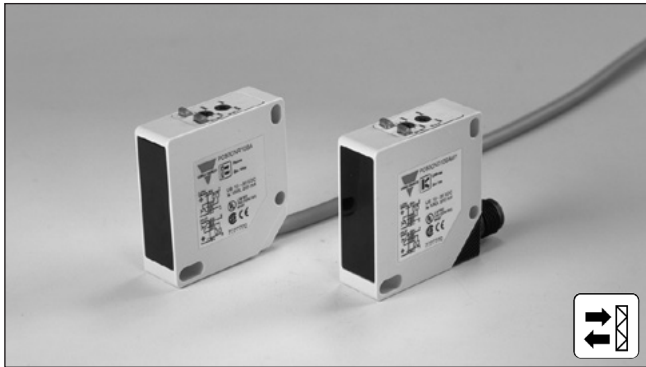# Photoelectrics
Retro-reflective, Polarized, Transistor Output
Type PC50CNP06BAM.

CARLO GAVAZZI

- Range: 6 m
- Adjustable sensitivity
- Modulated, visible red light, polarized
- 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 versions
- High degree of EMC
- Mute input

CE UL

Product Description

The PC50CNP. is a family of general purpose polarized 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 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 PC50CNP06BAM1MH

Type
Housing style
Housing size
Housing material
Housing length
Detection principle
Sensing distance
Output type
Output configuration
Connection type
Mute input
Mute active level

Type Selection

Housing W x H x D	Range S_n	Mute	Ordering no. NPN & PNP cable Make & break switching	Ordering no. NPN & PNP plug Make & break switching
17 x 50 x 50 mm	6 m	**High**	**PC 50 CNP 06 BAMH**	**PC 50 CNP 06 BAM1MH**
17 x 50 x 50 mm	6 m	**Low**	**PC 50 CNP 06 BAML**	**PC 50 CNP 06 BAM1ML**

