

# Photoelectrics

## Retro-reflective, Polarized, Transistor Output

### Type PC50CNP06BA



- 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 EMC immunity

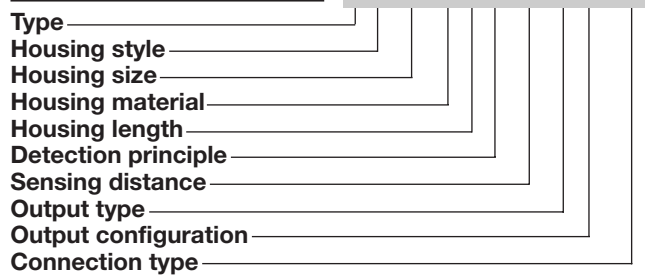
### Preliminary data sheet

### 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



### 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, Ø84, ref. target	<b>Light source</b>	GaAIAs, LED, 660 nm
<b>Blind zone</b>	Max. 15 cm	<b>Light type</b>	visible red, modulated
<b>Sensitivity</b>	Adjustable by single-turn potentiometer	<b>Sensing angle</b>	± 2°
<b>Hysteresis (H)</b>		<b>Ambient light</b>	Max. 10'000 lux
Differential travel	3 - 20%	<b>Operating frequency</b>	500 Hz
<b>Temperature drift</b>	± 0.5%/°C	<b>Response time</b>	
<b>Rated operational volt. (U<sub>B</sub>)</b>	10 to 30 VDC (ripple included)	OFF-ON (t <sub>ON</sub> )	≤ 1 ms
<b>Ripple (U<sub>ripp</sub>)</b>	≤ 10%	ON-OFF (t <sub>OFF</sub> )	≤ 1 ms
<b>Output current</b>		<b>Power ON delay (t<sub>v</sub>)</b>	≤ 300 ms
Continuous (I <sub>e</sub> )	≤ 200 mA	<b>Output function</b>	
Short-time (I)	≤ 200 mA, (max. load capacity 100 nF)	NPN and PNP	Switch selectable
<b>No load supply current (I<sub>o</sub>)</b>	≤ 50 mA	Complementary switch	Make and break (NO + NC)
<b>Minimum operational current (I<sub>m</sub>)</b>	0.5 mA	<b>Indication function</b>	
<b>OFF-state current (I<sub>r</sub>)</b>	Max. 100 µA	Output ON	LED, yellow
<b>Voltage drop (U<sub>d</sub>)</b>	≤ 2.5 VDC @ 200 mA	Signal stability ON and power ON	LED, green
<b>Protection</b>	Short-circuit, reverse polarity, transients	<b>Environment</b>	
		Installation category	II (IEC 60664/60664A; 60947-1)
		Pollution degree	3 (IEC 60664/60664A; 60947-1)
		Degree of protection	IP 67 (IEC 60529; 60947-1)
		<b>Temperature</b>	
		Operating	-20° to +60°C (-4° to +140°F)
		Storage	-25° to +80°C (-13° to +176°F)

