

Photoelectrics

Retro-reflective, Transistor Output

Type PC50CNR10BA



- 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 EMC immunity

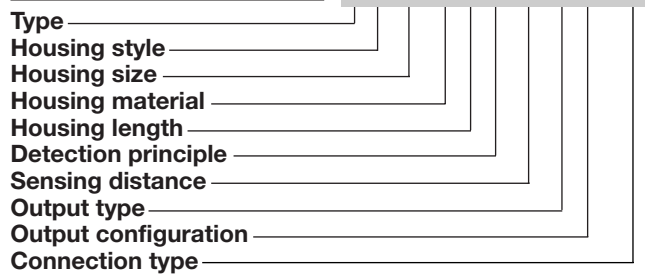
Preliminary data sheet

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



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)	Up to 10 m, with reflector type ER 4, Ø84 mm, ref. target	Protection	Short-circuit, reverse polarity, transients
Blind zone	Max. 20 cm	Light source	GaAIAs, LED, 880 nm infrared, modulated
Sensitivity	Adjustable by single-turn potentiometer	Light type	± 2°
Temperature drift	± 0.5%/°C	Sensing angle	Max. 10'000 lux
Hysteresis (H) Differential travel	3-20%	Ambient light	
Rated operational volt. (U_B)	10 to 30 VDC (ripple included)	Operating frequency	500 Hz
Ripple (U_{rpp})	≤ 10%	Response time	
Output current		OFF-ON (t _{ON})	≤ 1 ms
Continuous (I _e)	≤ 200 mA	ON-OFF (t _{OFF})	≤ 1 ms
Short-time (I)	≤ 200 mA, (max. load capacity 100 nF)	Power ON delay (t_v)	≤ 300 ms
No load supply current (I_o)	≤ 50 mA	Output function	
Minimum operational current (I_m)	0.5 mA	NPN and PNP	Switch selectable
OFF-state current (I_r)	≤ 100 µA	Complementary switch	Make and break (NO + NC)
Voltage drop (U_d)	≤ 2.5 VDC @200 mA	Indication function	
		Output ON	LED, yellow
		Signal stability ON and power ON	LED, green
		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)

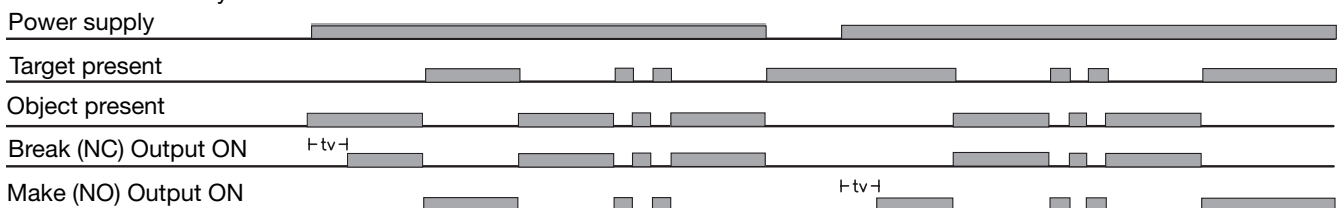


Specifications (cont.)