Note: Reflector to be ordered separately

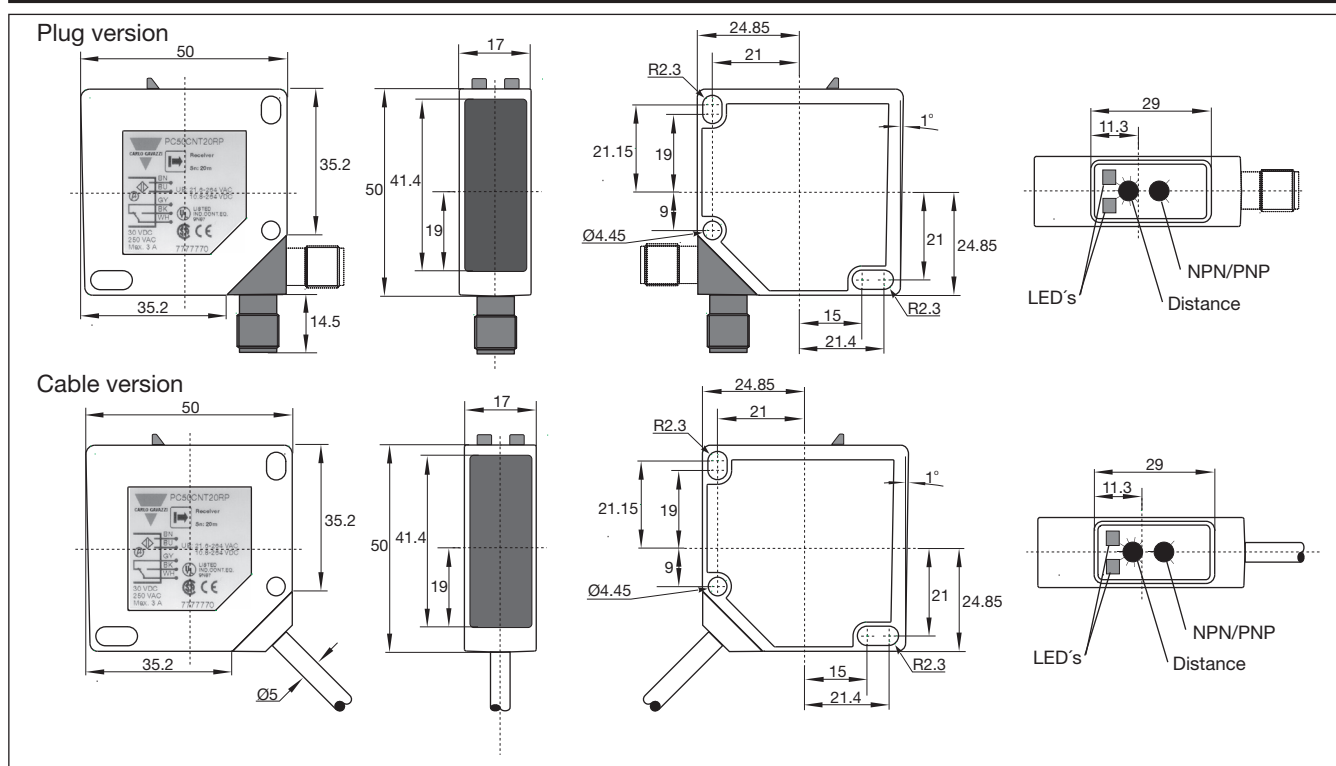## Specifications

Rated operating distance (S_n)	Up to 6 m, with reflector type ER 4, ref. target	**Voltage drop** (U_d)	≤ 2.5 VDC @ 200 mA
Blind zone	Max. 20 cm	**Test input** Impedance	10kΩ
Sensitivity	Adjustable by single-turn potentiometer	Voltage Active high Active low	> 8.5 VDC < 3 VDC
Hysteresis (H) Differential travel	3 - 20%	**Test input response time** ON-OFF (t_1) ON-OFF (t_2)	≤ 200 ms ≤ 200 ms
Temperature drift	≤ 0.5%/°C	**Protection**	Short-circuit, reverse polarity, transients
Rated operational volt. (U_B)	10 to 30 VDC (ripple included)		
Ripple (U_{rpp})	≤ 10%	**Light source**	GaAlAs, LED, 660 nm
Output current Continuous (I_e) Short-time (I)	≤ 200 mA ≤ 200 mA, (max. load capacity 100 nF)	**Light type**	visible red, modulated
		Sensing angle	± 2° at 1/2 range
		Ambient light	Max. 5'000 lux
No load supply current (I_o)	≤ 40 mA	**Operating frequency**	500 Hz
Minimum operational current (I_m)	0.5 mA	**Response time** OFF-ON (t_{ON}) ON-OFF (t_{OFF})	≤ 1 ms ≤ 1 ms
OFF-state current (I_r)	Max. 100 µA		

CARLO GAVAZZI

Specifications (cont.)

Power ON delay (t_v)	≤ 300 ms	**Vibration**	10 to 150 Hz, 0.5 mm/7.5 g (IEC 60068-2-6)
Output function		**Shock**	2 x 1 m & 100 x 0.5 m (IEC 60068-2-32)
NPN and PNP	Switch selectable		
Complementary function	Make and break (NO + NC)	**Rated insulation voltage**	50 VDC
Indication function		**Housing material**	
Output ON	LED, yellow	Body	PC/ABS, grey
Signal stability ON and power ON	LED, green	Front glass	PMMA, red
Environment		Mounting bracket	Steel, galvanized
Installation category	II (IEC 60664/60664A; 60947-1)	**Connection**	
		Cable	PVC, grey, 2 m, 5 x 0.34 mm²
Pollution degree	3 (IEC 60664/60664A; 60947-1)	Plug (M1)	PBTP, M12 x 1
		Cables for plug (M1)	CON.1A-series
Degree of protection	IP 67 (IEC 60529; 60947-1)	**Weight**	110 g
Temperature		**Approvals**	UL
Operating	-20° to +60°C (-4° to +140°F)	**CE-marking**	Yes
Storage	-25° to +80°C (-13° to +176°F)		

Dimensions

CARLO GAVAZZI

Operation Diagram

tv = Power ON delay

Power supply	
Target present	
Object present	
Break (NC) Output ON	⊢tv⊣
Make (NO) Output ON	⊢tv⊣

Wiring Diagrams

NPN

BN +
WH
BK
BU −
GY (mute)

