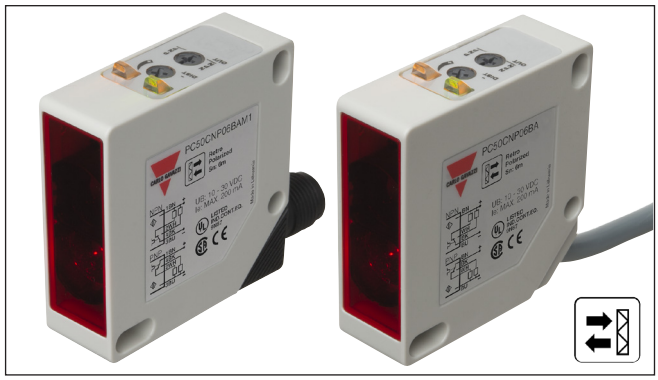
Photoelectrics
Retro-reflective, Polarized, Transistor Output
Type PC50CNP06BA



- **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 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**
- **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	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

Rated operating distance (S_n)	Up to 6 m, with reflector type ER 4, ref. target
Blind zone	Max. 20 cm
Sensitivity	Adjustable by single-turn potentiometer
Hysteresis (H) Differential travel	 3 - 20%
Temperature drift	≤ 0.5%/°C
Rated operational volt. (U_B)	10 to 30 VDC (ripple included)
Ripple (U_{rpp})	≤ 10%
Output current Continuous (I_e) Short-time (I)	 ≤ 200 mA ≤ 200 mA, (max. load capacity 100 nF)
No load supply current (I_o)	≤ 40 mA
Minimum operational current (I_m)	0.5 mA
OFF-state current (I_r)	Max. 100 µA
Voltage drop (U_d)	≤ 2.5 VDC @ 200 mA
Protection	Short-circuit, reverse polarity, transients

Light source	GaAlAs, LED, 660 nm
Light type	Visible red, modulated
Sensing angle	± 2° at 1/2 range
Ambient light	Max. 5'000 lux
Operating frequency	500 Hz
Response time OFF-ON (t_{ON}) ON-OFF (t_{OFF})	 ≤ 1 ms ≤ 1 ms
Power ON delay (t_v)	≤ 300 ms
Output function NPN and PNP Complementary function	 Switch selectable Make and break (NO + NC)
Indication function Output ON Signal stability ON and power ON	 LED, yellow LED, green
Environment Installation category Pollution degree Degree of protection	 II (IEC 60664/60664A; 60947-1) 3 (IEC 60664/60664A; 60947-1) IP 67 (IEC 60529; 60947-1)

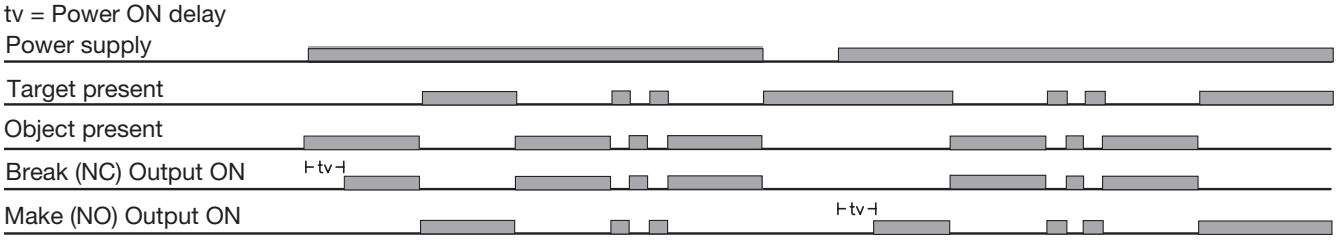
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Specifications (cont.)

