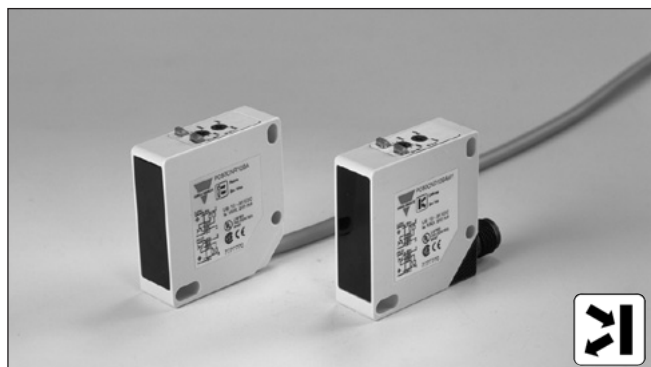


Photoelectrics

Diffuse-reflective, Transistor Output

Type PC50CND10BA

CARLO GAVAZZI



- 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



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

Specifications

Rated operating distance (S_n)	Up to 1 m, reference target Kodak test card R 27, white, 90% reflectivity, 200 x 200 mm	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)		Operating frequency	500 Hz
Differential travel	3 - 20%	Response time	
Rated operational volt. (U_B)	10 to 30 VDC (ripple included)	OFF-ON (t _{ON})	≤ 1 ms
Ripple (U_{ripple})	≤ 10%	ON-OFF (t _{OFF})	≤ 1 ms
Output current		Power ON delay (t_v)	< 300 ms
Continuous (I _a)	≤ 200 mA	Output function	
Short-time (I)	≤ 200 mA (max. load capacity 100 nF)	NPN and PNP	Switch selectable
No load supply current (I_o)	≤ 40 mA	Complementary function	Make and break (NO + NC)
Minimum operational current (I_m)	0.5 mA	Indication function	
OFF-state current (I_r)	≤ 100 μA	Output ON	LED, yellow
Voltage drop (U_d)	≤ 2.5 VDC @ 200 mA	Signal stability ON and power ON	LED, green
Protection	Short-circuit, reverse polarity, transients	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)
		Temperature	
		Operating	-20° to +60°C (-4° to +140°F)
		Storage	-25° to +80°C (-13° to +176°F)

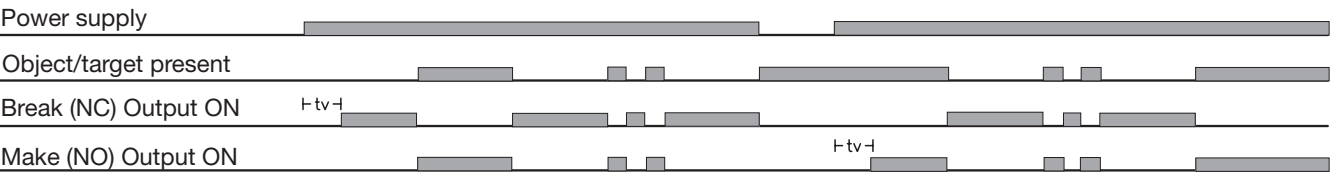


Specifications (cont.)

Vibration	10 to 150 Hz, 0.5 mm/7.5 g (IEC 60068-2-6)	Connection	PVC, grey, 2 m, 4 x 0.34 mm ²
Shock	2 x 1 m & 100 x 0.5 m (IEC 60068-2-6, 60068-2-32)	Cable	PBTP, M12 x 1
		Plug	CON.1A-series
Rated insulation voltage	50 VAC (rms)	Cables for plug (M1)	
Housing material		Weight	110 g
Body	PC/ABS, grey	Approvals	UL, CSA
Front glass	PC black	CE-marking	Yes
Mounting bracket	Steel, galvanized		

