

# Photoelectrics

## Diffuse-reflective, Transistor Output

### Type PC50CND10BA



- Range: 1 m
- Adjustable sensitivity
- Modulated, infrared light
- Supply voltage: 10 to 30 VDC
- Output: 200 mA, NPN or PNP
- Make and break switching function selectable
- LED for output indication, signal stability and power ON
- Protection: reverse polarity, short circuit, transients
- Cable and plug version
- High EMC immunity

**Preliminary data sheet**

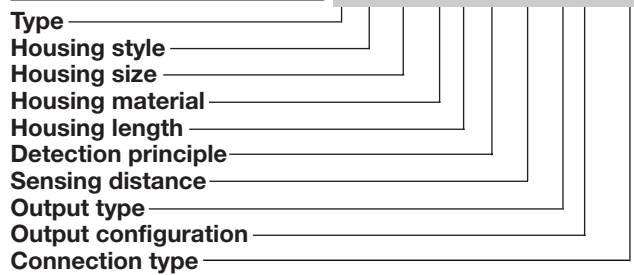
### Product Description

The PC50CND. is a family of general purpose diffuse-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

performance. 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

**PC50CND10BAM1**



### 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	1 m	PC 50 CND 10 BA	PC 50 CND 10 BAM1

### Specifications

<b>Rated operating distance (S<sub>n</sub>)</b>	Up to 1 m, reference target Kodak test card R 27, white, 90% reflectivity, 200 x 200 mm	<b>Light source</b>	GaAIAs, LED, 880 nm
<b>Blind zone</b>	Max. 10 cm	<b>Light type</b>	infrared, modulated
<b>Sensitivity</b>	Adjustable by single-turn potentiometer	<b>Sensing angle</b>	± 12°
<b>Temperature drift</b>	± 0.5%/°C	<b>Ambient light</b>	Max. 10'000 lux
<b>Hysteresis (H)</b> Differential travel	3 - 20%	<b>Operating frequency</b>	500 Hz
<b>Rated operational volt. (U<sub>B</sub>)</b>	10 to 30 VDC (ripple included)	<b>Response time</b> OFF-ON (t <sub>ON</sub> ) ON-OFF (t <sub>OFF</sub> )	≤ 1 ms ≤ 1 ms
<b>Ripple (U<sub>rpp</sub>)</b>	≤ 10%	<b>Power ON delay (t<sub>v</sub>)</b>	< 300 ms
<b>Output current</b> Continuous (I <sub>a</sub> ) Short-time (I)	≤ 200 mA ≤ 200 mA (max. load capacity 100 nF)	<b>Output function</b> NPN and PNP Complementary switch	Switch selectable Make and break (NO + NC)
<b>No load supply current (I<sub>o</sub>)</b>	≤ 50 mA	<b>Indication function</b> Output ON Signal stability ON and power ON	LED, yellow LED, green
<b>Minimum operational current (I<sub>m</sub>)</b>	0.5 mA	<b>Environment</b> Installation category	II (IEC 60664/60664A; 60947-1)
<b>OFF-state current (I<sub>r</sub>)</b>	≤ 100 μA	Pollution degree	3 (IEC 60664/60664A; 60947-1)
<b>Voltage drop (U<sub>d</sub>)</b>	≤ 2.5 VDC @ 200 mA	Degree of protection	IP 67 (IEC 60529; 60947-1)
<b>Protection</b>	Short-circuit, reverse polarity, transients	<b>Temperature</b> Operating Storage	-20° to +60°C (-4° to +140°F) -25° to +80°C (-13° to +176°F)

