

Photoelectrics Retro-reflective, Transistor Output Type PC50CNR10BA

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



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 per-

formance. 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

PC50CNR10BAM1

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	10 m	PC 50 CNR 10 BA	PC 50 CNR 10 BAM1

Note: Reflectors to be ordered separately

Specifications

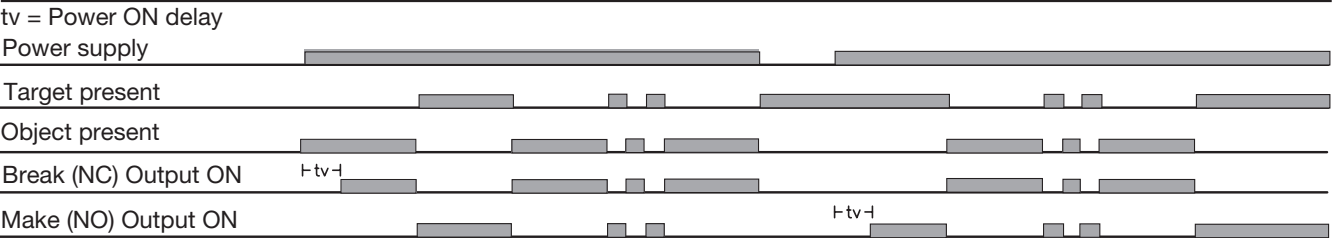
Rated operating distance (S_n)	10 m, with reflector type ER 4, ref. target	Light source	GaAIAs, LED, 880 nm
Blind zone	Max. 10 cm	Light type	infrared, modulated
Sensitivity	Adjustable by single-turn potentiometer	Sensing angle	± 2° at 1/2 range
Temperature drift	≤ 0.5%/°C	Ambient light	Max. 5'000 lux
Hysteresis (H) Differential travel	3-20%	Operating frequency	500 Hz
Rated operational volt. (U_B)	10 to 30 VDC (ripple included)	Response time OFF-ON (t _{ON}) ON-OFF (t _{OFF})	≤ 1 ms ≤ 1 ms
Ripple (U_{pp})	≤ 10%	Power ON delay (t_v)	≤ 300 ms
Output current Continuous (I _a) Short-time (I)	≤ 200 mA ≤ 200 mA, (max. load capacity 100 nF)	Output function NPN and PNP Complementary function	Switch selectable Make and break (NO + NC)
No load supply current (I_o)	≤ 40 mA	Indication function Output ON Signal stability ON and power ON	LED, yellow LED, green
Minimum operational current (I_m)	0.5 mA	Environment Installation category	II (IEC 60664/60664A; 60947-1)
OFF-state current (I_r)	≤ 100 µA	Pollution degree	3 (IEC 60664/60664A; 60947-1)
Voltage drop (U_d)	≤ 2.5 VDC @200 mA	Degree of protection	IP 67 (IEC 60529; 60947-1)
Protection	Short-circuit, reverse polarity, transients		



