE-marking</b>	Yes
<b>Light source</b>	LED, 644 nm		
<b>Light type</b>	Visible red-light, modulated		
<b>Ambient light (sunlight)</b>	Max. 10'000 lux		
<b>Operating frequency</b>	500 Hz		
<b>Response time</b> OFF-ON (t <sub>ON</sub> ), ON-OFF (t <sub>OFF</sub> )	≤ 1 ms		
<b>Power ON delay (t<sub>v</sub>)</b>	≤ 1 ms		

## Operation Diagram

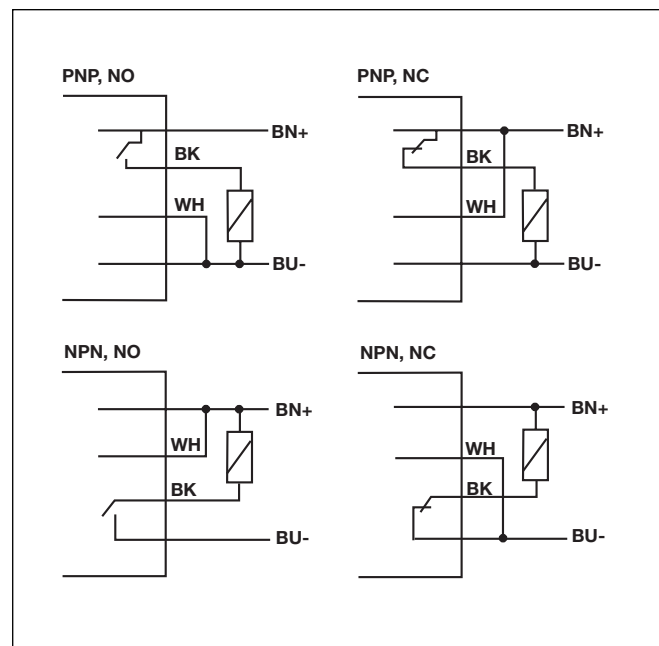
tv = Power ON delay



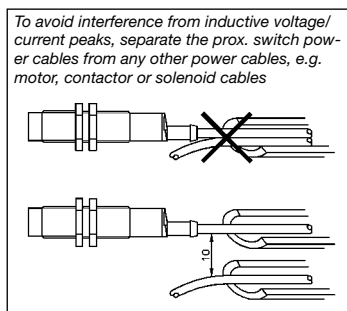
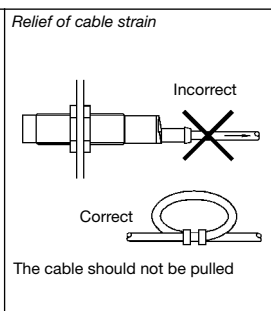
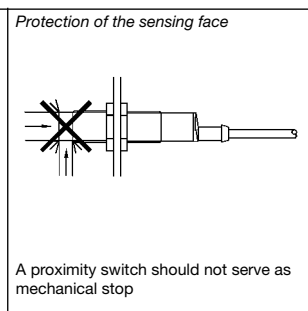
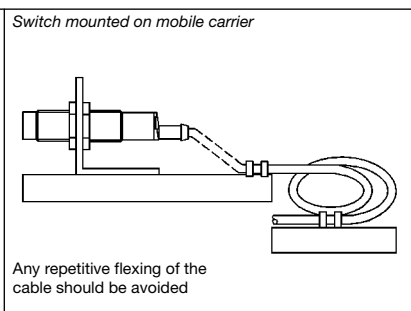
## Dimensions



## 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: PD40CNX 12
- Installation instruction
- Mounting bracket
- **Packaging:** Cardboard box

## Accessories

- Plastic fibres: types FPD., FPT..
- Connector: type CONG 5A ..
- Screwdriver for adjustment: 77-001

For further information refer to "Accessories"