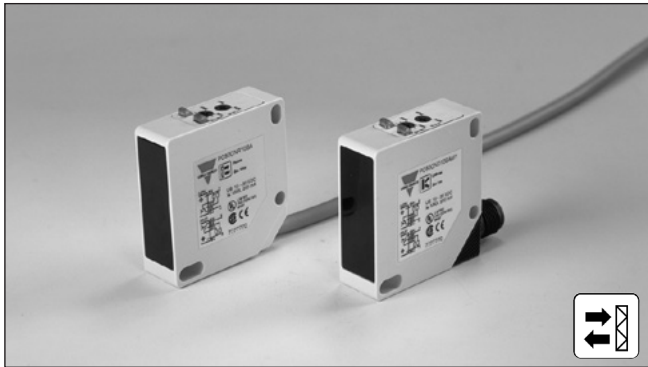


# Photoelectrics Retro-reflective, Polarized, Transistor Output Type PC50CNP06BAM.



- 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
- Mute input

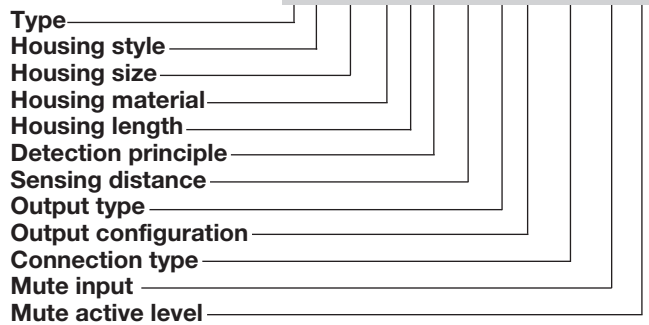


## Product Description

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 **PC50CNP06BAM1MH**



## Type Selection

Housing W x H x D	Range S <sub>n</sub>	Mute	Ordering no. NPN & PNP cable Make & break switching	Ordering no. NPN & PNP plug Make & break switching
17 x 50 x 50 mm	6 m	High	PC 50 CNP 06 BAMH	PC 50 CNP 06 BAM1MH
17 x 50 x 50 mm	6 m	Low	PC 50 CNP 06 BAML	PC 50 CNP 06 BAM1ML