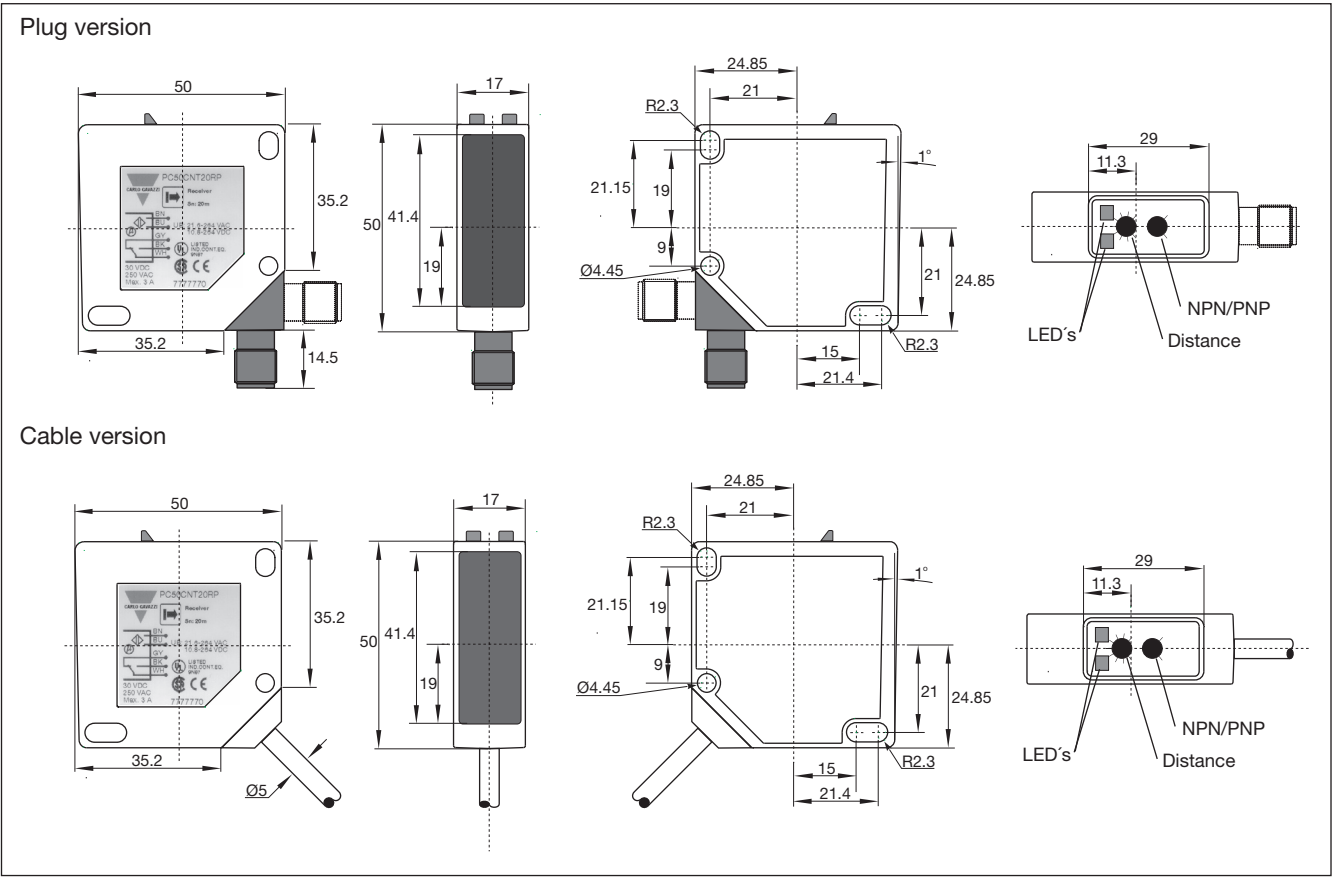
Specifications (cont.)

Temperature Operating Storage	-20° to +60°C (-4° to +140°F) -25° to +80°C (-13° to +176°F)	Connection Cable Plug (M1) Cables for plug (M1)	PVC, grey, 2 m, 4 x 0.34 mm² PBTP, M12 x 1 CON.14NF.. series
Vibration	10 to 150 Hz, 0.5 mm/7.5 g (IEC 60068-2-6)	Weight Cable version Plug version	185 g 102 g
Shock	2 x 1 m & 100 x 0.5 m (IEC 60068-2-32)	Approvals	UL, CSA
Rated insulation voltage	50 VDC	CE-marking	Yes
Housing material Body Front glass Mounting bracket	PC/ABS, grey PC black Steel, galvanized		

