

Photoelectrics, Fibre Optic Sensor

Plastic Fibres

Type PD40CNX 12 PP ..

CARLO GAVAZZI



- 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	_____
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 _n 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

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

Operation Diagram

tv = Power ON delay

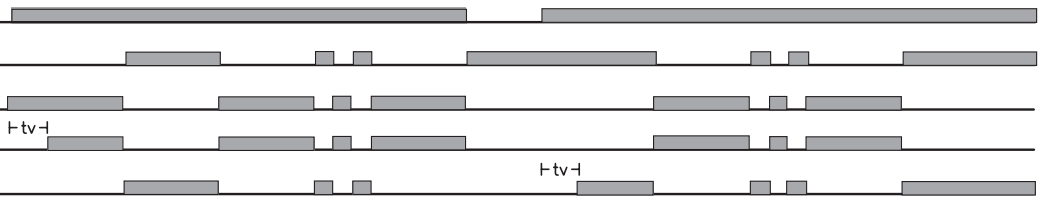
Power supply

Target present

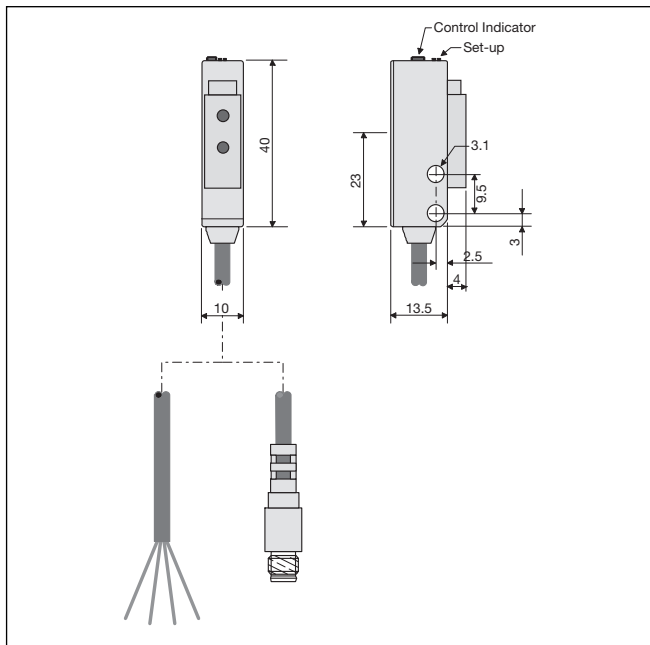
Object present

Break (NC) Output ON

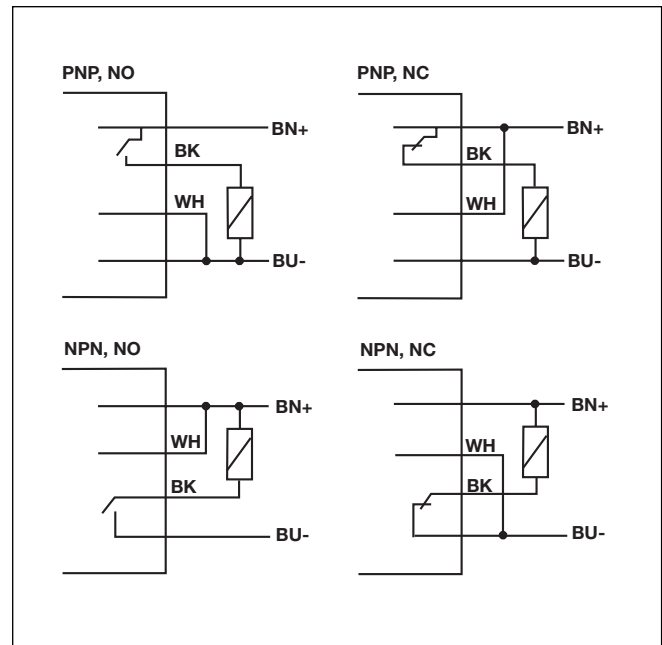
Make (NO) Output ON



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>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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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"