

Photoelectrics

Diffuse-reflective, Transistor Output

Type PC50CND20BA



- Range: 2 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 version
- High degree of EMC



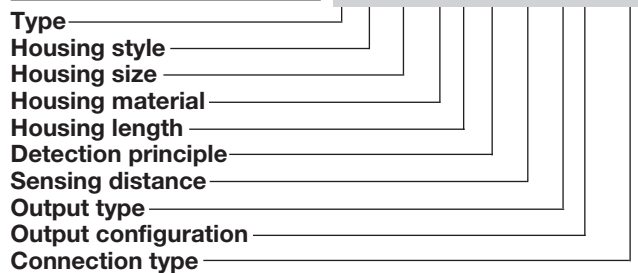
Product Description

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

PC50CND20BAM1



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	2 m	PC 50 CND 20 BA	PC 50 CND 20 BAM1

Specifications

Rated operating distance (S_n)	Up to 2 m, reference target Kodak test card R 27, white, 90% reflectivity, 200 x 200 mm	Light type	infrared, modulated
Blind zone	Typ. 10 cm (max. 30 cm)	Sensing angle	± 12°
Sensitivity	Adjustable by single-turn potentiometer	Ambient light	Max. 5'000 lux
Temperature drift	≤ 0.5%/°C	Operating frequency	100 Hz
Hysteresis (H) Differential travel	3 - 20%	Response time OFF-ON (t _{ON}) ON-OFF (t _{OFF})	≤ 2.5 ms ≤ 2.5 ms
Rated operational volt. (U_B)	10 to 30 VDC (ripple included)	Power ON delay (t_v)	< 300 ms
Ripple (U_{rpp})	≤ 10%	Output function NPN and PNP Complementary function	Switch selectable Make and break (NO + NC)
Output current Continuous (I _a) Short-time (I)	≤ 200 mA ≤ 200 mA (max. load capacity 100 nF)	Indication function Output ON Signal stability ON and power ON	LED, yellow LED, green
No load supply current (I_o)	≤ 40 mA	Environment Installation category	II (IEC 60664/60664A; 60947-1)
Minimum operational current (I_m)	0.5 mA	Pollution degree	3 (IEC 60664/60664A; 60947-1)
OFF-state current (I_r)	≤ 100 µA	Degree of protection	IP 67 (IEC 60529; 60947-1)
Voltage drop (U_d)	≤ 2.5 VDC @ 200 mA	Temperature Operating Storage	-20° to +60°C (-4° to +140°F) -25° to +80°C (-13° to +176°F)
Protection	Short-circuit, reverse polarity, transients	Vibration	10 to 150 Hz, 0.5 mm/7.5 g (IEC 60068-2-6)
Light source	GaAIAs, LED, 880 nm		

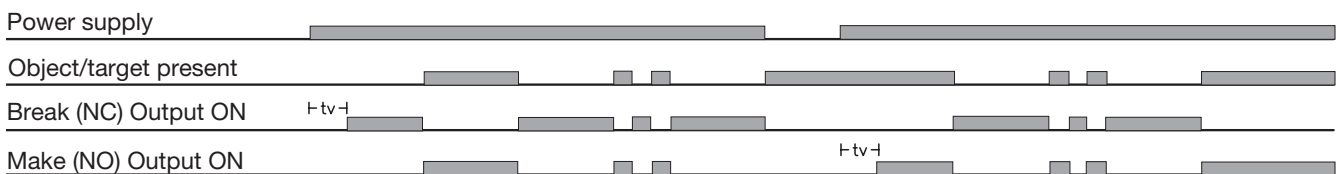


Specifications (cont.)

