

Photoelectrics

Retro-reflective, Polarized, Transistor Output

Type PD40CNP15

CARLO GAVAZZI



- Range: 1.5 m
- Adjustable sensitivity
- Modulated, visible red light, polarized
- 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 PD40CNP is a family of general purpose polarized retro-reflective 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 or PNP transistor output and the configuration is programmable NO and NC.

Ordering Key

PD40CNP15NPM5

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	Connection	Ordering no. NPN Make & break switching	Ordering no. PNP Make & break switching
10 x 40 x 13.5 mm	1.5 m	Cable	PD 40 CNP 15 NP	PD 40 CNP 15 PP
10 x 40 x 13.5 mm	1.5 m	Plug	PD 40 CNP 15 NPM5	PD 40 CNP 15 PPM5

Note: Reflector to be ordered separately

Specifications

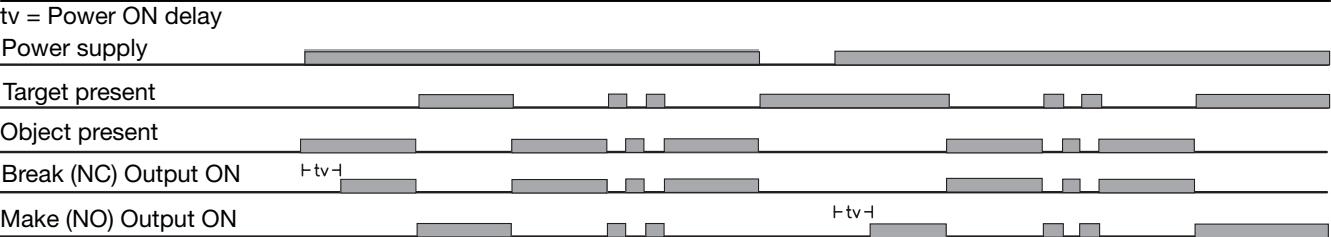
Rated operating distance (S_n)	Up to 1.5 m, with reflector type ER 4, ref. target	Light source	LED, 644 nm
Blind zone	20 mm typical value	Light type	Visible red-light, modulated
Sensitivity	Adjustable by multi-turn potentiometer	Light spot size	18 mm at 80 mm
Hysteresis (H)		Ambient light (sunlight)	Max. 10'000 lux
Differential travel	3 - 20%	Operating frequency	500 Hz
Temperature drift	± 0.4%/°C	Response time	
Rated operational volt. (U_B)	10 to 30 VDC (ripple included)	OFF-ON (t _{ON})	≤ 1 ms
Ripple (U_{rpp})	≤ 10%	ON-OFF (t _{OFF})	≤ 1 ms
Output current		Power ON delay (t_v)	≤ 1 ms
Continuous (I _a)	≤ 100 mA	Output function	Selectable make or break switching
No load supply current (I_o)	≤ 25 mA	Indication function	
Minimum operational current (I_m)	0.5 mA	Output ON	LED, yellow
OFF-state current (I_r)	Max. 1 µA	Environment	
Voltage drop (U_d)	≤ 2.0 VDC @ 100 mA	Installation category	II (IEC 60664/60664A; 60947-1)
Protection	Short-circuit, reverse polarity, transients	Pollution degree	3 (IEC 60664/60664A; 60947-1)
		Degree of protection	IP 67 (IEC 60529; 60947-1)
		Temperature	
		Operating	0° to +50°C (-32° to +122°F)
		Storage	-20° to +80°C (-4° to +176°F)



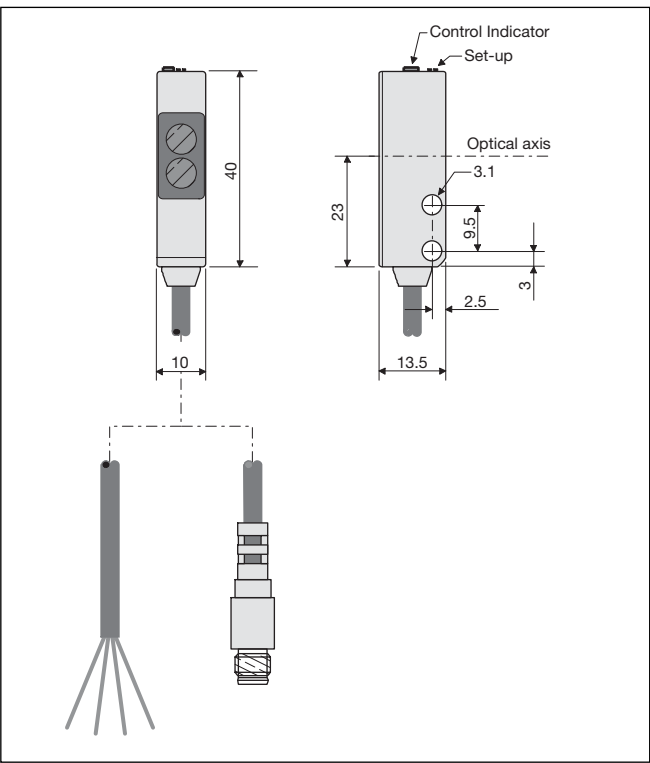
Specifications (cont.)