PNP

BN +
BK
WH
BU −
GY (mute)
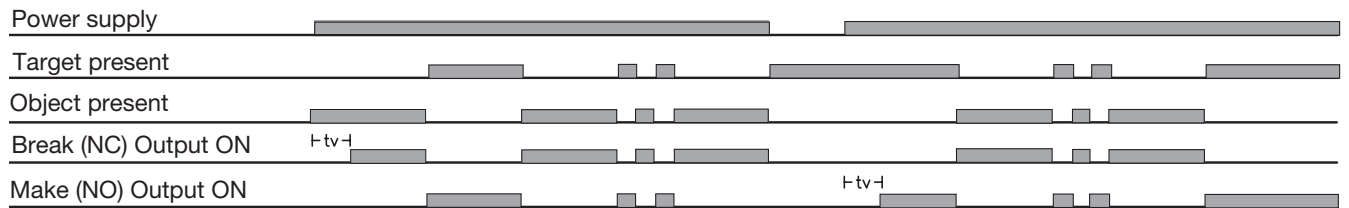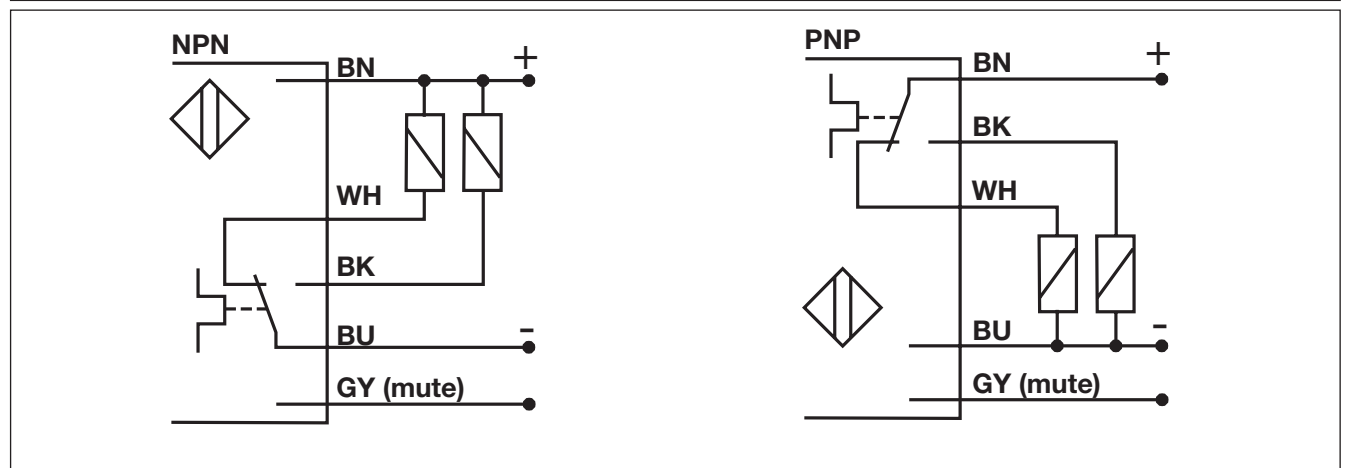
Signal Stability

Excess gain

150%
100%
70%

Time

Green LED ON
Yellow LED ON

Excess Gain

Excess gain

1000,0
100,0
10,0
1,0

1   10   100   1000   10000

Sensing range (mm)

Detection Diagram

Sensor

X | Y
R27
Kodac test card

(mm): 150,00 / 100,00 / 50,00 / 0,00 / -50,00 / -100,00 / -150,00
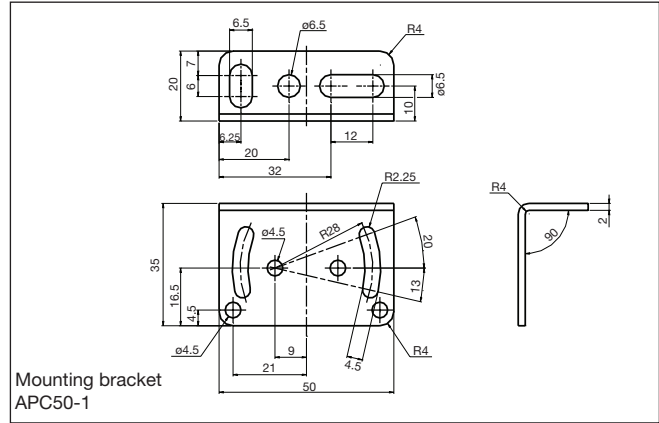
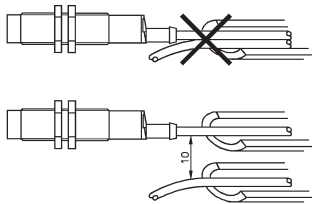Sensing range (mm): 0 1000 2000 3000 4000 5000 6000 7000
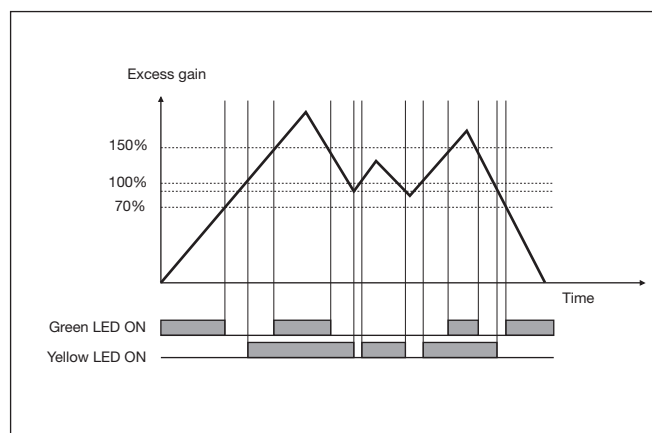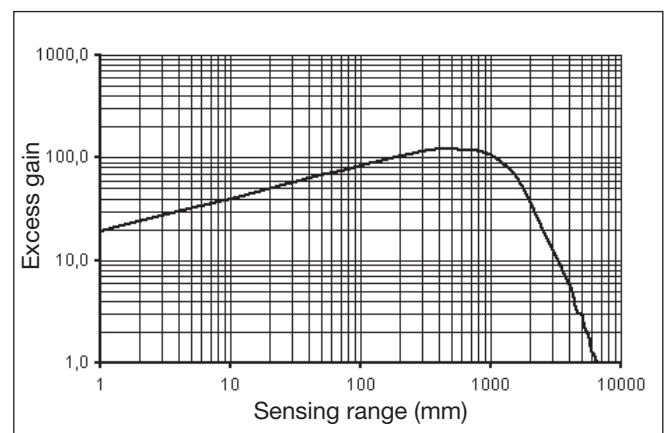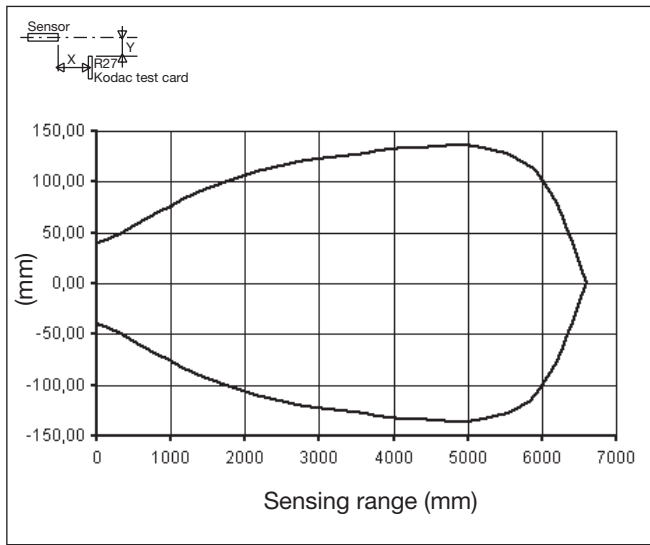
Delivery Contents