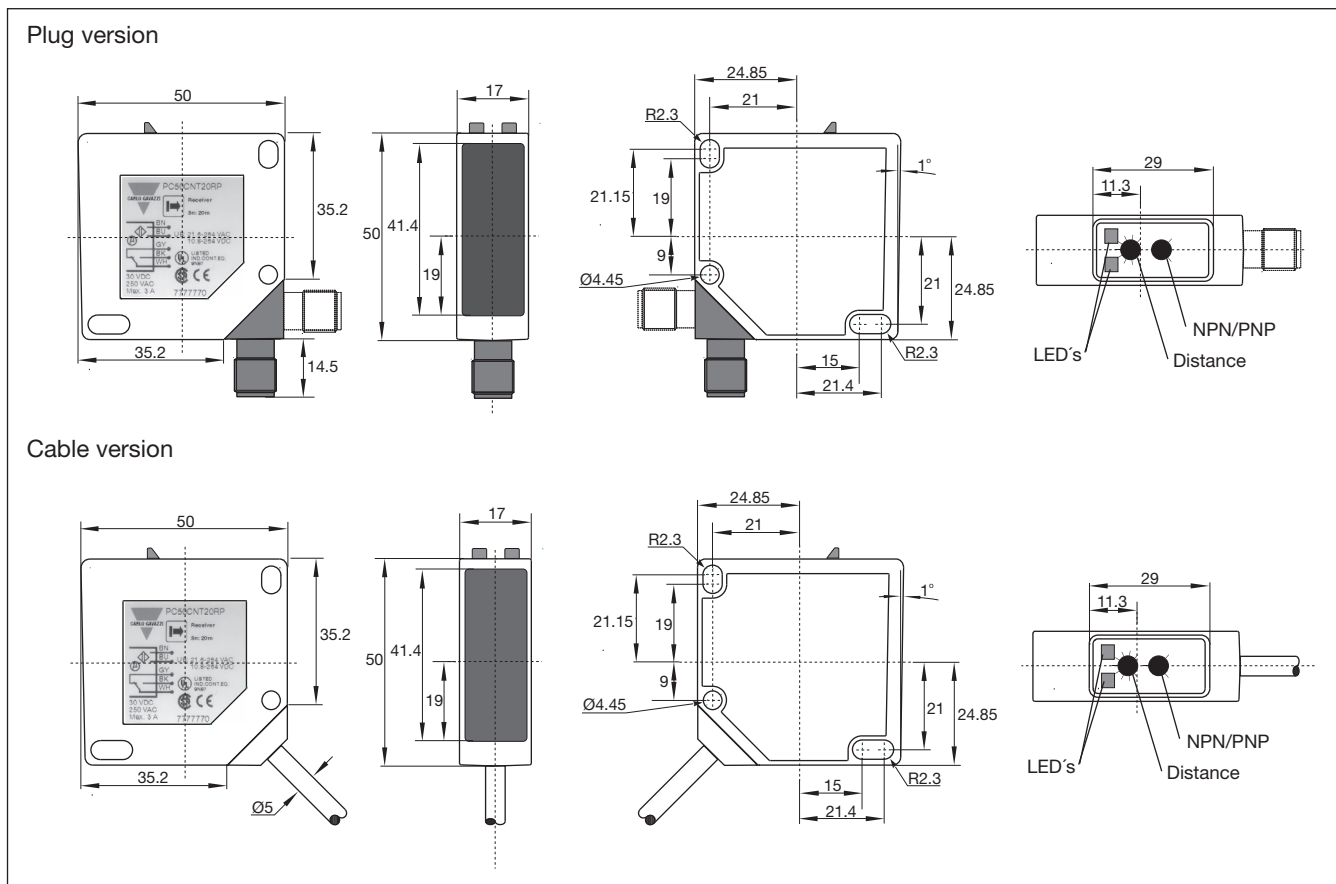
Shock	2 x 1 m & 100 x 0.5 m (IEC 60068-2-6, 60068-2-32)	Connection	PVC, grey, 2 m, 4 x 0.34 mm ²
Rated insulation voltage	50 VAC (rms)	Cable	PBTP, M12 x 1
Housing material	PC/ABS, grey	Plug	CON.14NF.. series
Body	PC/ABS, grey	Cables for plug (M1)	
Front glass	PC black	Weight	110 g/32 g
Mounting bracket	Steel, galvanized	Cable type/plug type	
		Approvals	UL, CSA
		CE-marking	Yes

