

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	_____
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

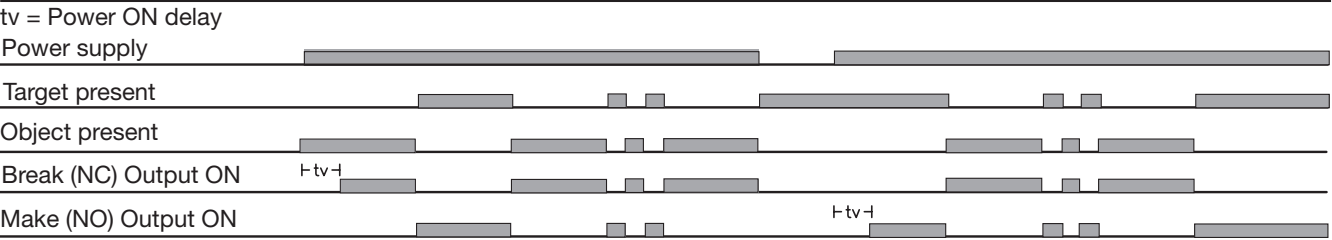
Rated operating distance (S_n)	Up to 6 m, with reflector type ER 4, ref. target	Light source	GaAlAs, LED, 660 nm
Blind zone	Max. 20 cm	Light type	visible red, modulated
Sensitivity	Adjustable by single-turn potentiometer	Sensing angle	± 2° at 1/2 range
Hysteresis (H)		Ambient light	Max. 5'000 lux
Differential travel	3 - 20%	Operating frequency	500 Hz
Temperature drift	≤ 0.5%/°C	Response time	
Rated operational volt. (U_B)	10 to 30 VDC (ripple included)	OFF-ON (t _{ON})	≤ 1 ms
Ripple (U_{rip})	≤ 10%	ON-OFF (t _{OFF})	≤ 1 ms
Output current		Power ON delay (t_v)	≤ 300 ms
Continuous (I _a)	≤ 200 mA	Output function	
Short-time (I)	≤ 200 mA, (max. load capacity 100 nF)	NPN and PNP	Switch selectable
No load supply current (I_o)	≤ 40 mA	Complementary function	Make and break (NO + NC)
Minimum operational current (I_m)	0.5 mA	Indication function	
OFF-state current (I_r)	Max. 100 µA	Output ON	LED, yellow
Voltage drop (U_d)	≤ 2.5 VDC @ 200 mA	Signal stability ON and power ON	LED, green
Protection	Short-circuit, reverse polarity, transients	Environment	
		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)
		Temperature	
		Operating	-20° to +60°C (-4° to +140°F)
		Storage	-25° to +80°C (-13° to +176°F)



