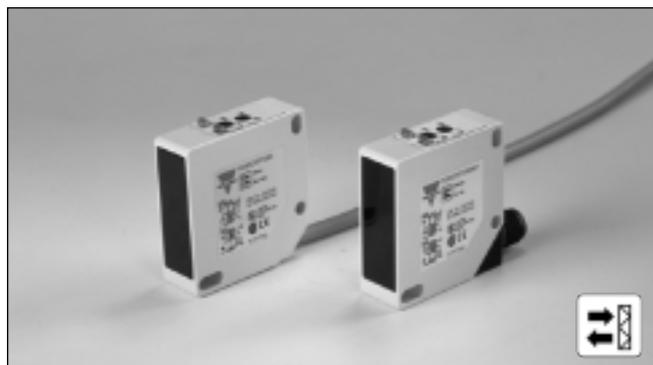


# Photoelectrics

## 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 EMC immunity

#### Preliminary data sheet

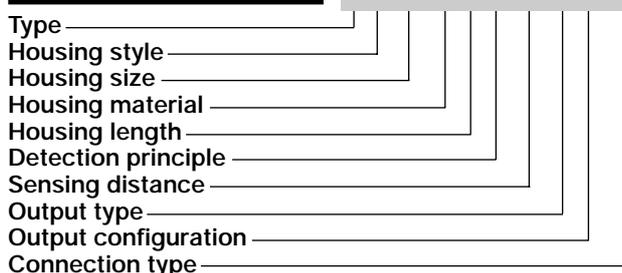
#### Product Description

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

PC50CNR10BAM1



#### Type Selection

Housing W x H x D	Range S <sub>n</sub>	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 <sub>n</sub> )	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
Sensitivity	Adjustable by single-turn potentiometer	Light type	infrared, modulated
Temperature drift	± 0.5%/°C	Sensing angle	± 2°
Hysteresis (H) Differential travel	3-20%	Ambient light	Max. 10'000 lux
Rated operational volt. (U <sub>B</sub> )	10 to 30 VDC (ripple included)	Operating frequency	500 Hz
Ripple (U <sub>rpp</sub> )	≤ 10%	Response time	
Output current		OFF-ON (t <sub>ON</sub> )	≤ 1 ms
Continuous (I <sub>a</sub> )	≤ 200 mA	ON-OFF (t <sub>OFF</sub> )	≤ 1 ms
Short-time (I)	≤ 200 mA, (max. load capacity 100 nF)	Power ON delay (t <sub>v</sub> )	≤ 300 ms
No load supply current (I <sub>o</sub> )	≤ 50 mA	Output function	Switch selectable Make and break (NO + NC)
Minimum operational current (I <sub>m</sub> )	0.5 mA	NPN and PNP	
OFF-state current (I <sub>r</sub> )	≤ 100 µA	Complementary switch	
Voltage drop (U <sub>d</sub> )	≤ 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)

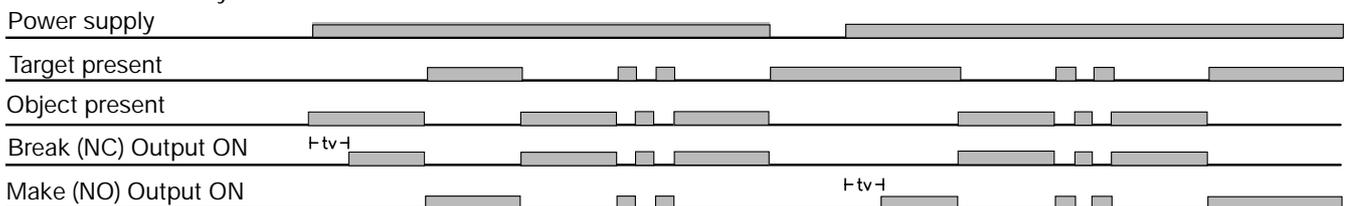


## Specifications (cont.)

<b>Temperature</b> Operating Storage	-20° to +60°C (-4° to +140°F) -25° to +80°C (-13° to +176°F)	<b>Housing material</b> Body Front glass Mounting bracket	PC/ABS, grey PC black Steel, galvanized
<b>Vibration</b>	10 to 150 Hz, 0.5 mm/7.5 g (IEC 60068-2-6)	<b>Connection</b> Cable Plug (M1) Cables for plug (M1)	PVC, grey, 2 m, 4 x 0.34 mm <sup>2</sup> PBTP, M12 x 1 CON.1A-series
<b>Shock</b>	2 x 1 m & 100 x 0.5 m (IEC 60068-2-32)	<b>Weight</b>	130 g
<b>Rated insulation voltage</b>	50 VDC	<b>CE-marking</b>	Yes

