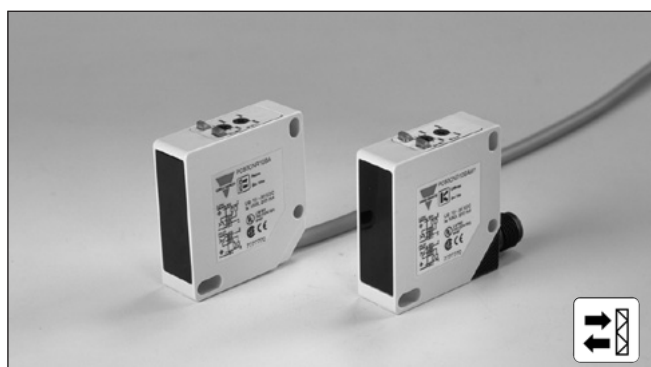


Photoelectrics

Retro-reflective, Transistor Output

Type PC50CNR10BAM.

CARLO GAVAZZI



- Range: 10 m
- Adjustable sensitivity
- Modulated, infrared light
- Supply voltage: 10 to 30 VDC
- Output: 200 mA, NPN or PNP selectable
- Make and break switching function
- 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 PC50CNR. is a family of general purpose 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 perfor-

mance. 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 PC50CNR10BAM1MH

Type	
Housing style	
Housing size	
Housing material	
Housing length	
Detection principle	
Sensing distance	
Output type	
Output configuration	
Connection type	
Mute input	
Mute active level	

Type Selection

Housing W x H x D	Range S _n	Mute	Ordering no. NPN & PNP cable Make & break switching	Ordering no. NPN & PNP plug Make & break switching
17 x 50 x 50 mm	10 m	High	PC 50 CNR 10 BAMH	PC 50 CNR 10 BAM1MH
17 x 50 x 50 mm	10 m	Low	PC 50 CNR 10 BAML	PC 50 CNR 10 BAM1ML

Note: Reflector to be ordered separately

Specifications

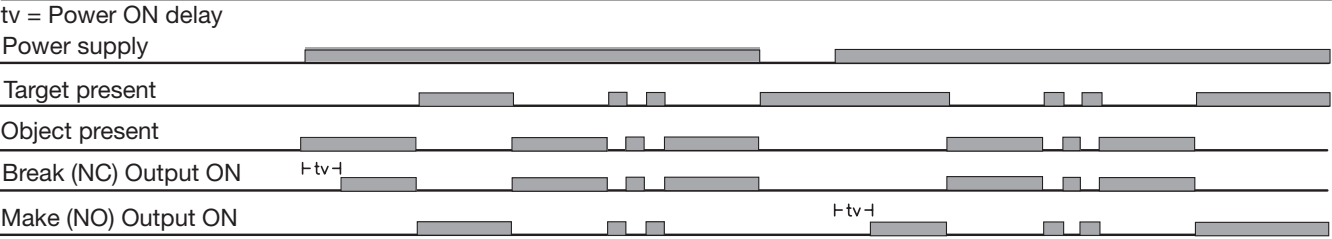
Rated operating distance (S_n)	10 m, with reflector type ER 4, ref. target	Voltage drop (U_d)	≤ 2.5 VDC @200 mA
Blind zone	Max. 10 cm	Test input	
Sensitivity	Adjustable by single-turn potentiometer	Impedance	10kΩ
Temperature drift	≤ 0.5%/°C	Voltage	
Hysteresis (H)		Active high	> 8.5 VDC
Differential travel	3-20%	Active low	< 3 VDC
Rated operational volt. (U_B)	10 to 30 VDC (ripple included)	Test input response time	
Ripple (U_{rpp})	≤ 10%	ON-OFF (t _i)	≤ 200 ms
Output current		ON-OFF (t ₂)	≤ 200 ms
Continuous (I _a)	≤ 200 mA	Protection	Short-circuit, reverse polarity, transients
Short-time (I)	≤ 200 mA, (max. load capacity 100 nF)	Light source	GaAlAs, LED, 880 nm
No load supply current (I₀)	≤ 40 mA	Light type	infrared, modulated
Minimum operational current (I_m)	0.5 mA	Sensing angle	± 2° at 1/2 range
OFF-state current (I_r)	≤ 100 μA	Ambient light	Max. 5'000 lux
		Operating frequency	500 Hz
		Response time	
		OFF-ON (t _{ON})	≤ 1 ms
		ON-OFF (t _{OFF})	≤ 1 ms
		Power ON delay (t_v)	≤ 300 ms



