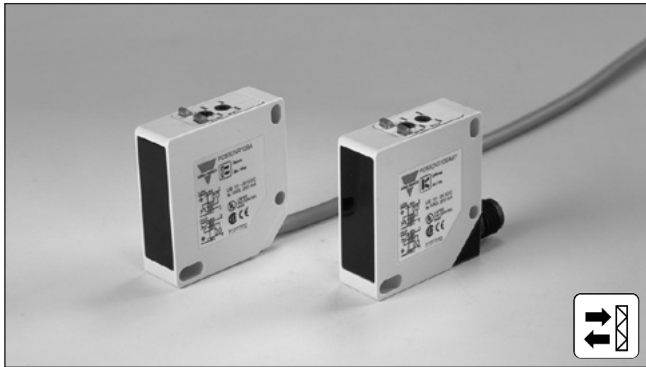


# Photoelectrics Retro-reflective, Polarized, Transistor Output Type PC50CNP06BA

CARLO GAVAZZI



- Range: 6 m
- Adjustable sensitivity
- Modulated, visible red light, polarized
- Supply voltage: 10 to 30 VDC
- Output: 200 mA, NPN or PNP
- Make and break switching function selectable
- LED for output indication, signal stability and power ON
- Protection: reverse polarity, short-circuit, transients
- Cable and plug versions
- High degree of EMC



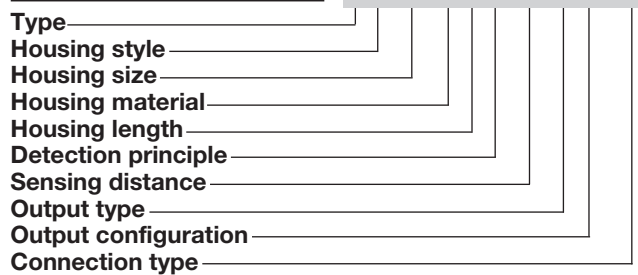
## Product Description

The PC50CNP. is a family of general purpose polarized retro-reflective sensors in a compact square 17 x 50 x 50 mm reinforced PC/ABS-housing. They are useful in applications where basic sensors provide adequate sensing

performance. The long sensing range together with sensitivity adjustment gives a very flexible sensor. The DC types are with a transistor output and the configuration is fully programmable (NPN, PNP, NO and NC).

## Ordering Key

**PC50CNP06BAM1**



## Type Selection

Housing W x H x D	Range S <sub>n</sub>	Ordering no. NPN & PNP cable Make & break switching	Ordering no. NPN & PNP plug Make & break switching
17 x 50 x 50 mm	6 m	PC 50 CNP 06 BA	PC 50 CNP 06 BAM1

**Note:** Reflector to be ordered separately

## Specifications

<b>Rated operating distance (S<sub>n</sub>)</b>	Up to 6 m, with reflector type ER 4, ref. target	<b>Light source</b>	GaAIAs, LED, 660 nm
<b>Blind zone</b>	Max. 20 cm	<b>Light type</b>	Visible red, modulated
<b>Sensitivity</b>	Adjustable by single-turn potentiometer	<b>Sensing angle</b>	± 2° at 1/2 range
<b>Hysteresis (H)</b> Differential travel	3 - 20%	<b>Ambient light</b>	Max. 5'000 lux
<b>Temperature drift</b>	≤ 0.5%/°C	<b>Operating frequency</b>	500 Hz
<b>Rated operational volt. (U<sub>B</sub>)</b>	10 to 30 VDC (ripple included)	<b>Response time</b> OFF-ON (t <sub>ON</sub> ) ON-OFF (t <sub>OFF</sub> )	≤ 1 ms ≤ 1 ms
<b>Ripple (U<sub>rpp</sub>)</b>	≤ 10%	<b>Power ON delay (t<sub>v</sub>)</b>	≤ 300 ms
<b>Output current</b> Continuous (I <sub>a</sub> ) Short-time (I)	≤ 200 mA ≤ 200 mA, (max. load capacity 100 nF)	<b>Output function</b> NPN and PNP Complementary function	Switch selectable Make and break (NO + NC)
<b>No load supply current (I<sub>o</sub>)</b>	≤ 40 mA	<b>Indication function</b> Output ON Signal stability ON and power ON	LED, yellow LED, green
<b>Minimum operational current (I<sub>m</sub>)</b>	0.5 mA	<b>Environment</b> Installation category	II (IEC 60664/60664A; 60947-1)
<b>OFF-state current (I<sub>r</sub>)</b>	Max. 100 μA	Pollution degree	3 (IEC 60664/60664A; 60947-1)
<b>Voltage drop (U<sub>d</sub>)</b>	≤ 2.5 VDC @ 200 mA	Degree of protection	IP 67 (IEC 60529; 60947-1)
<b>Protection</b>	Short-circuit, reverse polarity, transients		