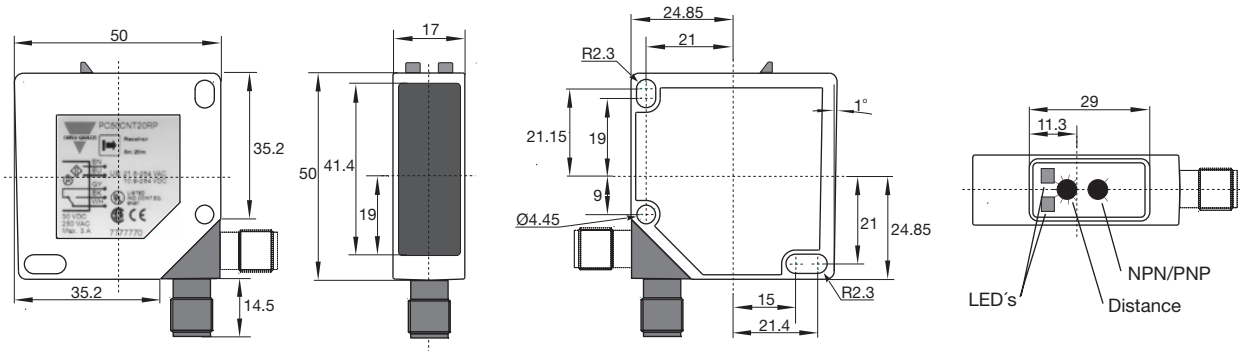
Operation Diagram

tv = Power ON delay

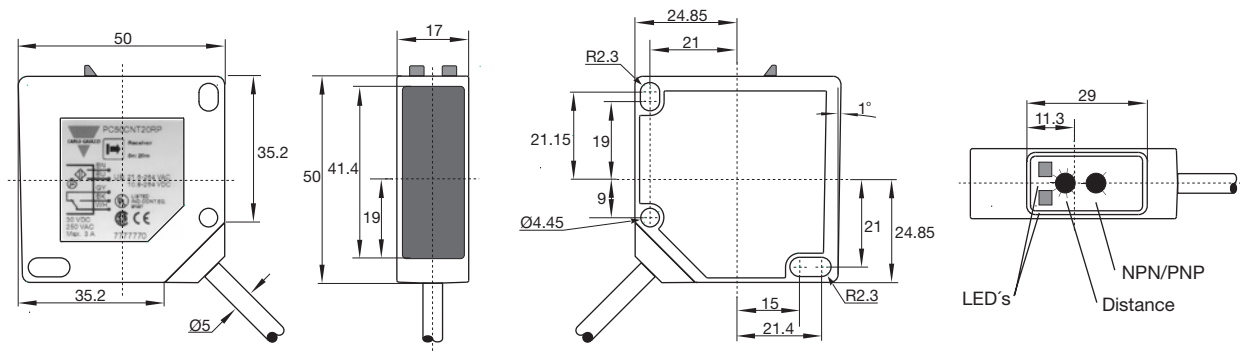


Dimensions

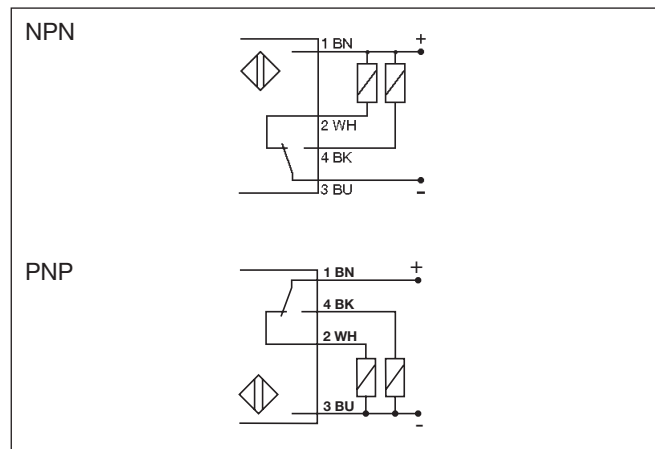
Plug version



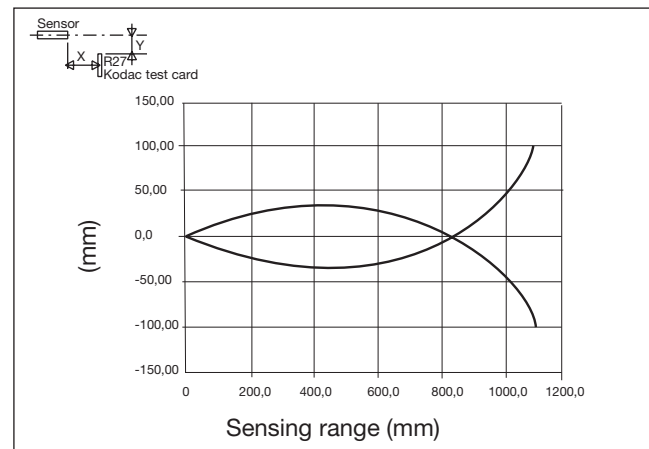
Cable version



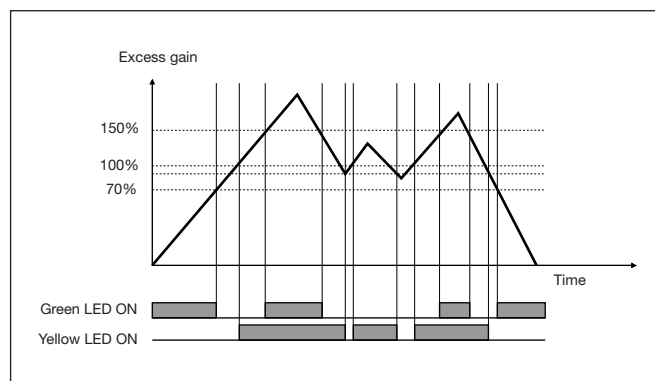
Wiring Diagrams



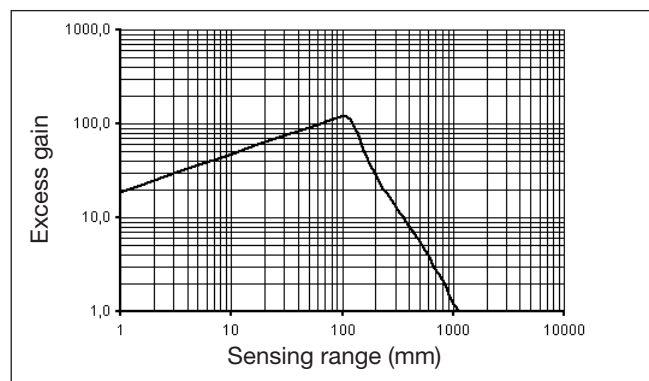
Detection Diagram



Signal Stability

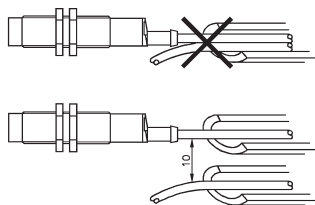


Excess Gain

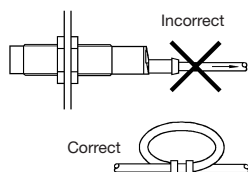


Installation Hints

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

