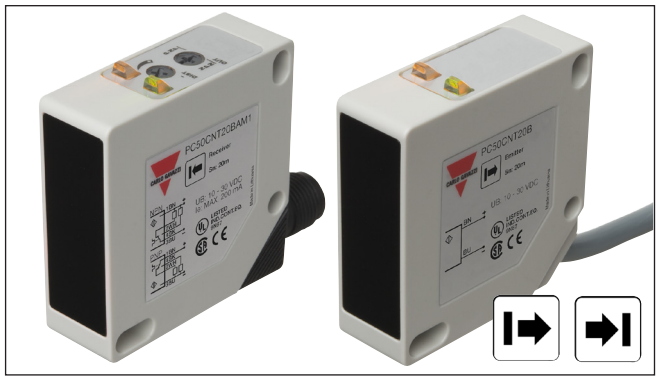
Photoelectrics
Through-beam, Transistor Output
Type PC50CNT20B.

CARLO GAVAZZI



- **Range: 20 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**
- **Excellent EMC**

Product Description

The PC50CNT. is a family of general purpose through-beam 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

PC50CNT20BAM1

- **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	Connection	Ordering no. Receiver NPN & PNP Make & break switching	Ordering no. Emitter
17 x 50 x 50 mm	20 m	Cable	**PC 50 CNT 20 BA**	**PC 50 CNT 20 B**
17 x 50 x 50 mm	20 m	Plug	**PC 50 CNT 20 BAM1**	**PC 50 CNT 20 BM1**

Note: Please order emitter and receiver separately

Specifications Emitter

Rated operational volt. (U_B)	10 to 30 VDC	**Light type**	Infrared, modulated
Ripple (U_{rrp})	≤ 10%	**Optical angle**	± 2° at 1/2 range
Supply current	≤ 50 mA	**Indication function** Power supply ON	LED, green
Protection	Reverse polarity, transients		
Light source	GaAs LED, 950 nm		

Specifications Receiver

Rated operating dist. (S_n)	20 m	**No load supply current** (I_o)	≤ 40 mA
Blind zone	None	**Minimum operational current** (I_m)	0.5 mA
Sensitivity	Adj. by single-turn pot.meter	**OFF-state current** (I_r)	≤100 µA
Temperature drift	≤ 0.5%/°C	**Voltage drop** (U_d)	≤ 2.5 VDC @ 200 mA
Hysteresis (H)	3 - 20%	**Protection**	Short-circuit, reverse polarity, transients
Rated operational volt. (U_B)	10 to 30 VDC (ripple included)	**Operating frequency** (f)	500 Hz
Ripple (U_{rrp})	≤ 10%	**Response time** OFF-ON (t_{ON}) ON-OFF (t_{OFF})	≤ 1 ms ≤ 1 ms
Output current Continuous (I_e) Short-time (I)	 ≤ 200 mA ≤ 200 mA, (max. load capacity 100 nF)	**Power ON delay** (t_v)	≤ 300 ms