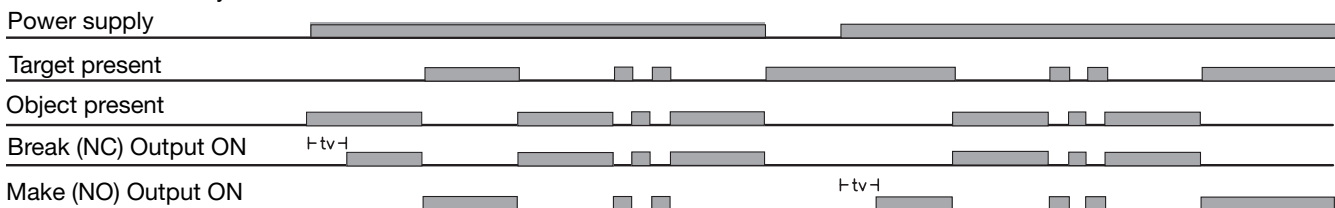


## Specifications (cont.)

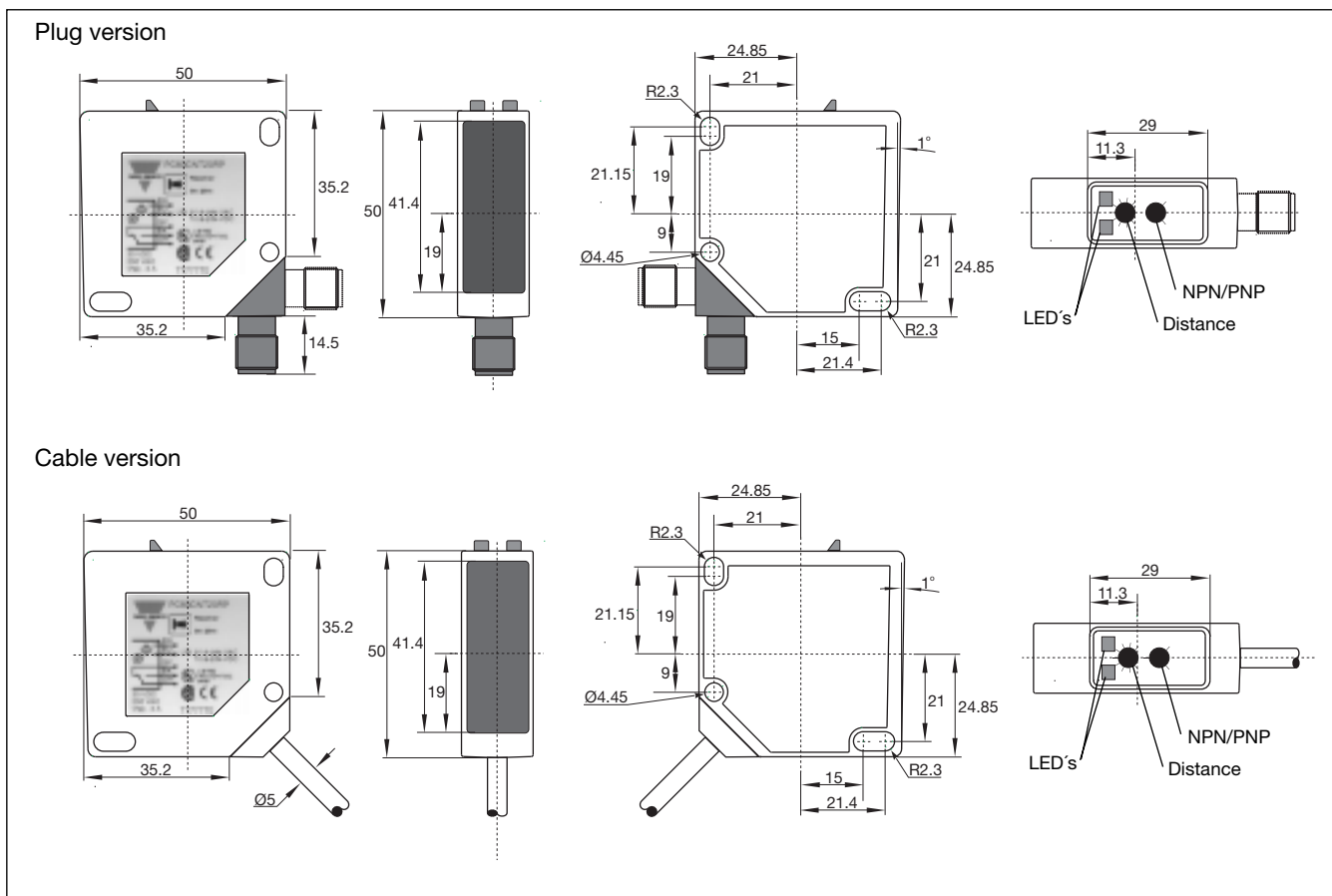
<b>Vibration</b>	10 to 150 Hz, 0.5 mm/7.5 g (IEC 60068-2-6)	<b>Connection</b>	PVC, grey, 2 m, 4 x 0.34 mm <sup>2</sup>
<b>Shock</b>	2 x 1 m & 100 x 0.5 m (IEC 60068-2-32)	Cable Plug (M1) Cables for plug (M1)	PBTP, M12 x 1 CON.1A-series
<b>Rated insulation voltage</b>	50 VDC	<b>Weight</b>	130 g
<b>Housing material</b>	Body Front glass Mounting bracket	<b>CE-marking</b>	Yes
	PC/ABS, grey PMMA, red Steel, galvanized		