Rated insulation voltage	550 Vrms/50 Hz	Connection	PVC, grey, 2 m, 4 x 0.25 mm ² Santaprene, M8 x 1, 15 cm cable CONG5A-series
Housing material	ABS, grey Front glass PMMA, red Mounting bracket Steel, galvanized	Weight	44 g 11 g
		CE-marking	Yes

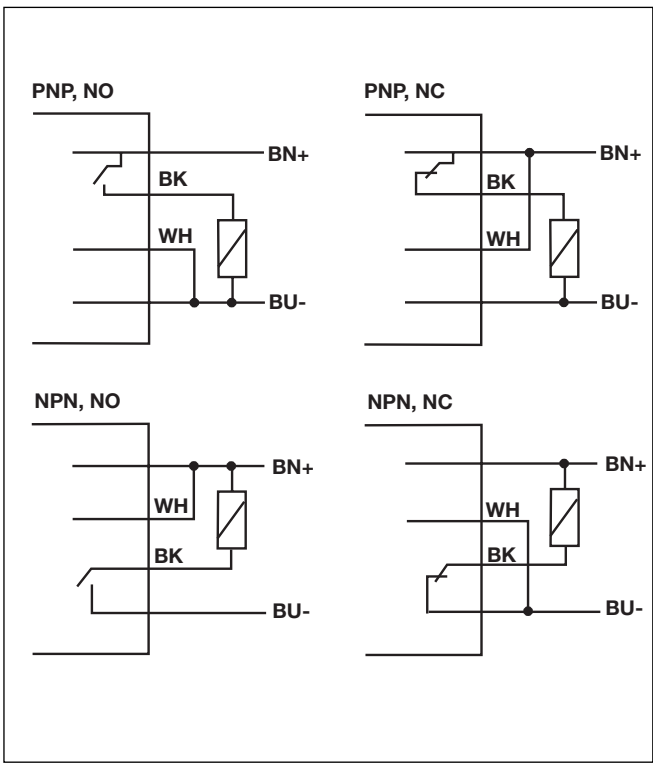
Operation Diagram



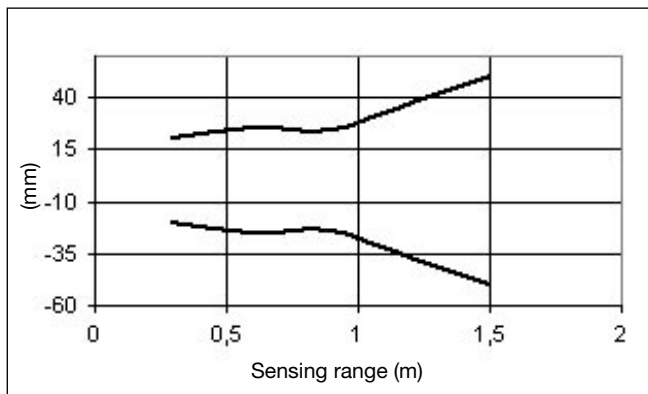
Dimensions



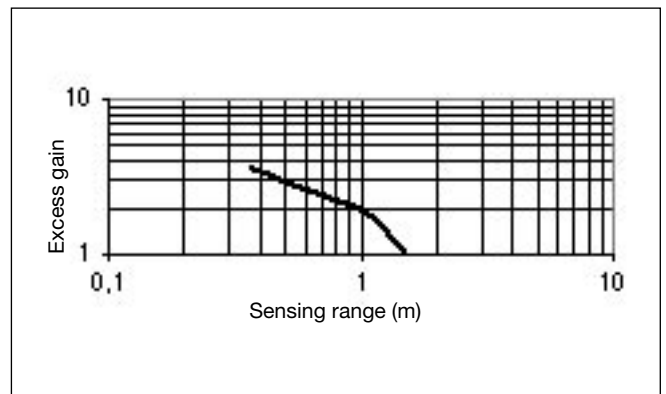
Wiring Diagrams



Detection Diagram

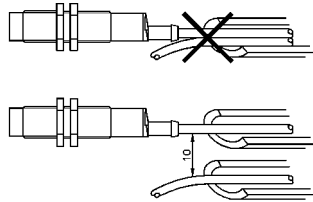


Excess Gain

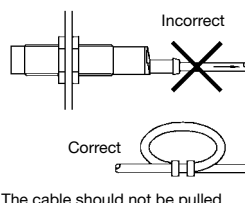


Installation Hints

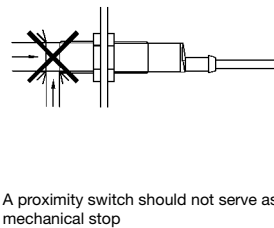
To avoid interference from inductive voltage/current peaks, separate the prox. switch power cables from any other power cables, e.g. motor, contactor or solenoid cables



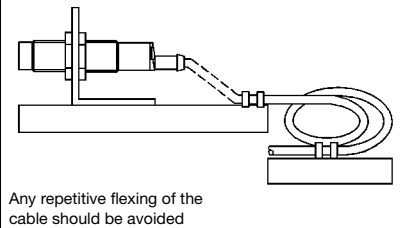
Relief of cable strain



Protection of the sensing face



Switch mounted on mobile carrier



Delivery Contents

- Photoelectric switch: PD40CNP15
- Installation instruction
- Mounting bracket
- **Packaging:** Cardboard box

Accessories

- Reflectors: ER-series
- Screwdriver for adjustment: 77-001
- Connector type CONG5A..

For further information refer to "Accessories"