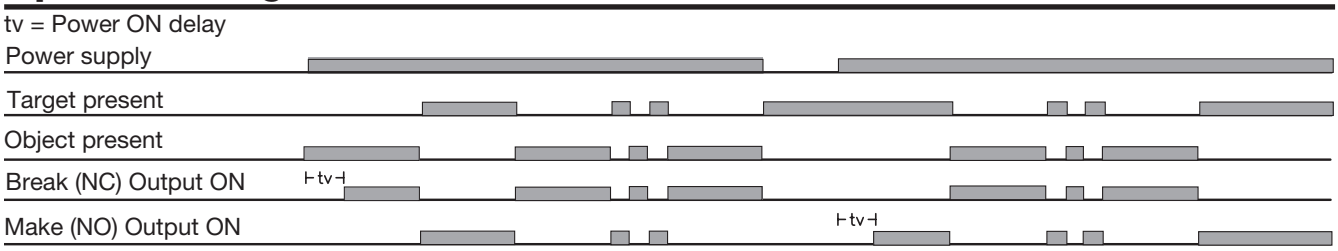
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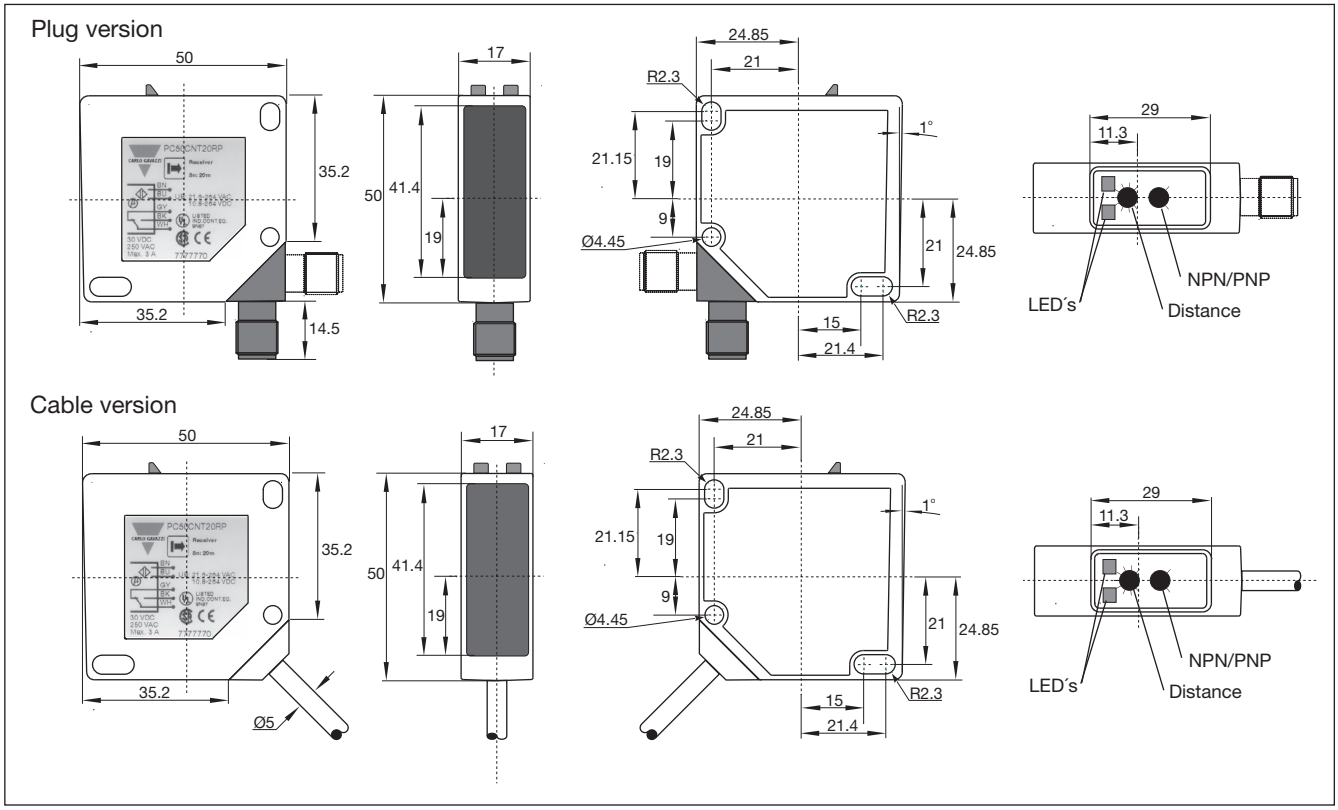
General Specifications

Output function	
NPN and PNP	Switch selectable
Complementary function	Make and break (NO + NC)
Indication function	
Output ON	LED, yellow
Signal stability ON and power ON	LED, green
Environment	
Overvoltage 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)
Vibration	10 to 150 Hz, 0.5 mm/7.5 g (IEC 60068-2-6)
Shock	2 x 1 m & 100 x 0.5 m (IEC 60068-2-32)
Rated insulation voltage	50 VDC
Housing material	
Body	PC/ABS, grey
Front glass	PC black
Mounting bracket	Steel, galvanized
Connection	
Cable receiver	PVC, grey, 2 m, 4 x 0.25 mm^2
Cable emitter	PVC, grey, 2 m, 2 x 0.25 mm^2
Plug (M1)	PBTP, M12 x 1
Cables for plug (M1)	CON.14NF.. series
Weight	
Cable version	185 g
Plug version	102 g
Approvals	UL, CSA
CE-marking	Yes

Operation Diagram



Dimensions

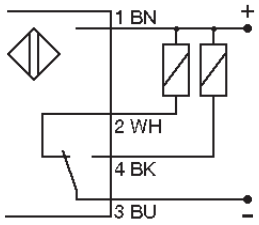


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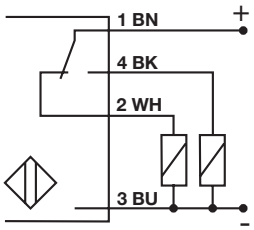
Wiring Diagrams