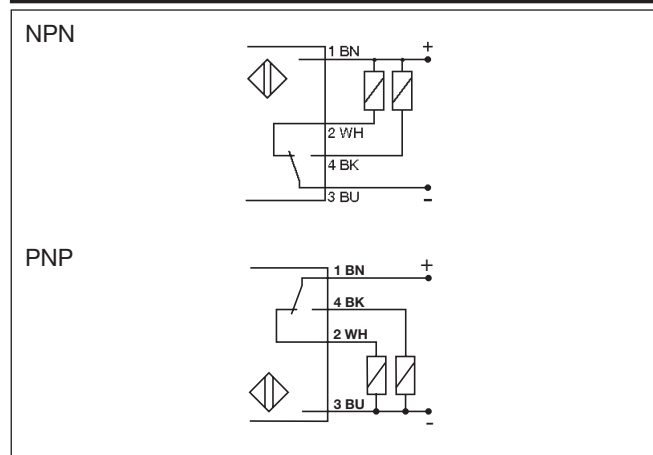
Operation Diagram



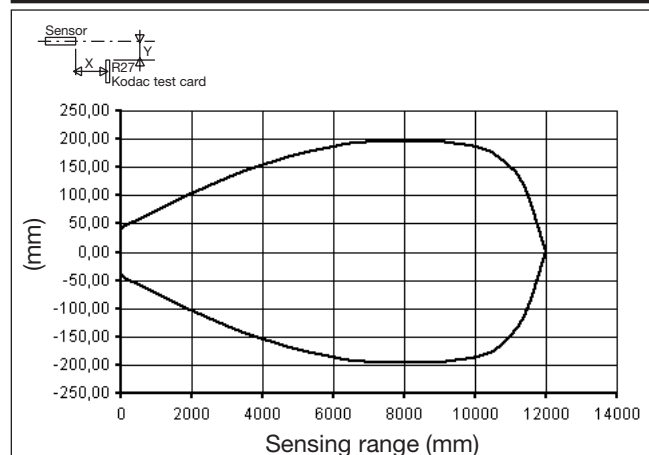
Dimensions



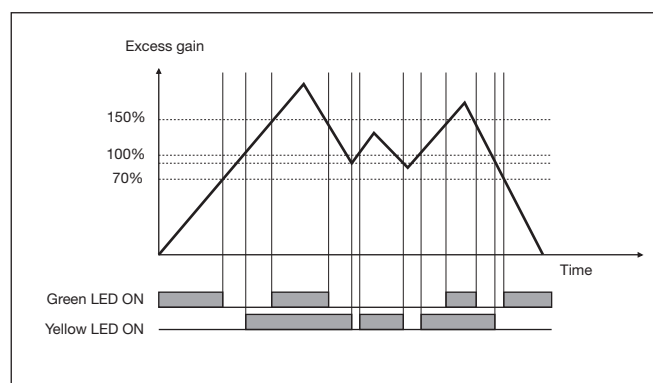
Wiring Diagrams



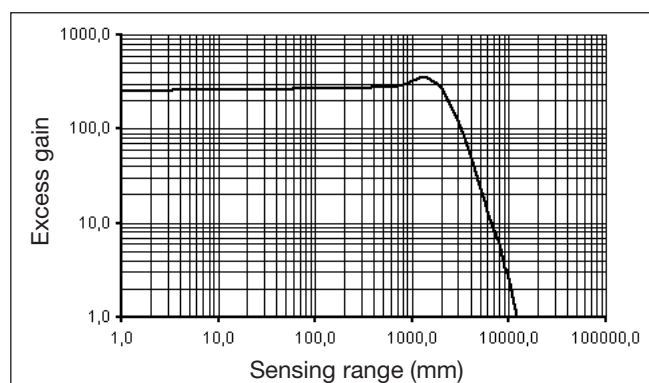
Detection Diagram



Signal Stability

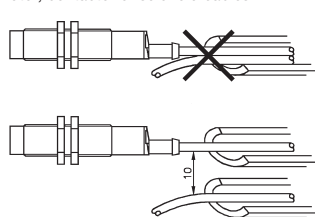


Excess Gain

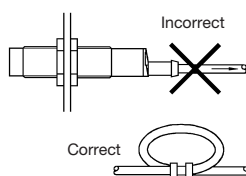


Installation Hints

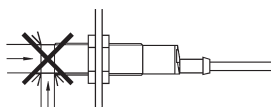
To avoid interference from inductive voltage/ current peaks, separate the prox. switch power cables from any other power cables, e.g. motor, contactor or solenoid cables



Relief of cable strain

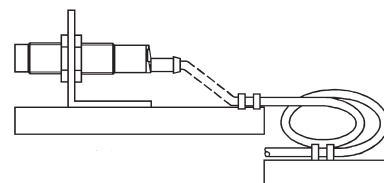


The cable should not be pulled

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:
- Screwdriver for adjustment:
- Connector type CON.14NF..

ER-series
77-001