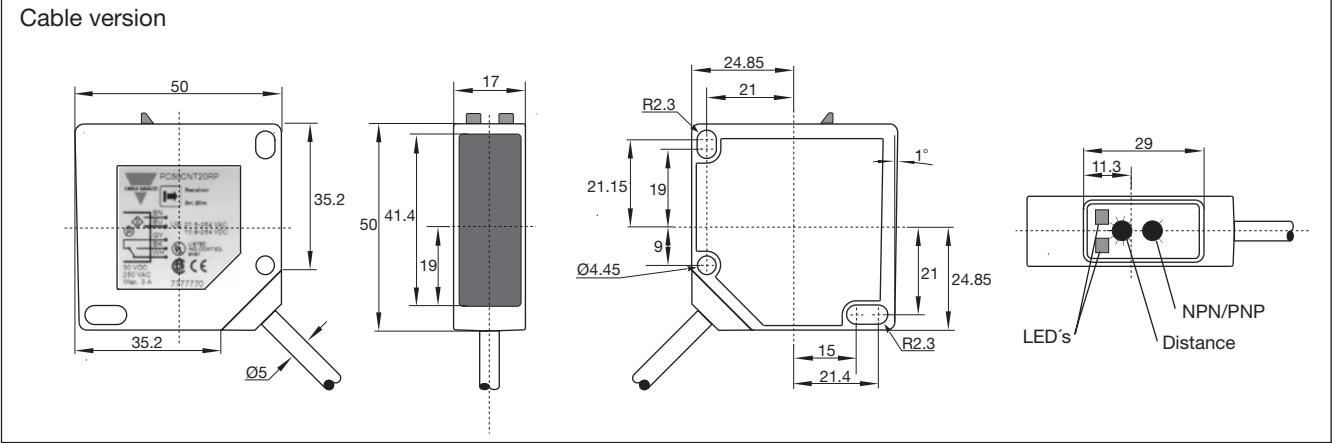
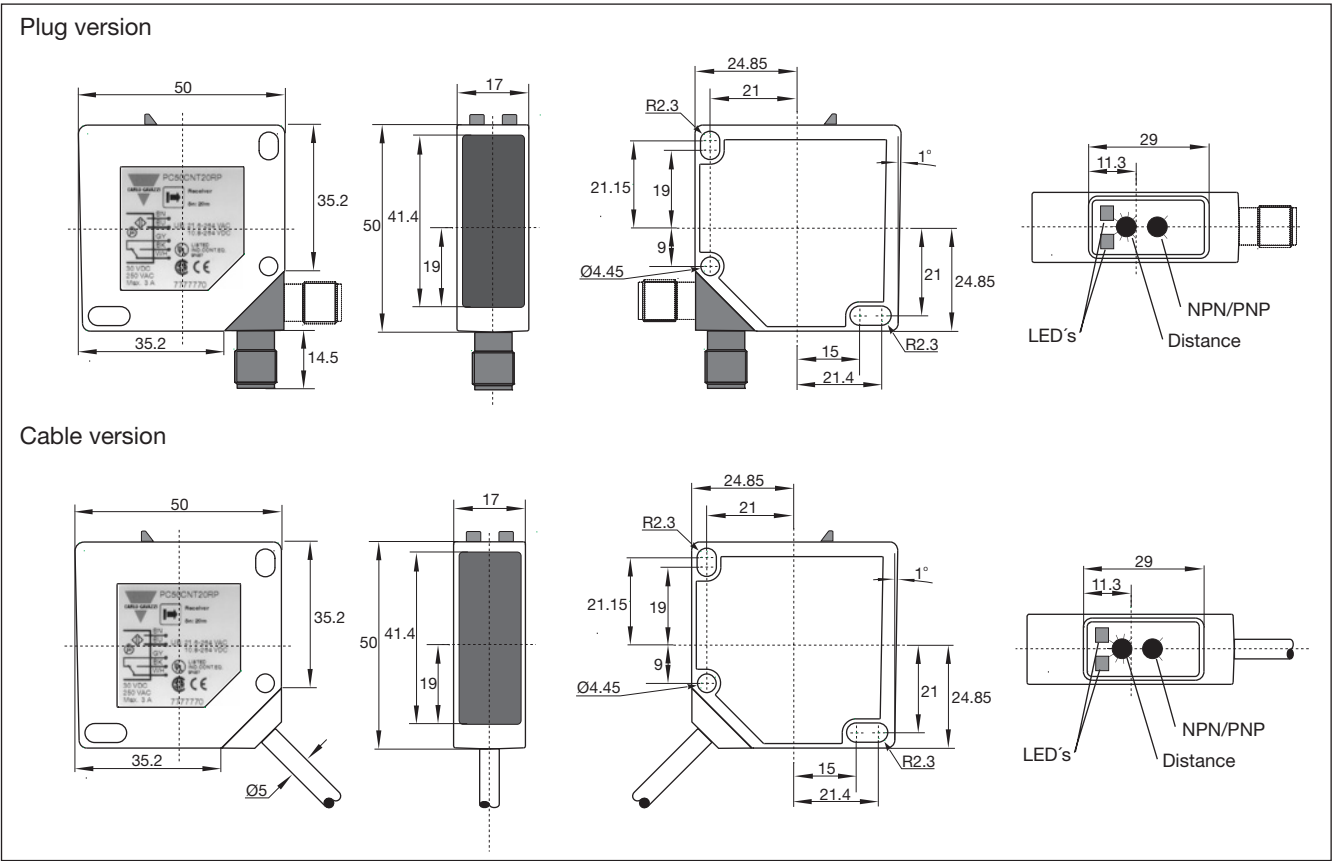
Specifications (cont.)