## Operation Diagram

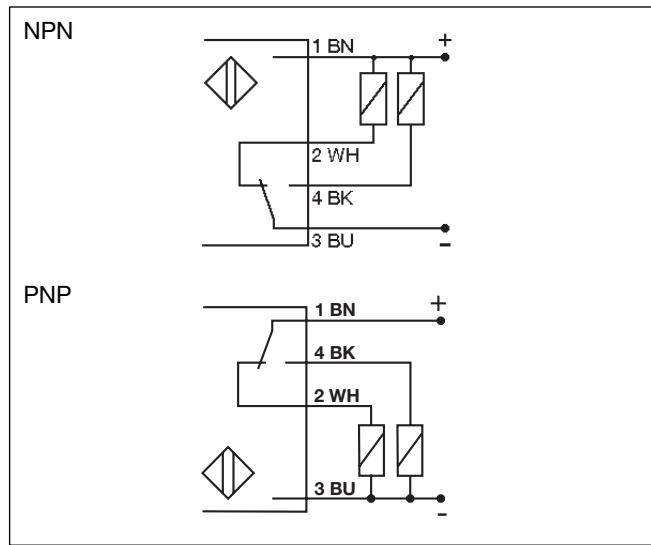
tv = Power ON delay



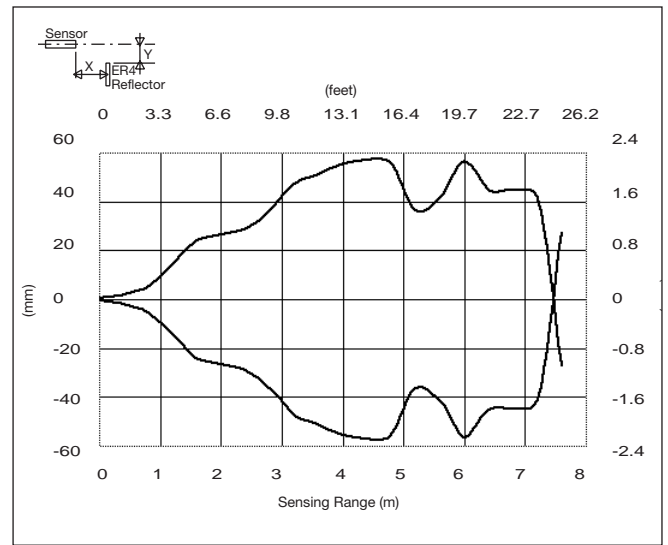
## Dimensions



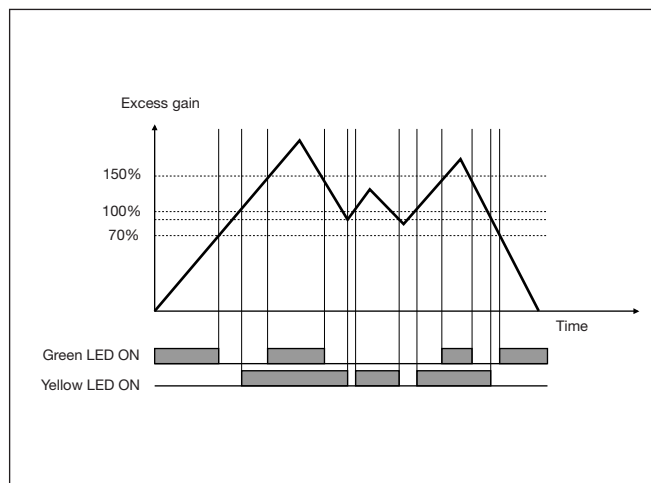
## Wiring Diagrams



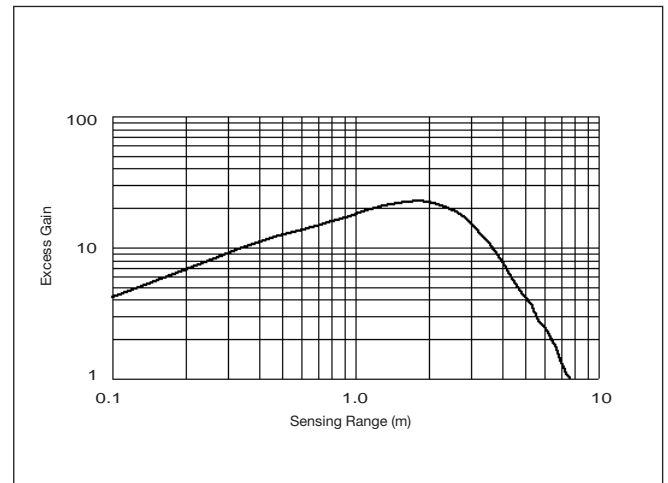
## Detection Diagram



## Signal Stability



## Excess Gain



## Delivery Contents

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

## Accessories

- Reflectors: ER-series
- Screwdriver for adjustment: 77-001

For further information refer to "Accessories"