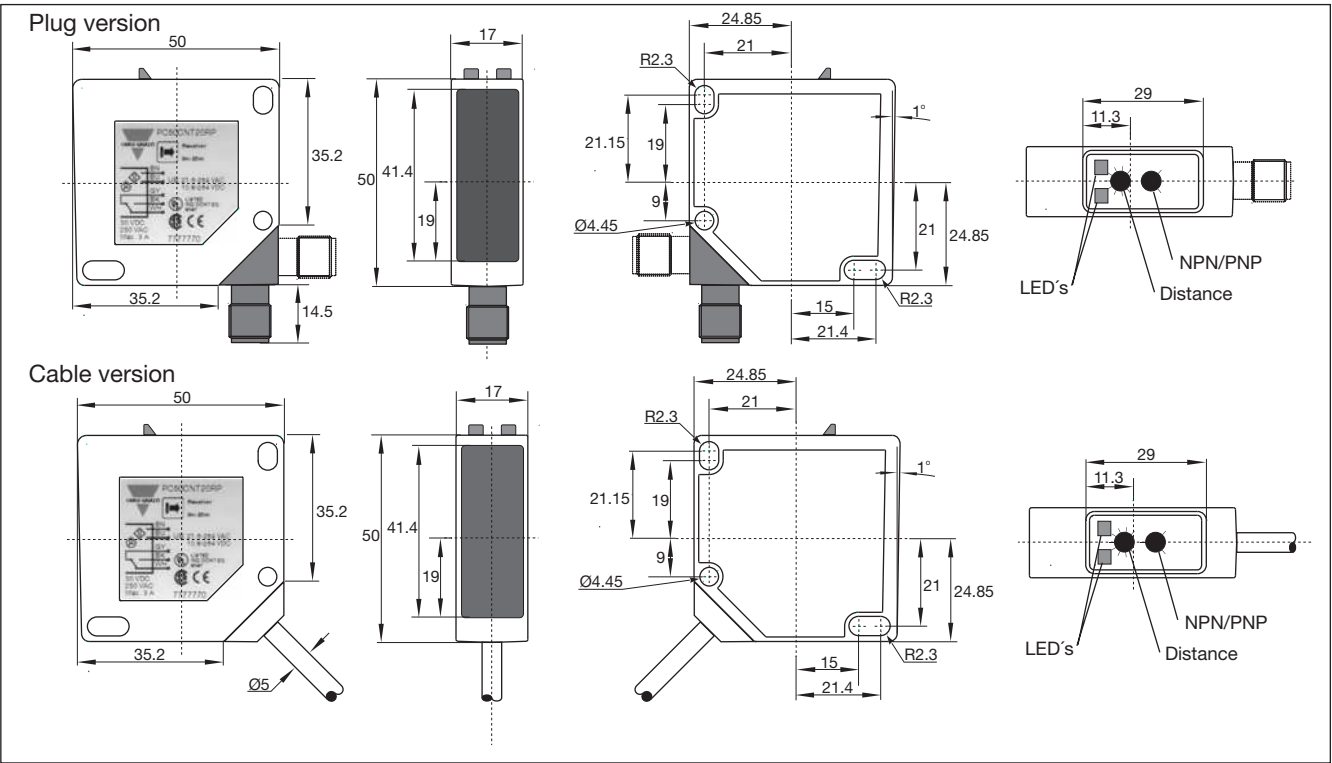
Specifications (cont.)

Vibration	10 to 150 Hz, 0.5 mm/7.5 g (IEC 60068-2-6)	Connection	PVC, grey, 2 m, 4 x 0.34 mm ²
Shock	2 x 1 m & 100 x 0.5 m (IEC 60068-2-32)	Cable	PBTP, M12 x 1
		Plug (M1)	CON.1A-series
Rated insulation voltage	50 VDC	Cables for plug (M1)	
Housing material		Weight	110 g
Body	PC/ABS, grey	Approvals	UL, CSA
Front glass	PMMA, red	CE-marking	Yes
Mounting bracket	Steel, galvanized		