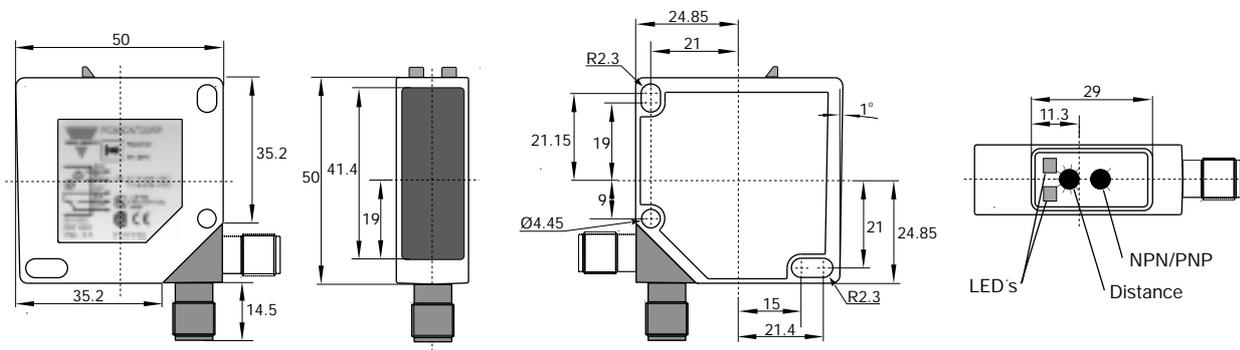
## Operation Diagram

tv = Power ON delay

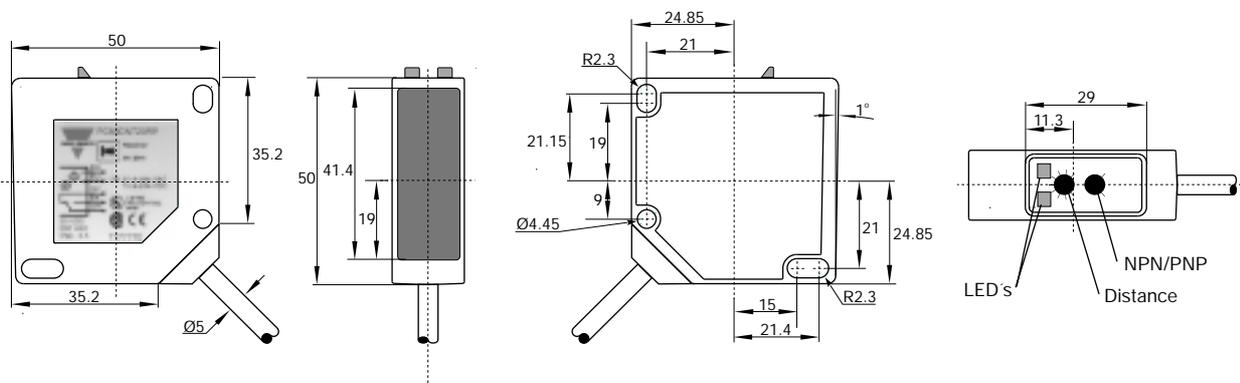


## Dimensions

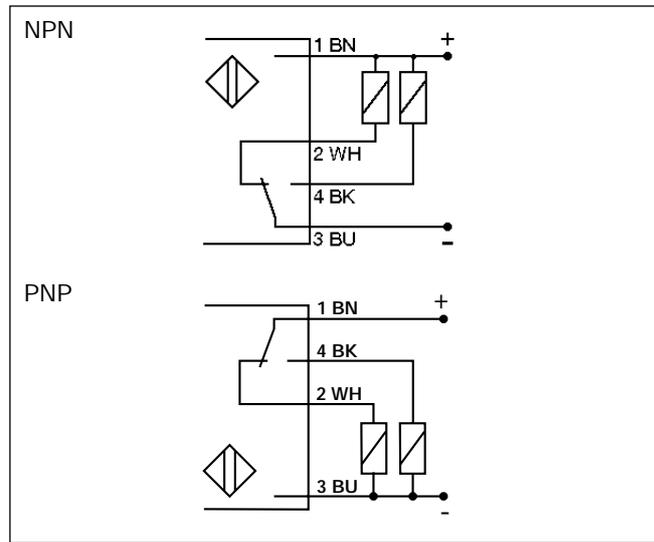
Plug version



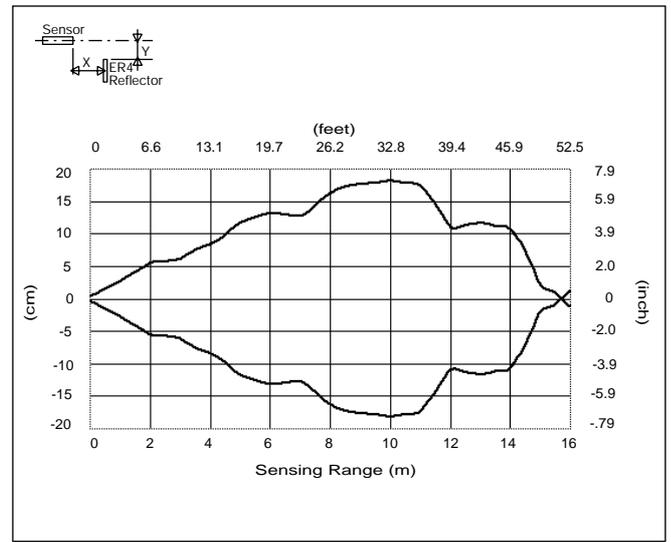