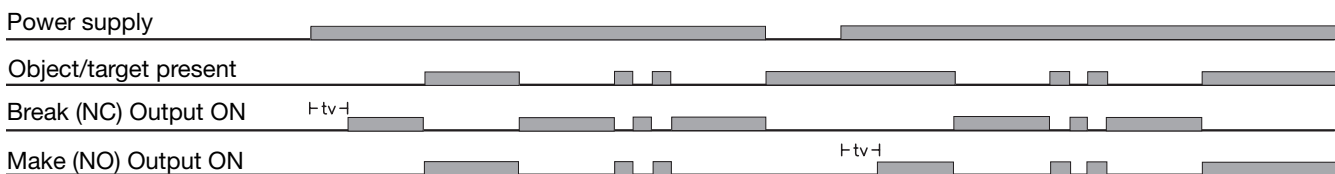


## Specifications (cont.)

<b>Vibration</b>	10 to 150 Hz, 0.5 mm/7.5 g (IEC 60068-2-6)	<b>Connection</b>	PVC, grey, 2 m, 4 x 0.34 mm <sup>2</sup>
<b>Shock</b>	2 x 1 m & 100 x 0.5 m (IEC 60068-2-6, 60068-2-32)	<b>Cable</b>	PVC, grey, 2 m, 4 x 0.34 mm <sup>2</sup>
<b>Rated insulation voltage</b>	50 VAC (rms)	<b>Plug</b>	PBTP, M12 x 1
<b>Housing material</b>		<b>Cables for plug (M1)</b>	CON.1A-series
<b>Body</b>	PC/ABS, grey	<b>Weight</b>	130 g
<b>Front glass</b>	PC black	<b>CE-marking</b>	Yes
<b>Mounting bracket</b>	Steel, galvanized		