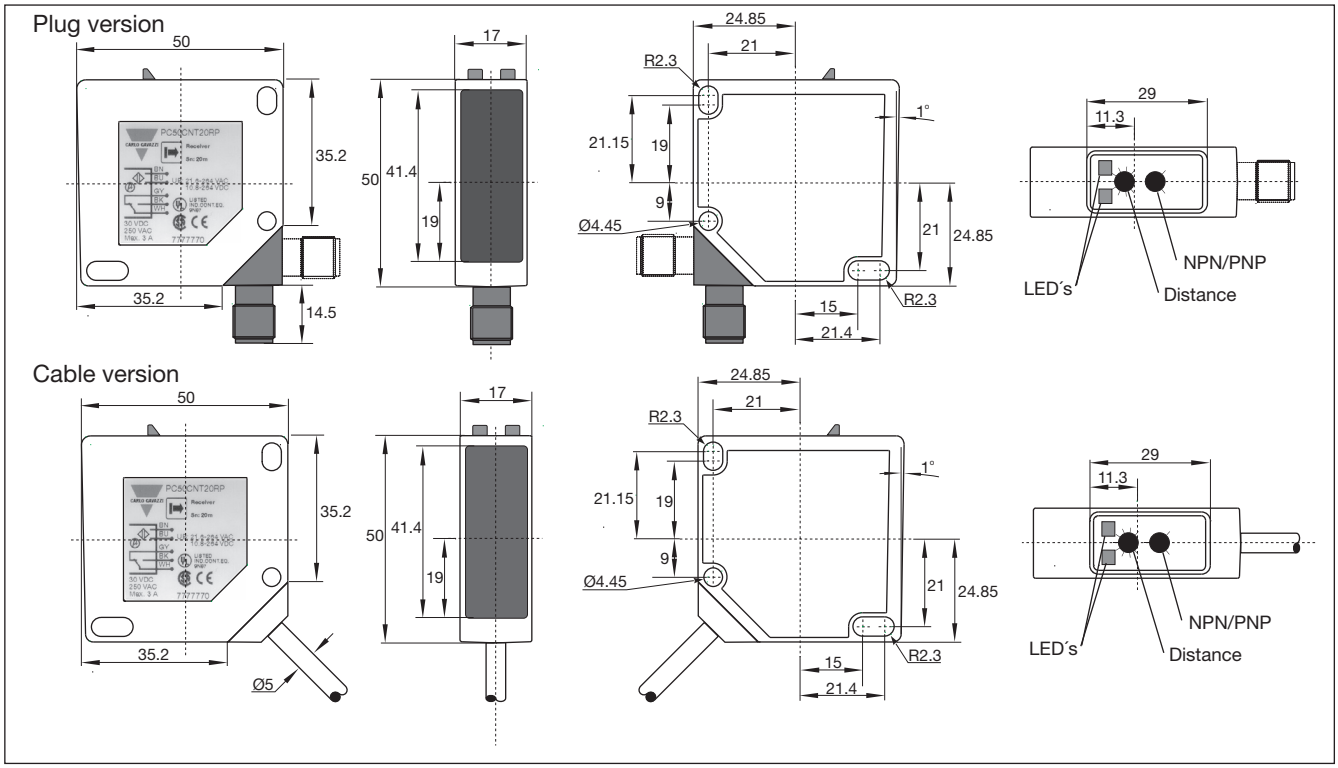
Temperature	
Operating	-20° to +60°C (-4° to +140°F)
Storage	-25° to +80°C (-13° to +176°F)
Vibration	10 to 150 Hz, 0.5 mm/7.5 g (IEC 60068-2-6)
Shock	2 x 1 m & 100 x 0.5 m (IEC 60068-2-32)
Rated insulation voltage	50 VDC
Housing material	
Body	PC/ABS, grey
Front glass	PMMA, red
Mounting bracket	Steel, galvanized

Connection	
Cable	PVC, grey, 2 m, 4 x 0.34 mm²
Plug (M1)	PBTP, M12 x 1
Cables for plug (M1)	CON.14NF.. series
Weight	110 g
Approvals	UL, CSA
CE-marking	Yes

Operation Diagram



Dimensions

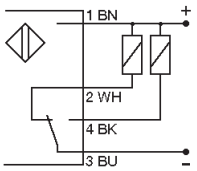


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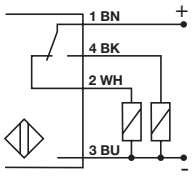
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Wiring Diagrams