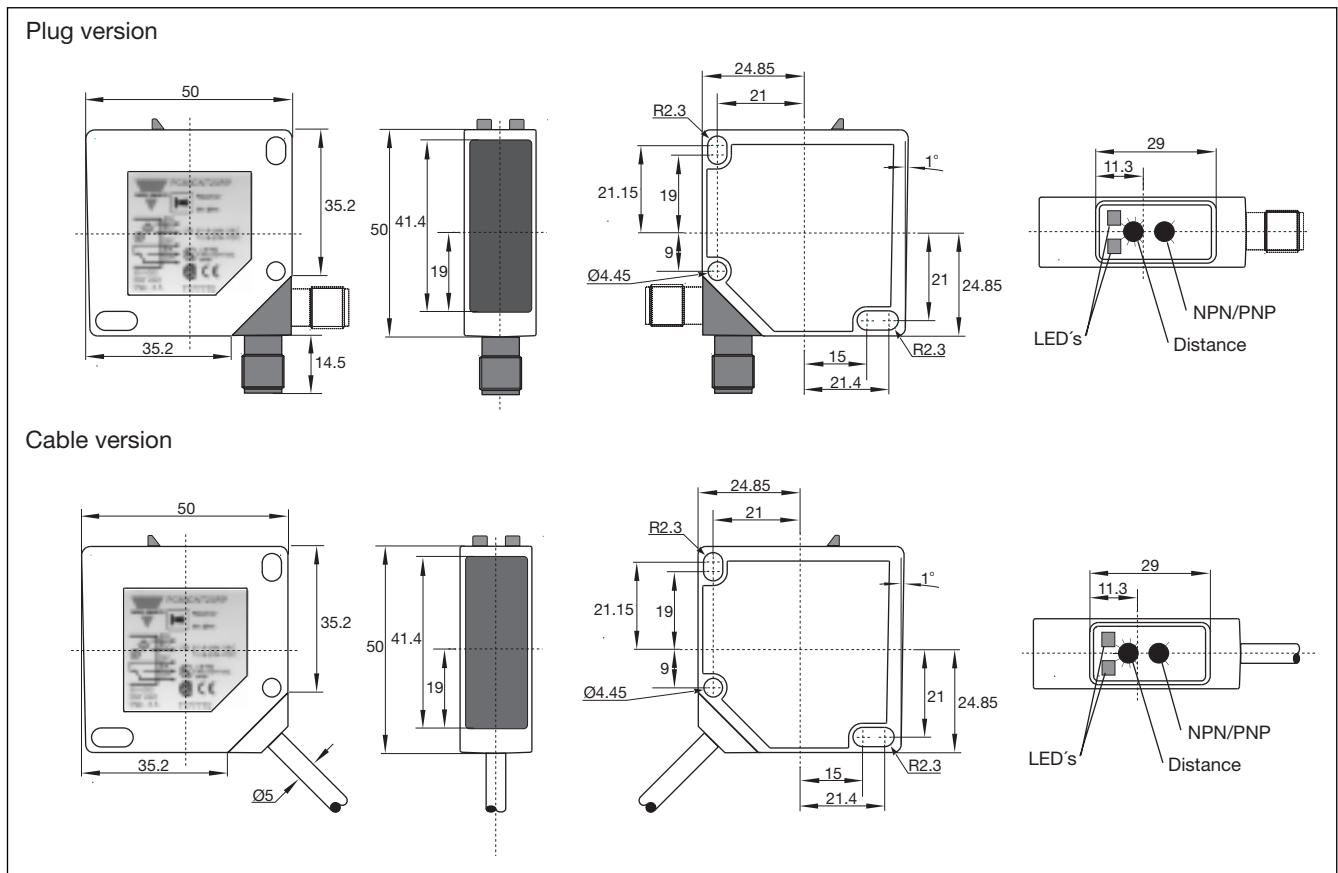
Temperature Operating Storage	-20° to +60°C (-4° to +140°F)	Housing material Body Front glass Mounting bracket	PC/ABS, grey
	-25° to +80°C (-13° to +176°F)		PC black Steel, galvanized
Vibration	10 to 150 Hz, 0.5 mm/7.5 g (IEC 60068-2-6)	Connection Cable Plug (M1) Cables for plug (M1)	PVC, grey, 2 m,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