Cable version



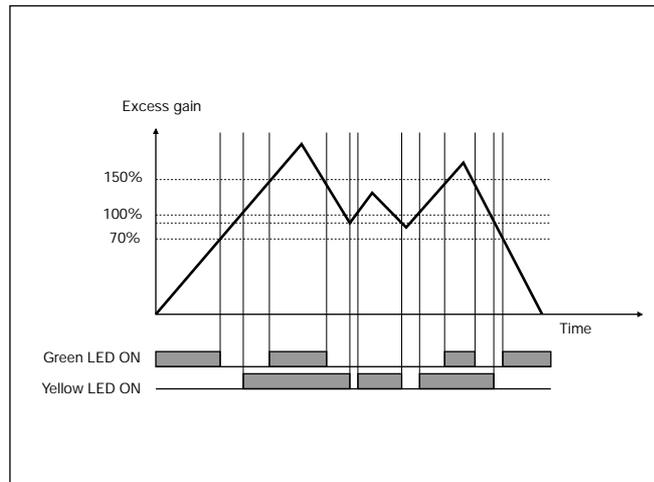
## Wiring Diagrams



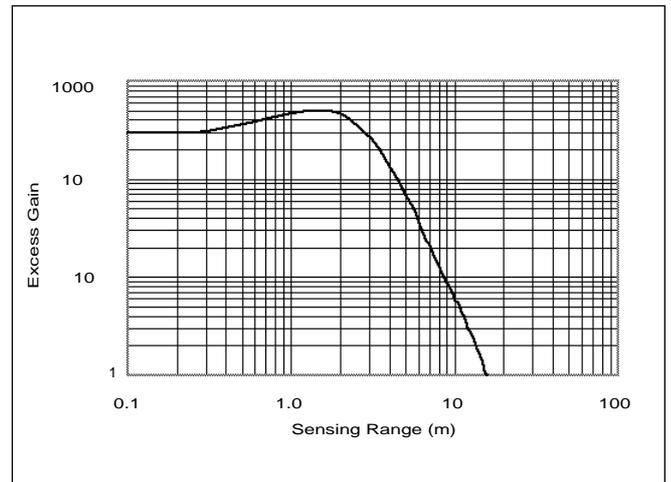
## Detection Diagram



## 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"