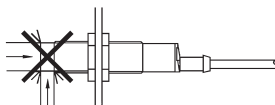


Relief of cable strain



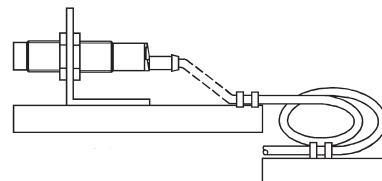
The cable should not be pulled

Protection of the sensing face



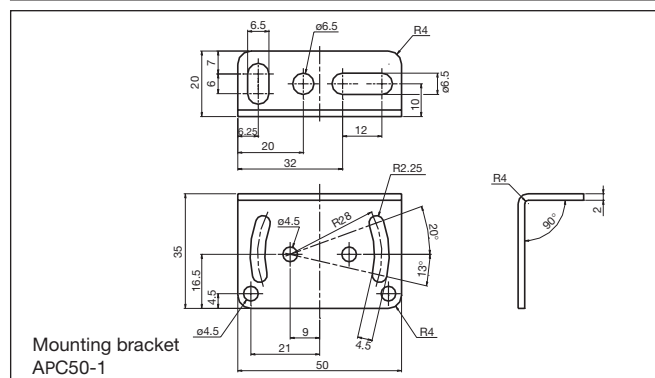
A proximity switch should not serve as mechanical stop

Switch mounted on mobile carrier



Any repetitive flexing of the cable should be avoided

Delivery Contents



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

Accessories

- Screwdriver for adjustment: 77-001
- Connector type CON.1A..

For further information refer to “Accessories”