

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

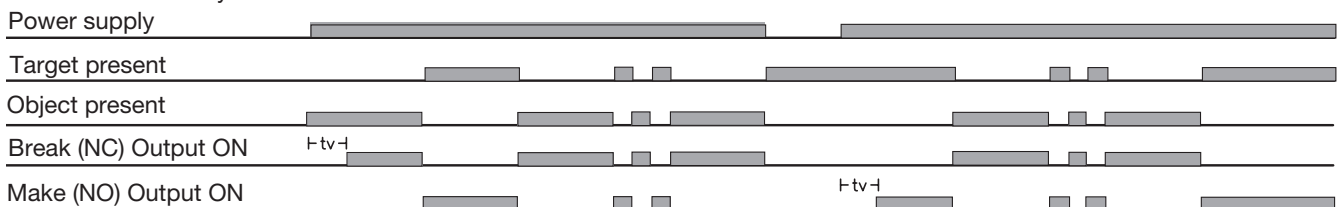
Rated operating distance (S_n)	10 m, with reflector type ER 4, ref. target	Light source	GaAlAs, LED, 880 nm
Blind zone	Max. 10 cm	Light type	infrared, modulated
Sensitivity	Adjustable by single-turn potentiometer	Sensing angle	± 2° at 1/2 range
Temperature drift	≤ 0.5%/°C	Ambient light	Max. 5'000 lux
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_{rpp})	≤ 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.)

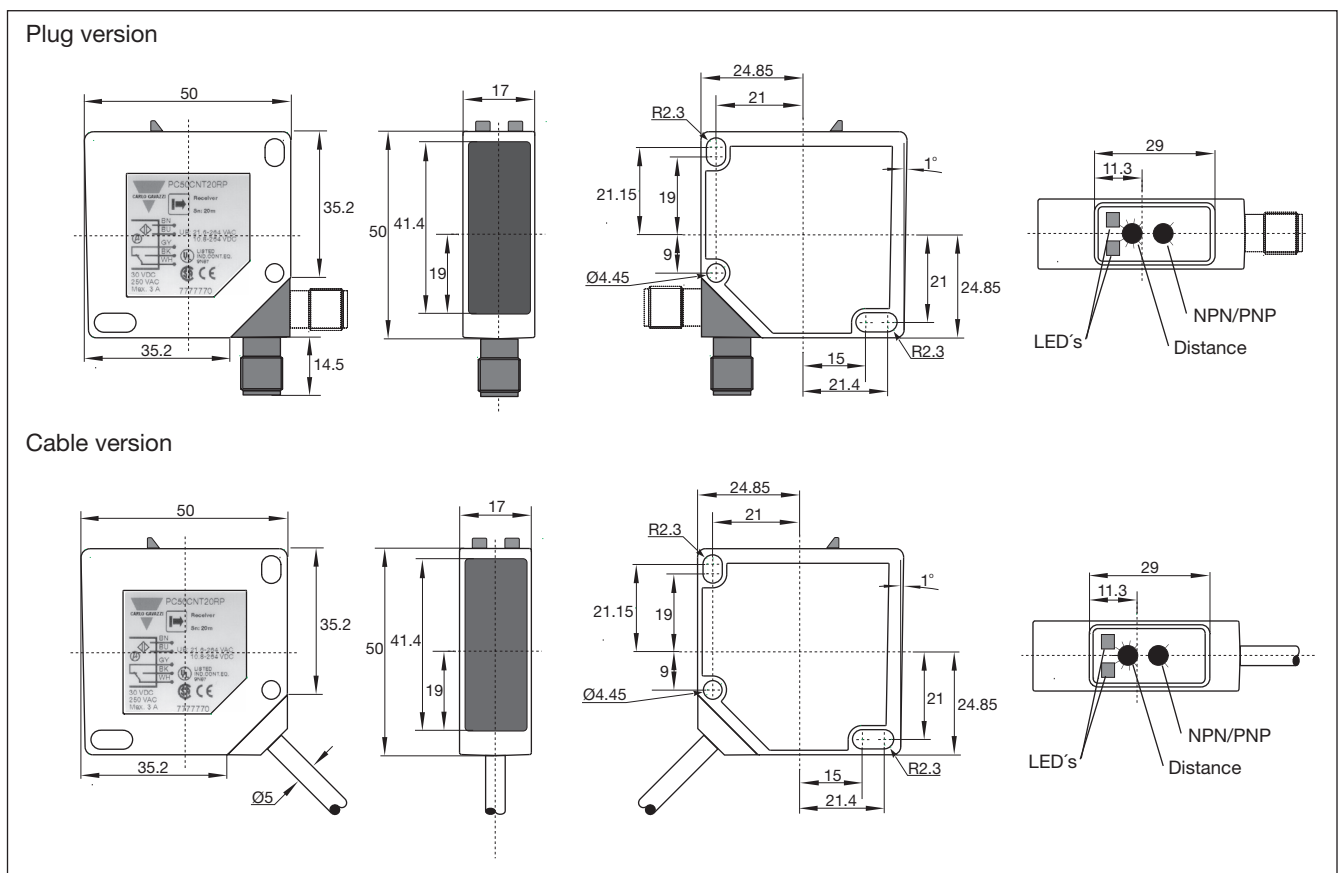
Temperature Operating Storage	-20° to +60°C (-4° to +140°F) -25° to +80°C (-13° to +176°F)	Connection Cable Plug (M1) Cables for plug (M1)	PVC, grey, 2 m, 4 x 0.34 mm ² PBTP, M12 x 1 CON.14NF.. series
Vibration	10 to 150 Hz, 0.5 mm/7.5 g (IEC 60068-2-6)	Weight Cable version Plug version	185 g 102 g
Shock	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