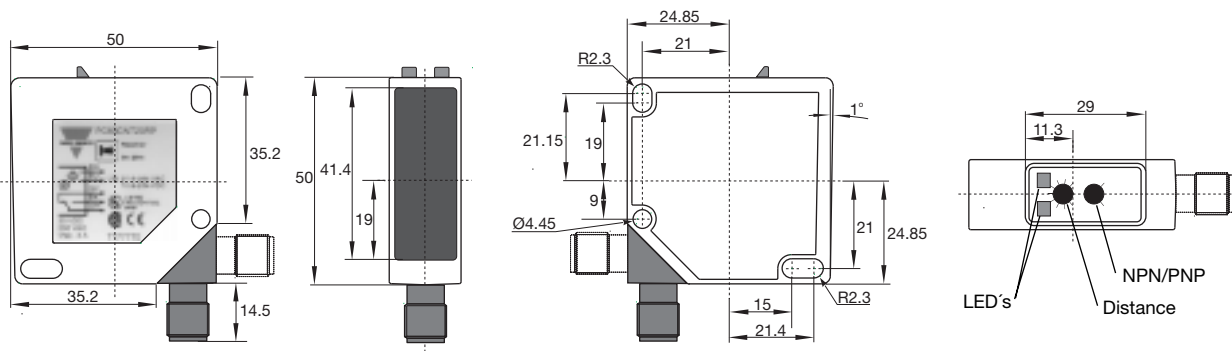
## Operation Diagram

tv = Power ON delay

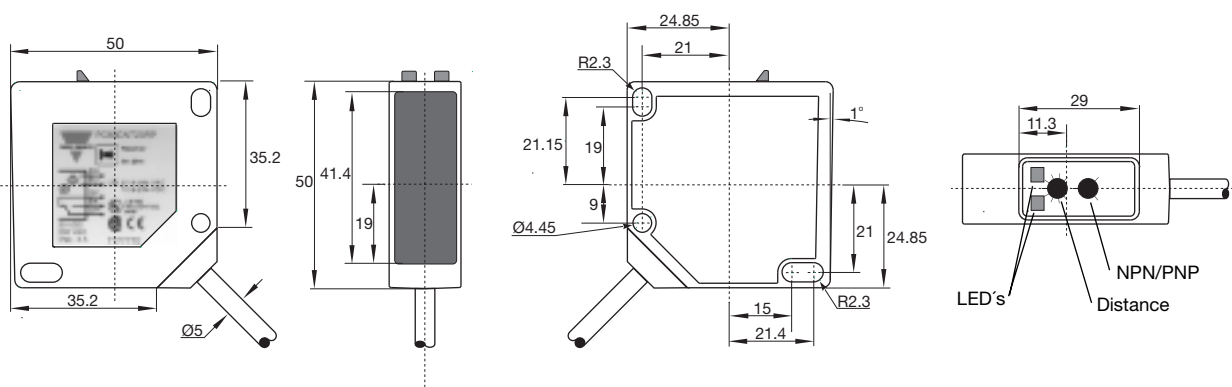


## Dimensions

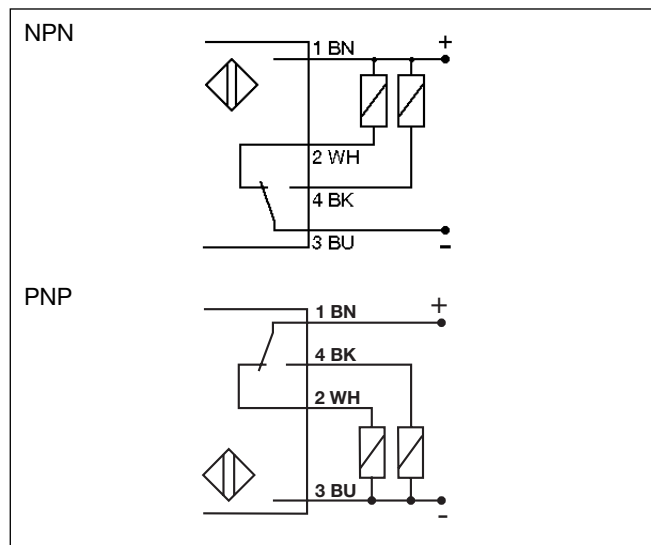
Plug version



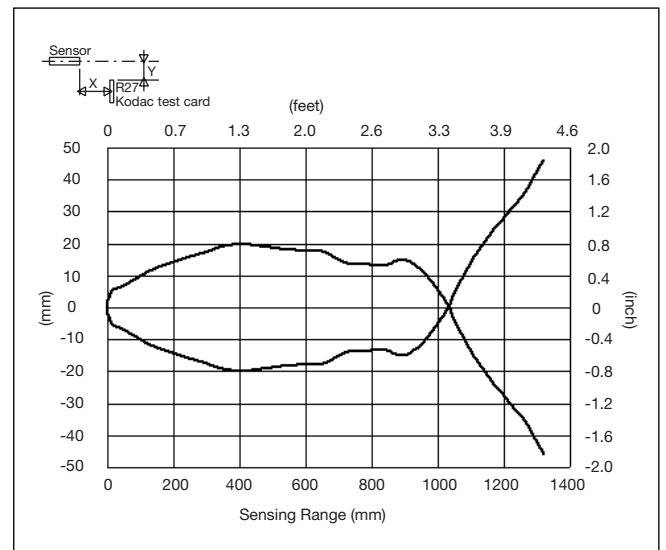
Cable version



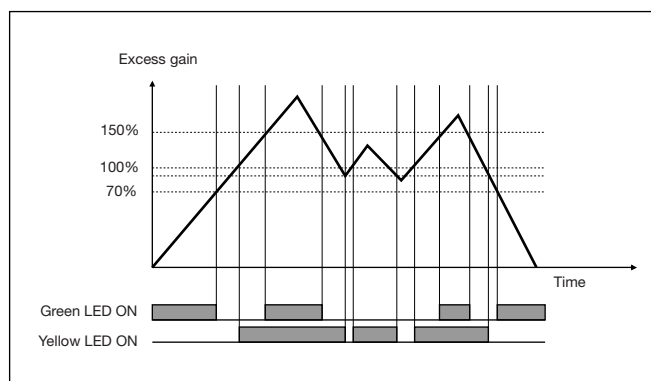
## Wiring Diagrams



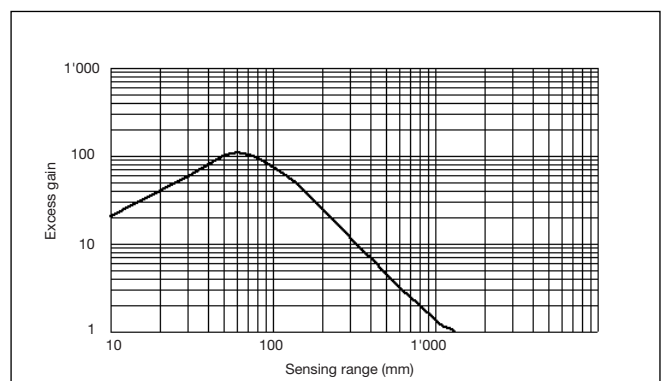
## Detection Diagram



## Signal Stability



## Excess Gain



## Delivery Contents

- Photoelectric switch: PC50 CND..
- Installation instruction
- Mounting bracket APC50-1
- **Packaging:** Cardboard box

## Accessories

- Screwdriver for adjustment: 77-001

For further information refer to "Accessories"