**Note:** Reflector to be ordered separately

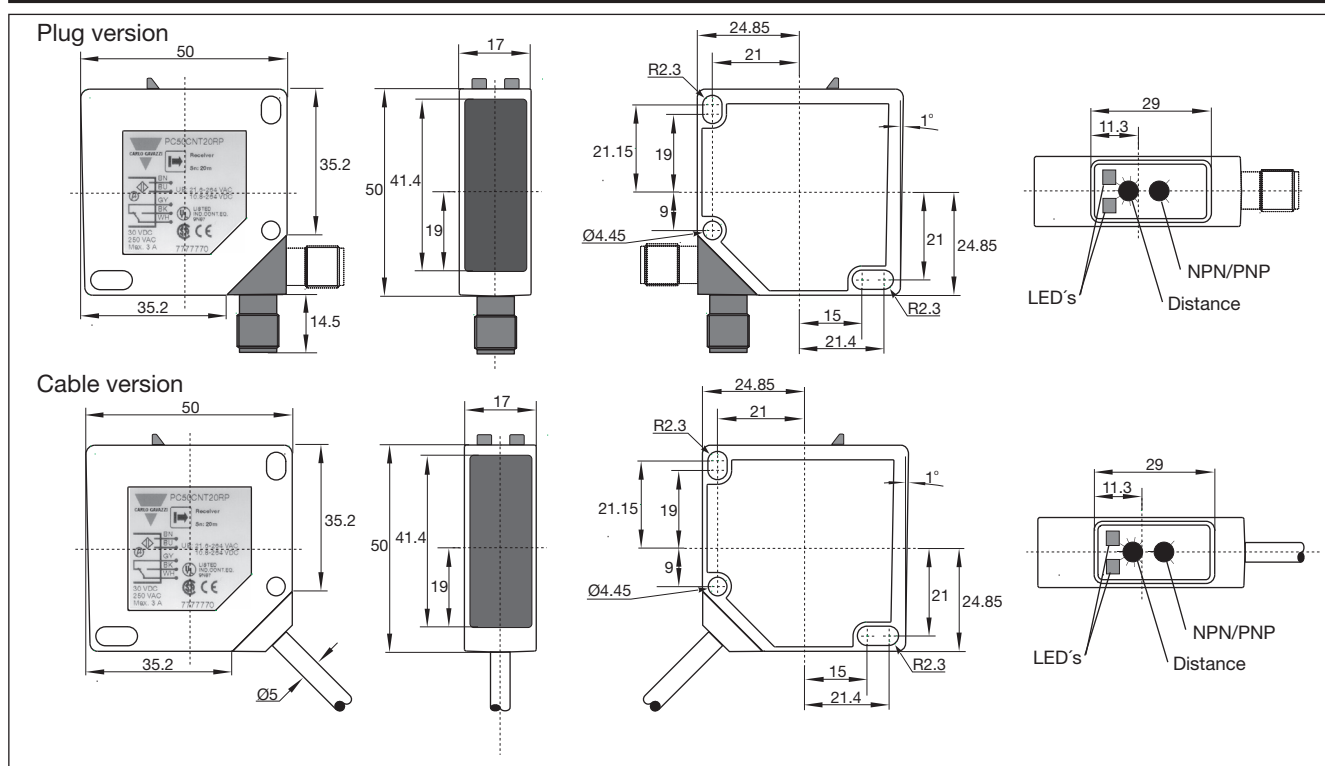
## Specifications

<b>Rated operating distance (S<sub>n</sub>)</b>	Up to 6 m, with reflector type ER 4, ref. target	<b>Voltage drop (U<sub>d</sub>)</b>	≤ 2.5 VDC @ 200 mA
<b>Blind zone</b>	Max. 20 cm	<b>Test input</b>	
<b>Sensitivity</b>	Adjustable by single-turn potentiometer	Impedance	10kΩ
<b>Hysteresis (H)</b>		Voltage	
Differential travel	3 - 20%	Active high	> 8.5 VDC
<b>Temperature drift</b>	≤ 0.5%/°C	Active low	< 3 VDC
<b>Rated operational volt. (U<sub>B</sub>)</b>	10 to 30 VDC (ripple included)	<b>Test input response time</b>	
<b>Ripple (U<sub>rpp</sub>)</b>	≤ 10%	ON-OFF (t <sub>1</sub> )	≤ 200 ms
<b>Output current</b>		ON-OFF (t <sub>2</sub> )	≤ 200 ms
Continuous (I <sub>a</sub> )	≤ 200 mA	<b>Protection</b>	Short-circuit, reverse polarity, transients
Short-time (I)	≤ 200 mA, (max. load capacity 100 nF)	<b>Light source</b>	GaAIAs, LED, 660 nm
<b>No load supply current (I<sub>o</sub>)</b>	≤ 40 mA	<b>Light type</b>	visible red, modulated
<b>Minimum operational current (I<sub>m</sub>)</b>	0.5 mA	<b>Sensing angle</b>	± 2° at 1/2 range
<b>OFF-state current (I<sub>r</sub>)</b>	Max. 100 μA	<b>Ambient light</b>	Max. 5'000 lux
		<b>Operating frequency</b>	500 Hz
		<b>Response time</b>	
		OFF-ON (t <sub>ON</sub> )	≤ 1 ms
		ON-OFF (t <sub>OFF</sub> )	≤ 1 ms