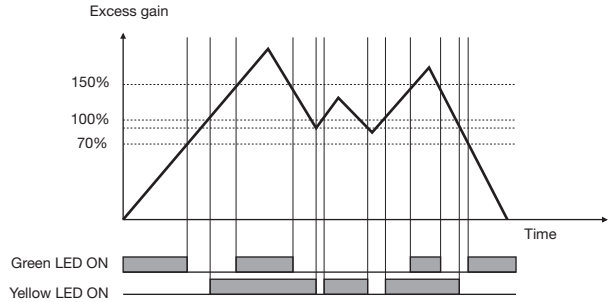
NPN



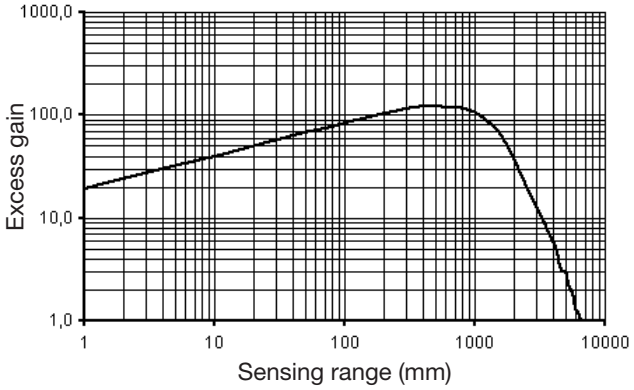
PNP



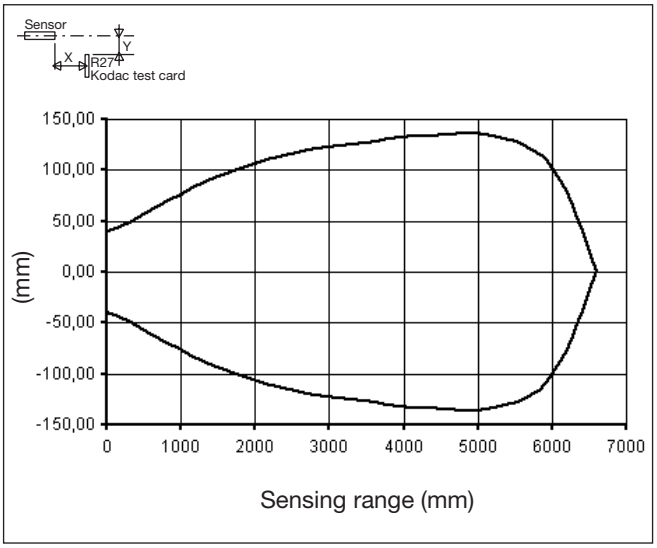
Signal Stability



Excess Gain

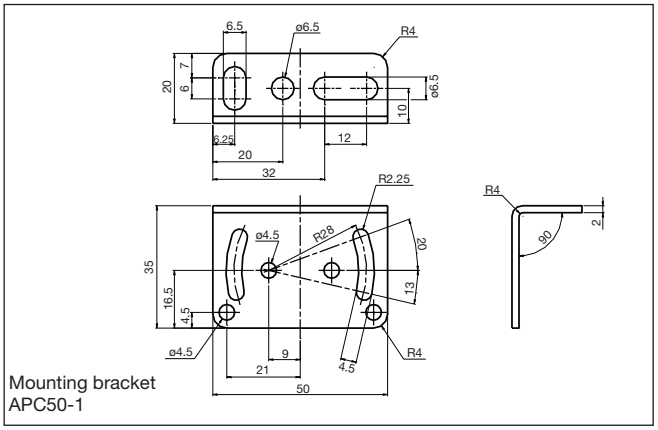


Detection Diagram



Delivery Contents

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

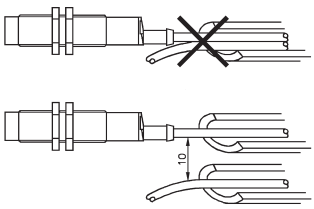
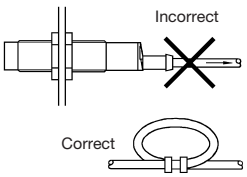
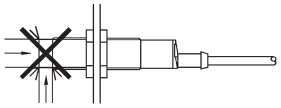
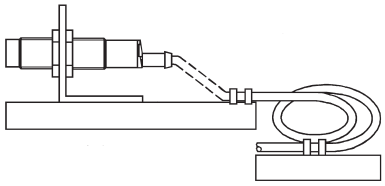


Mounting bracket APC50-1

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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*  The cable should not be pulled	*Protection of the sensing face*  A proximity switch should not serve as mechanical stop	*Switch mounted on mobile carrier*  Any repetitive flexing of the cable should be avoided

Accessories

- Reflectors: ER-series
- Screwdriver for adjustment: 77-001
- Connector type CON.14NF.. serie.

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