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

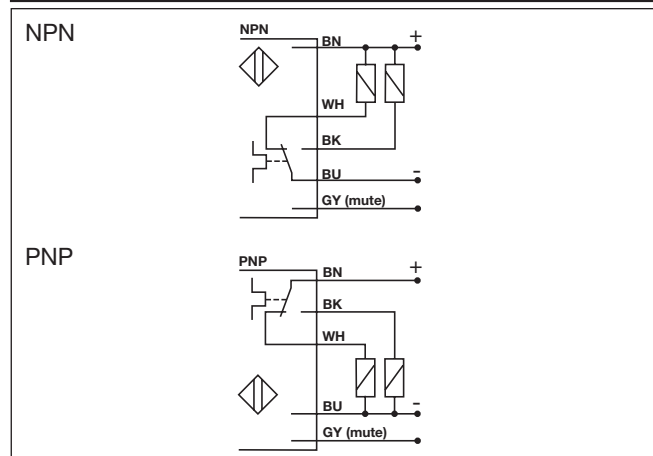
Operation Diagram



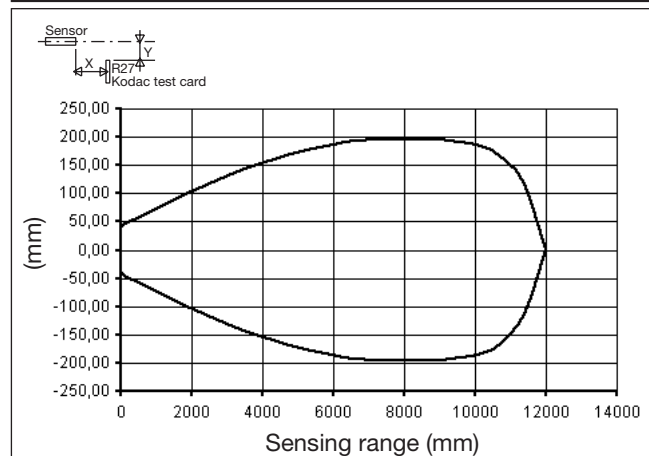
Dimensions



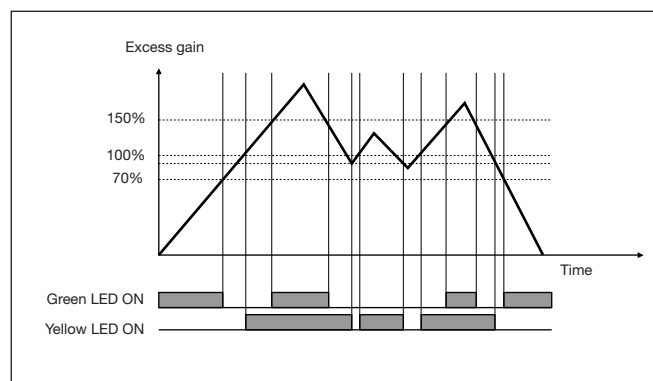
Wiring Diagrams



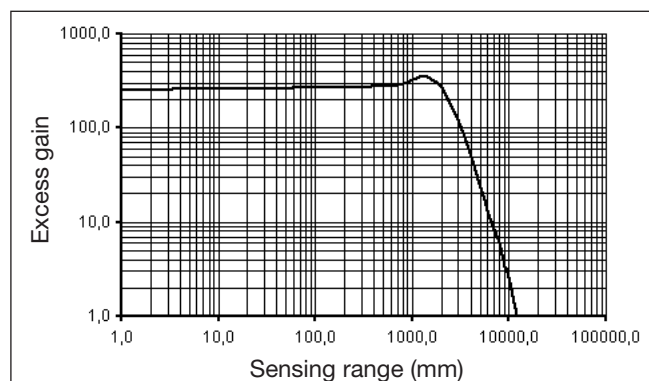
Detection Diagram



Signal Stability

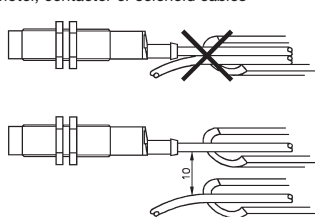


Excess Gain

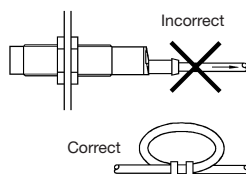


Installation Hints

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

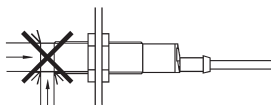


Relief of cable strain



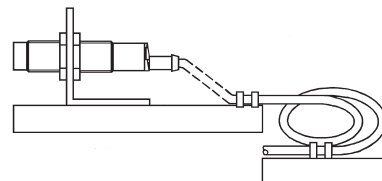
The cable should not be pulled

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

Delivery Contents

- Photoelectric switch: PC50CNR..
- Installation instruction
- Mounting bracket APC50-1
- **Packaging:** Cardboard box

Accessories

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

For further information refer to “Accessories”