Operation Diagram

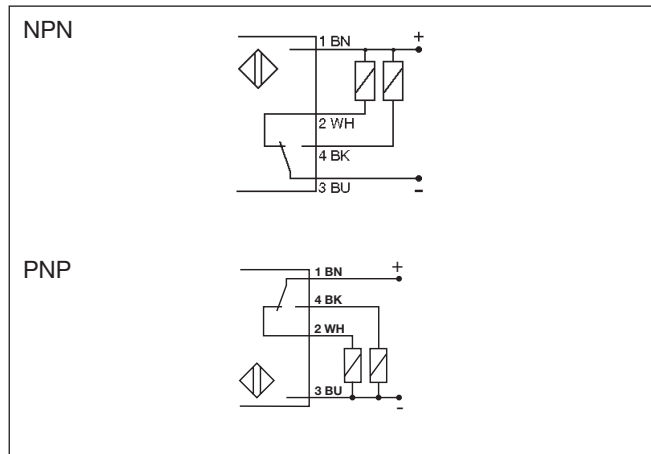
tv = Power ON delay



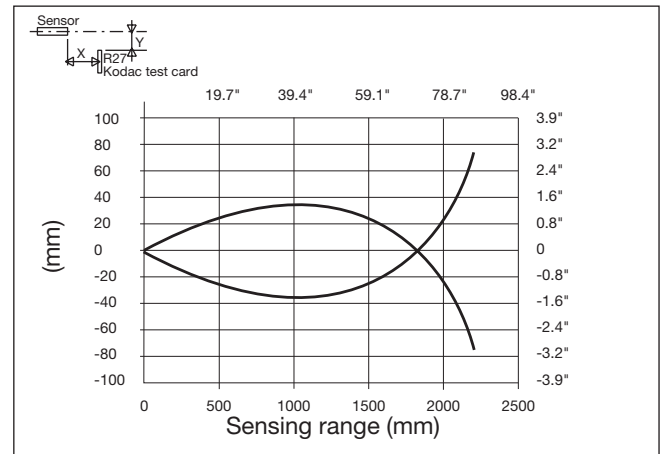
Dimensions



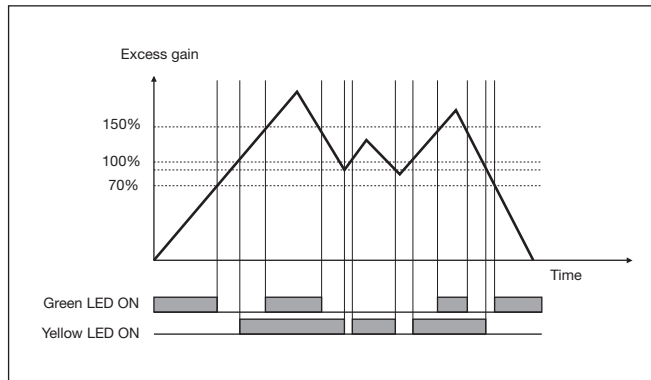
Wiring Diagrams



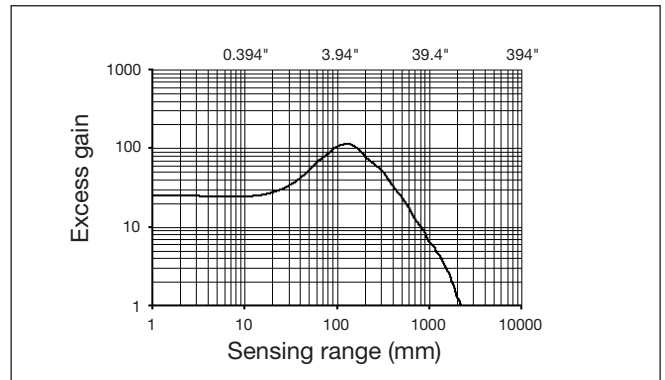
Detection Diagram



Signal Stability



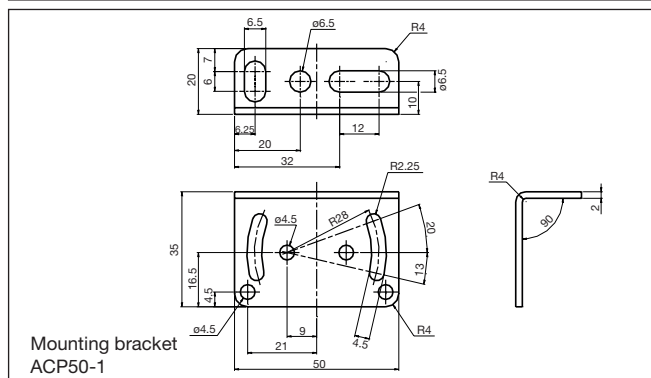
Excess Gain



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>Correct</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: PC50 CND..
- Installation instruction
- Mounting bracket APC50-1
- **Packaging:** Cardboard box

Accessories

- Screwdriver for adjustment: 77-001
- Connector type CON.14NF..