## Specifications (cont.)

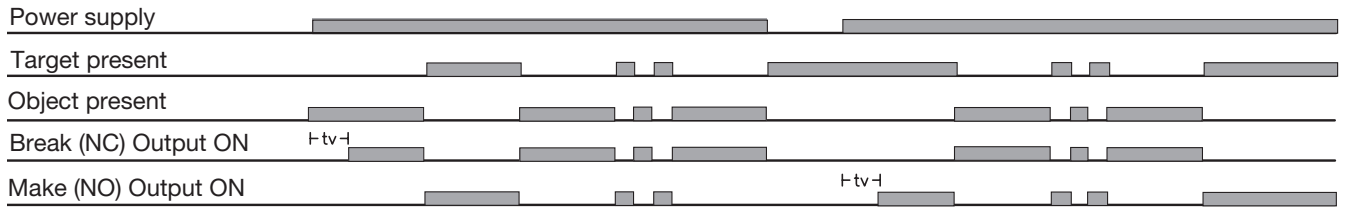
<b>Power ON delay (<math>t_v</math>)</b>	$\leq 300$ ms	<b>Vibration</b>	10 to 150 Hz, 0.5 mm/7.5 g (IEC 60068-2-6)
<b>Output function</b> NPN and PNP Complementary function	Switch selectable Make and break (NO + NC)	<b>Shock</b>	2 x 1 m & 100 x 0.5 m (IEC 60068-2-32)
<b>Indication function</b> Output ON Signal stability ON and power ON	LED, yellow LED, green	<b>Rated insulation voltage</b>	50 VDC
<b>Environment</b> Installation category	II (IEC 60664/60664A; 60947-1)	<b>Housing material</b> Body Front glass Mounting bracket	PC/ABS, grey PMMA, red Steel, galvanized
Pollution degree	3 (IEC 60664/60664A; 60947-1)	<b>Connection</b> Cable Plug (M1) Cables for plug (M1)	PVC, grey, 2 m, 5 x 0.34 mm <sup>2</sup> PBTP, M12 x 1 CON.1A-series
Degree of protection	IP 67 (IEC 60529; 60947-1)	<b>Weight</b>	110 g
<b>Temperature</b> Operating Storage	-20° to +60°C (-4° to +140°F) -25° to +80°C (-13° to +176°F)	<b>Approvals</b>	UL
		<b>CE-marking</b>	Yes

## Dimensions

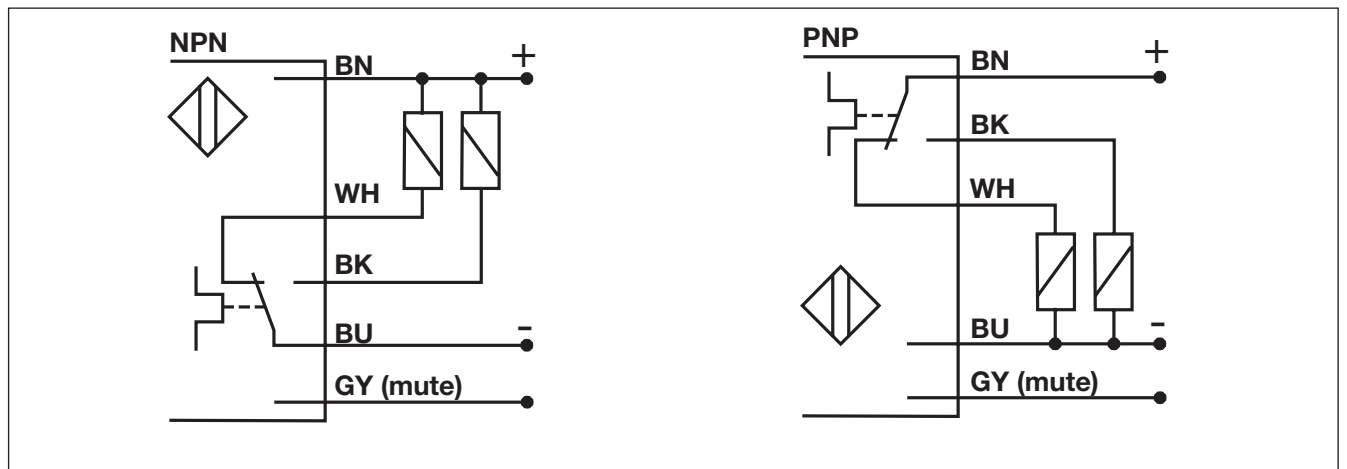


## Operation Diagram

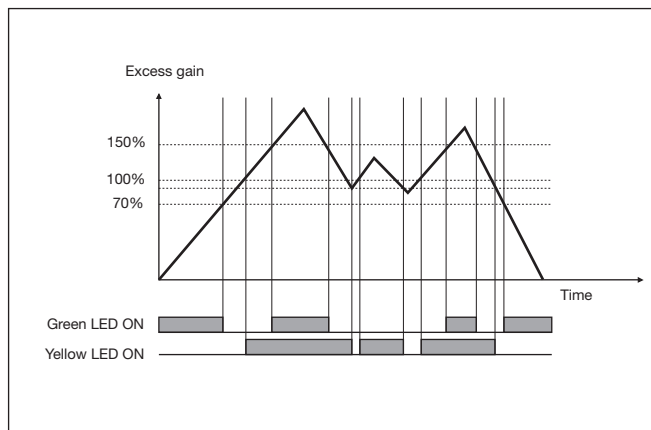
tv = Power ON delay



## Wiring Diagrams



## Signal Stability



## Excess Gain