Operation Diagram

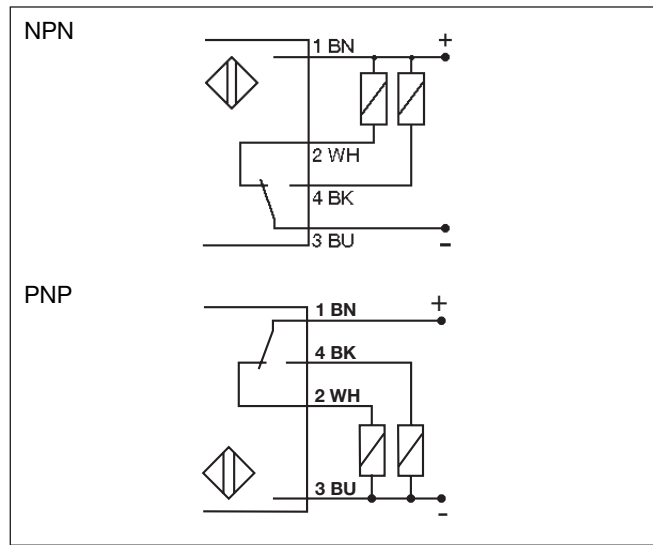
tv = Power ON delay



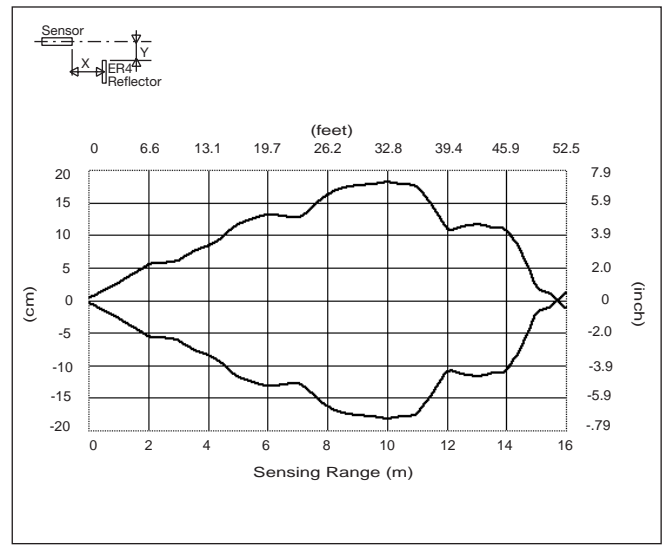
Dimensions



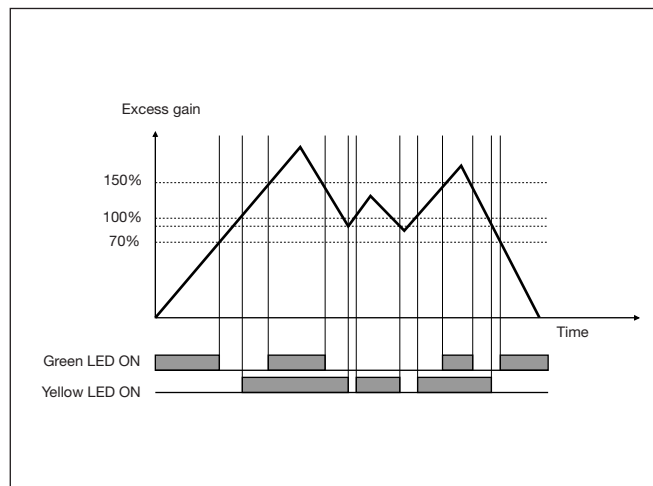
Wiring Diagrams



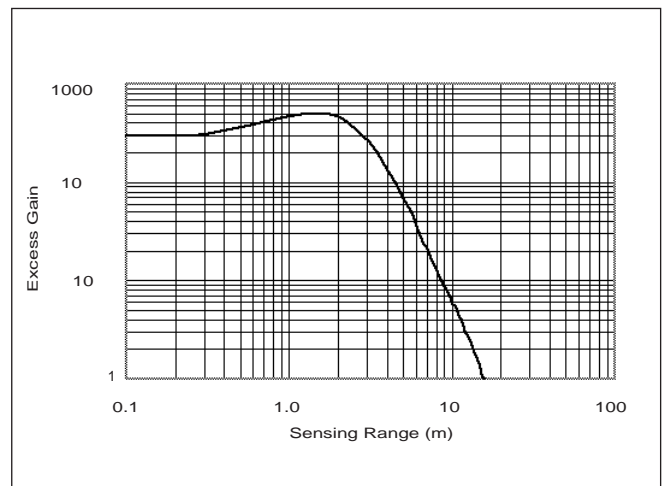
Detection Diagram



Signal Stability



Excess Gain



Delivery Contents

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

Accessories

- Reflectors: ER-series
- Screwdriver for adjustment: 77-001

For further information refer to "Accessories"