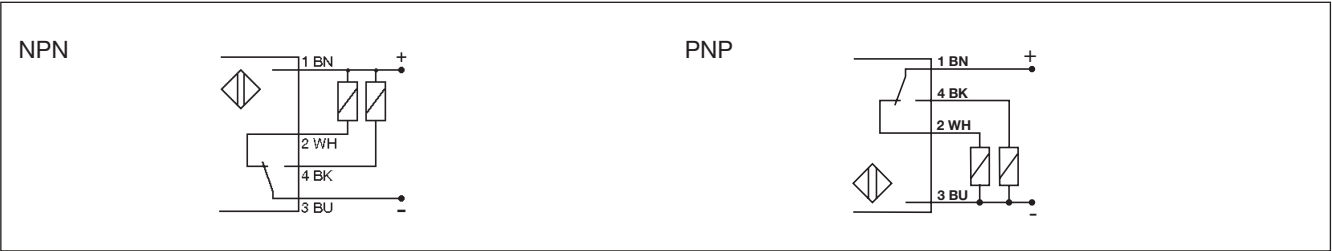
Operation Diagram



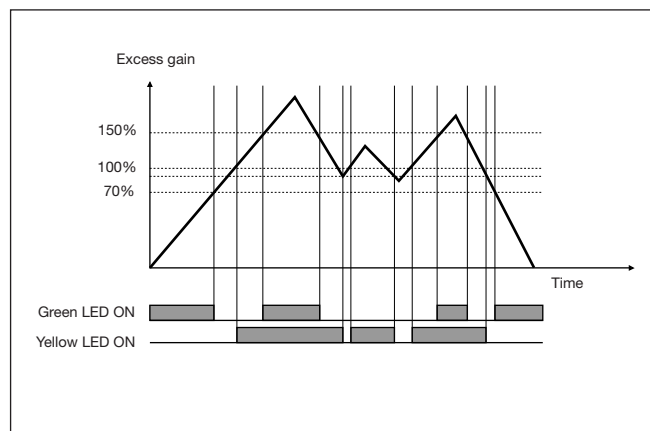
Dimensions



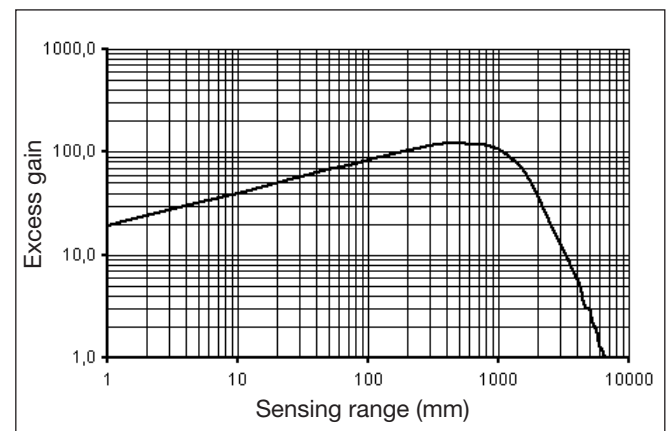
Wiring Diagrams



Signal Stability

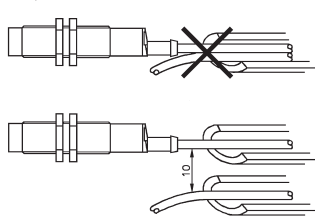


Excess Gain

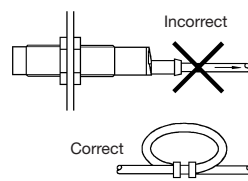


Installation Hints

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

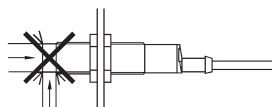


Relief of cable strain



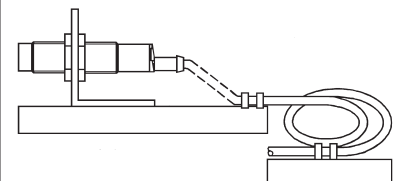
The cable should not be pulled

Protection of the sensing face



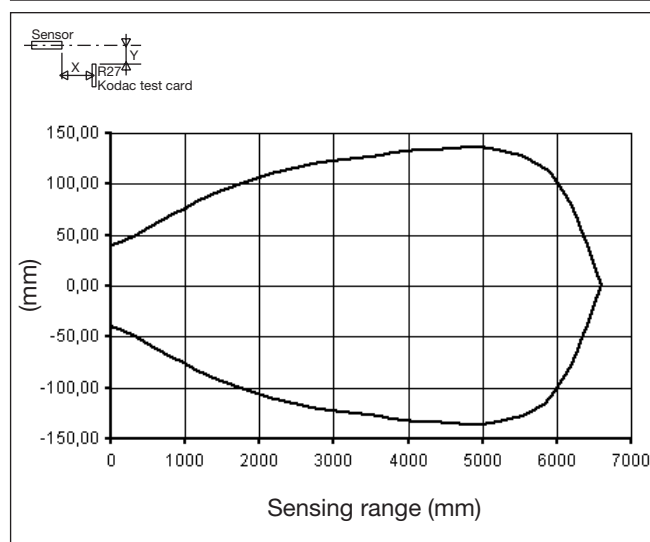
A proximity switch should not serve as mechanical stop

Switch mounted on mobile carrier



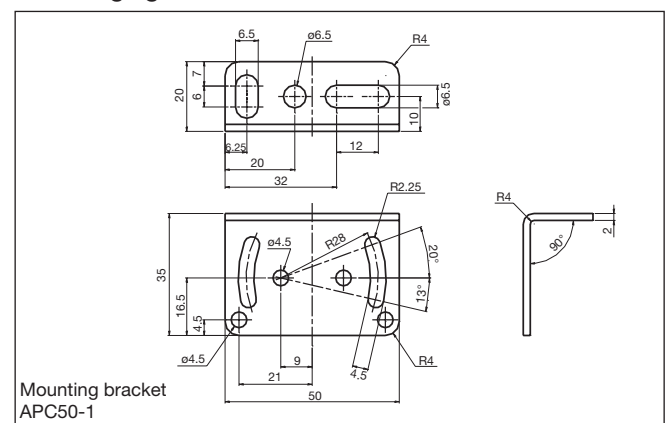
Any repetitive flexing of the cable should be avoided

Detection Diagram



Delivery Contents

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



Accessories

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