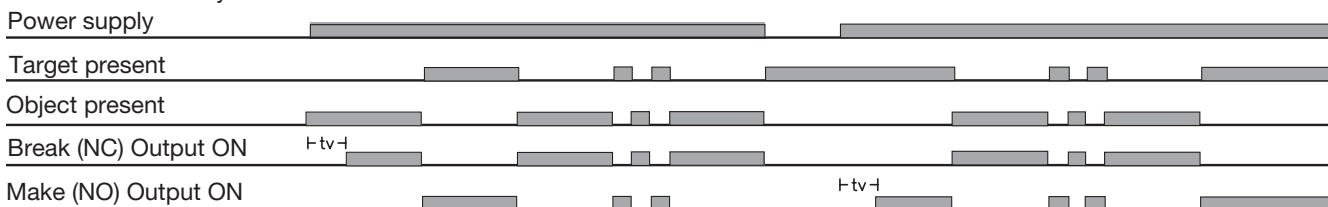


## Specifications (cont.)

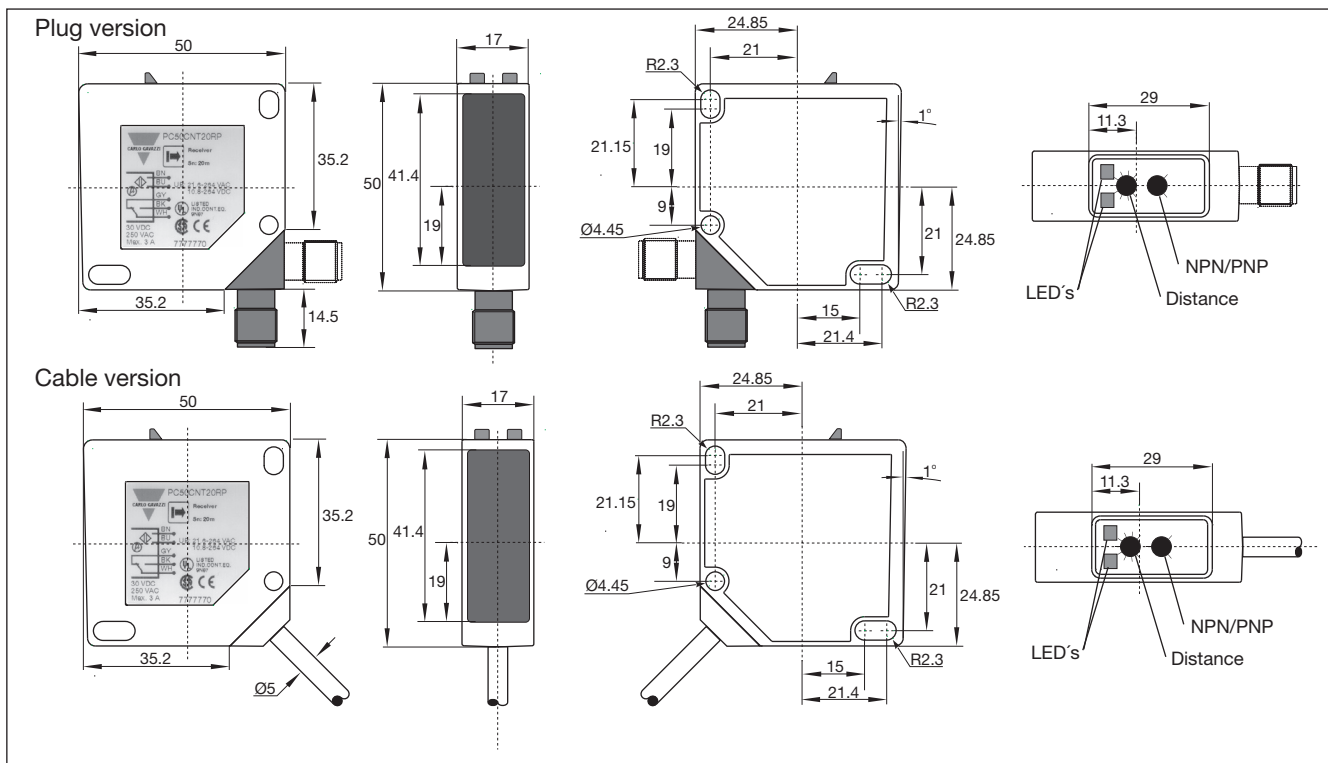
<b>Temperature</b> Operating Storage	-20° to +60°C (-4° to +140°F) -25° to +80°C (-13° to +176°F)	<b>Connection</b> Cable Plug (M1) Cables for plug (M1)	PVC, grey, 2 m, 4 x 0.34 mm <sup>2</sup> PBTP, M12 x 1 CON.1A-series
<b>Vibration</b>	10 to 150 Hz, 0.5 mm/7.5 g (IEC 60068-2-6)	<b>Weight</b>	110 g
<b>Shock</b>	2 x 1 m & 100 x 0.5 m (IEC 60068-2-32)	<b>Approvals</b>	UL, CSA
<b>Rated insulation voltage</b>	50 VDC	<b>CE-marking</b>	Yes
<b>Housing material</b> Body Front glass Mounting bracket	PC/ABS, grey PMMA, red Steel, galvanized		