Receiver

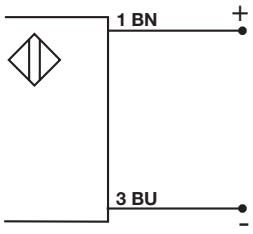
NPN



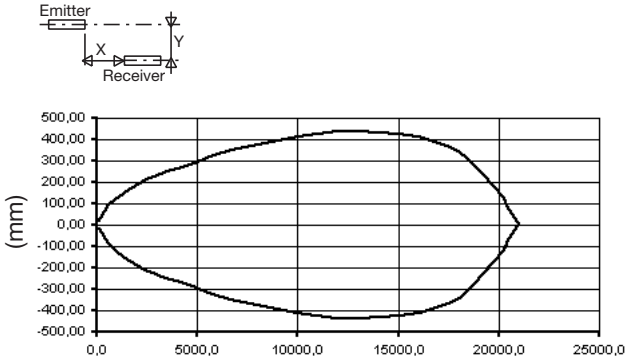
PNP



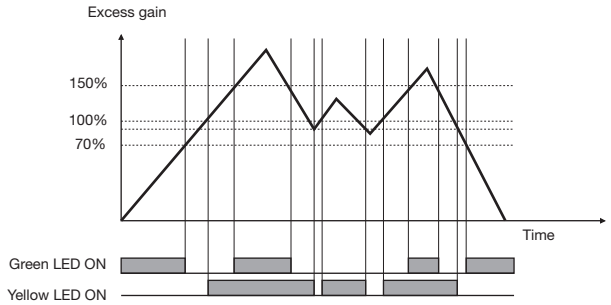
Emitter



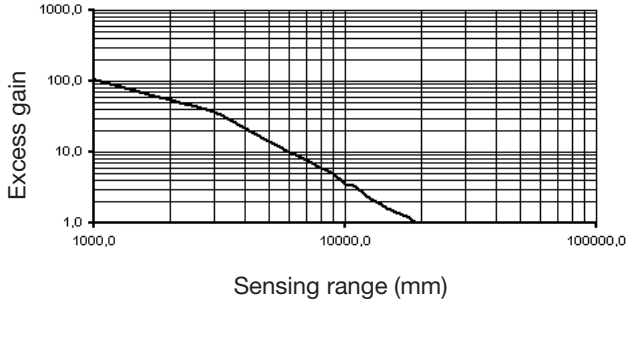
Detection Diagram



Signal Stability



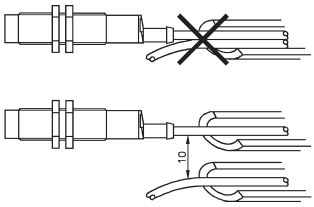
Excess Gain



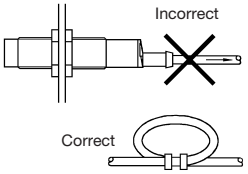
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Installation Hints

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

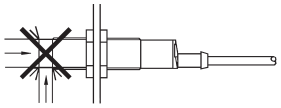


Relief of cable strain



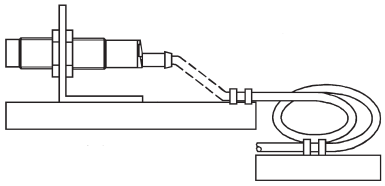
The cable should not be pulled

Protection of the sensing face



A proximity switch should not serve as mechanical stop

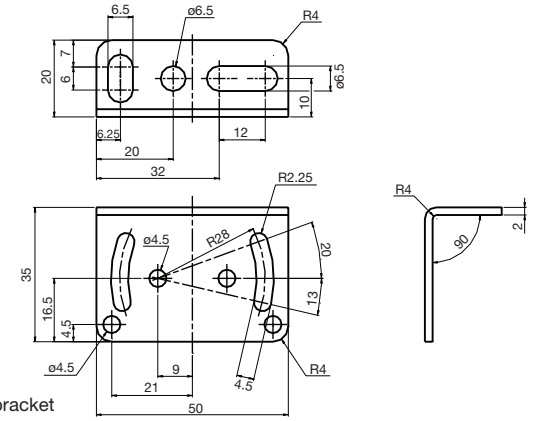
Switch mounted on mobile carrier



Any repetitive flexing of the cable should be avoided

Delivery Contents

- Photoelectric switch: PC50CNT..
- Installation instruction
- Mounting bracket APC50-1
- **Packaging:** Cardboard box



Mounting bracket APC50-1

Accessories

- Screwdriver 77.001
- Connector type CON.14NF.. serie

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