- Photoelectric switch: PC50CNP..
- Installation instruction
- Mounting bracket APC50-1
- **Packaging:** Cardboard box
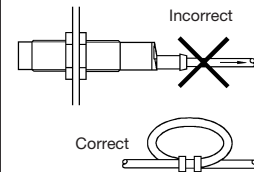

Mounting bracket
APC50-1

Installation Hints

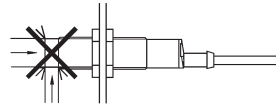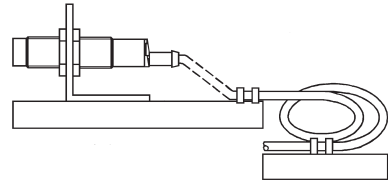| *To avoid interference from inductive voltage/ current peaks, separate the prox. switch power cables from any other power cables, e.g. motor, contactor or solenoid cables*	*Relief of cable strain*	*Protection of the sensing face*	*Switch mounted on mobile carrier*
	Incorrect Correct The cable should not be pulled	A proximity switch should not serve as mechanical stop	Any repetitive flexing of the cable should be avoided

Accessories

- Reflectors: ER-series
- Screwdriver for adjustment: 77-001
- Connector type CON.1A.. serie.

Specifications are subject to change without notice (12.03.2018)

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for Photoelectric Sensors *category:*

Click to view products by Carlo Gavazzi *manufacturer:*

Other Similar products are found below :

E3JM-DS70R4T-US E3L2DC4 E3RA-DN12 2M E3RA-DP12 2M E3S5LE4S E3S-AD38 E3S-CR11 5M E3SCT11D5M E3SCT11M1J03M E3T-SL14R E3T-SL24 5M E3T-ST12R E3X-CN02 E3X-CN11 5M E3X-CN21 10M E3ZM-B66 E3ZM-CL81H 2M E3Z-T62 2M NJL5303R-TE1 PB10CNT15PO PD60CNX20BP CX-491-P-J CX-491-Z XUM2BKCNL2T XUM2BKCNL2T XUM2BNANL2R Y92E-ES30M Y92E-GS08SS ZXTDS04T ZX-XC4A 4M E3E23Y2US E3JM-DS70S4-US E3RA-RN11 2M E3S5LE42M E3S-LS20XB4 5M E3TFD14N E3T-FD14R E3T-SL21 5M E3T-SL21M E3T-ST11R E3T-ST12 5M E3X-DA41-S-M1J 0.3M E3X-DAB6 E3X-DAG8 E3ZM-B86 E3ZM-CR81 2M E3ZM-CR86 E3Z-T61A-L 2M ZX-XGC2R ZX-XB1A