## Operation Diagram

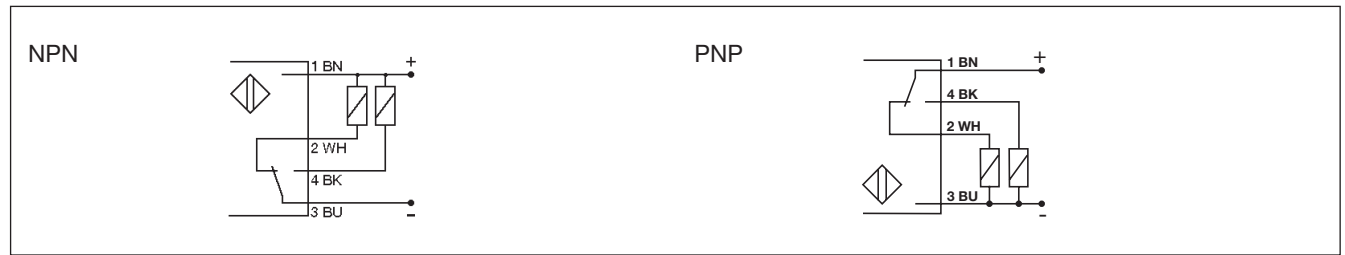
tv = Power ON delay



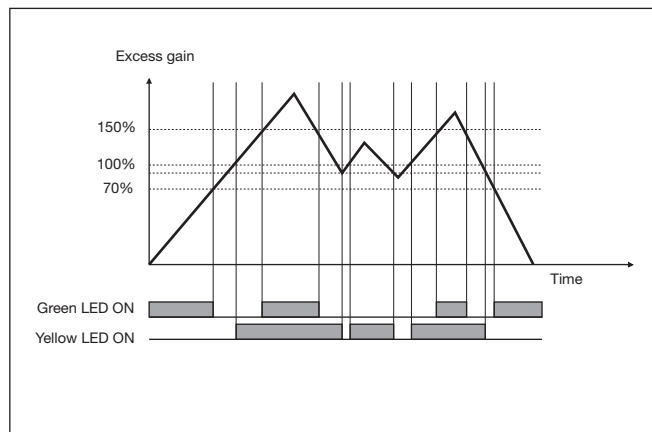
## Dimensions



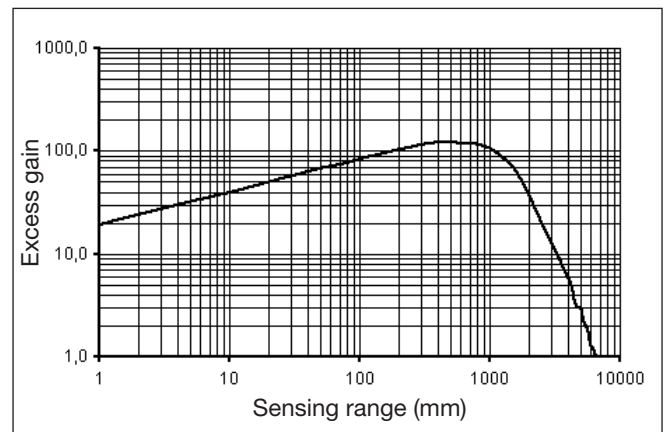
## Wiring Diagrams



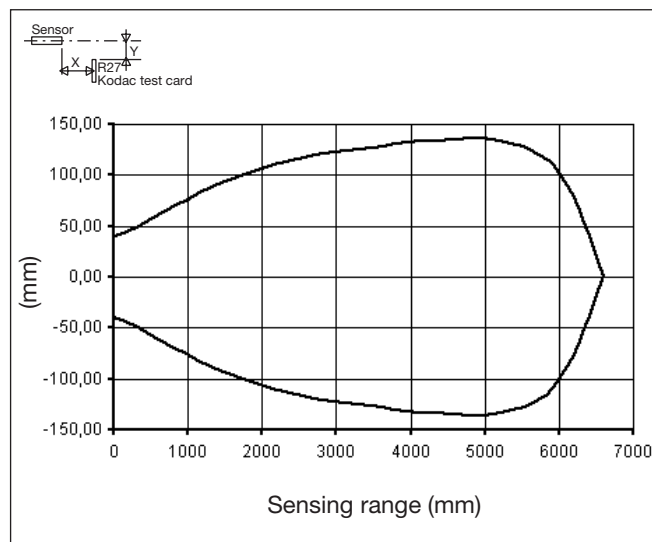
## Signal Stability



## Excess Gain

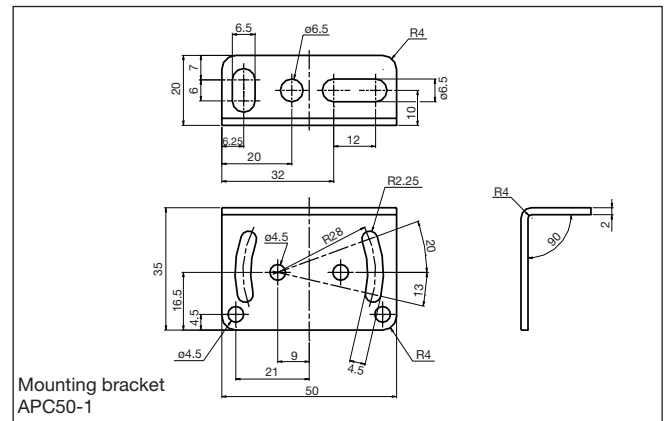


## Detection Diagram

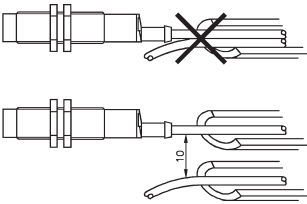
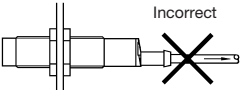

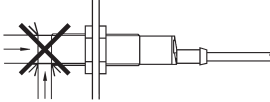
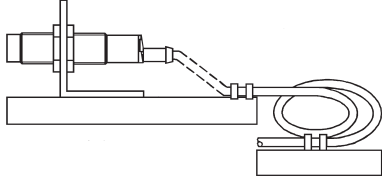


## Delivery Contents

- Photoelectric switch: PC50CNP..
- Installation instruction
- Mounting bracket APC50-1
- **Packaging:** Cardboard box



## 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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## Accessories

- Reflectors: ER-series
- Screwdriver for adjustment: 77-001
- Connector type CON.1A.. serie.