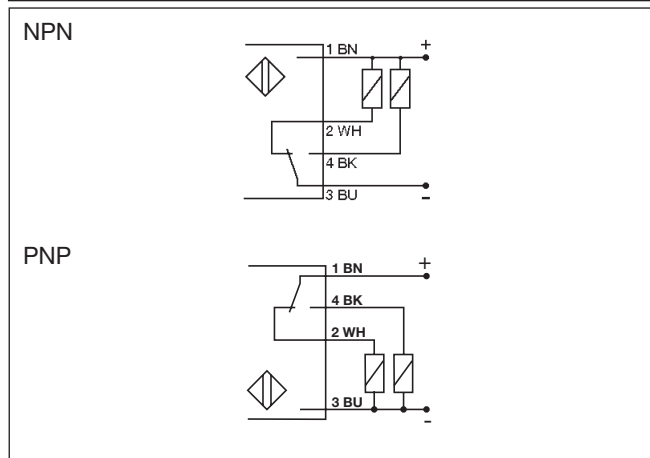
tv = Power ON delay



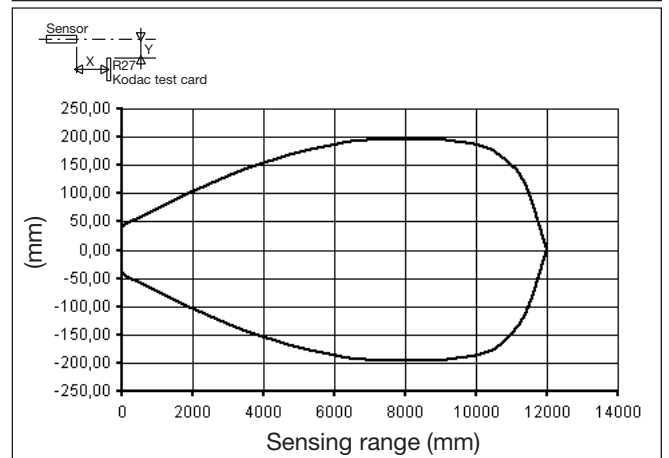
Dimensions



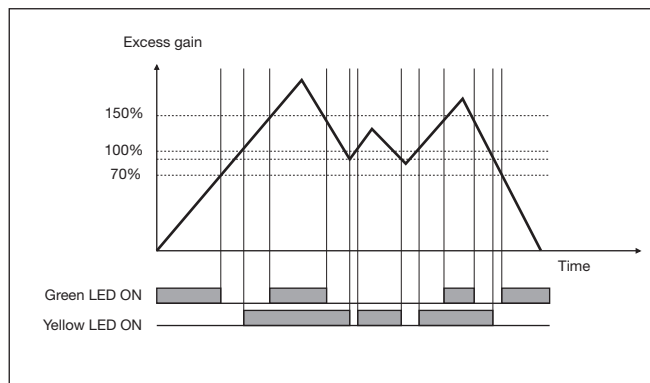
Wiring Diagrams



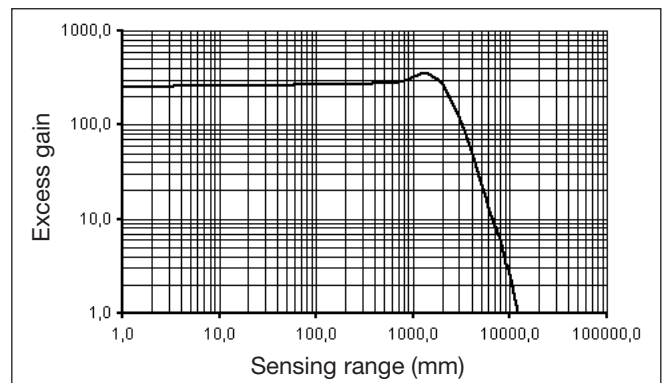
Detection Diagram



Signal Stability



Excess Gain



Installation Hints

<p>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</p>	<p>Relief of cable strain</p> <p>The cable should not be pulled</p>	<p>Protection of the sensing face</p> <p>A proximity switch should not serve as mechanical stop</p>	<p>Switch mounted on mobile carrier</p> <p>Any repetitive flexing of the cable should be avoided</p>
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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.14NF..

