

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
Protection	Reverse polarity, transients		LED, green
Light source	GaAs LED, 950 nm		

Specifications Receiver

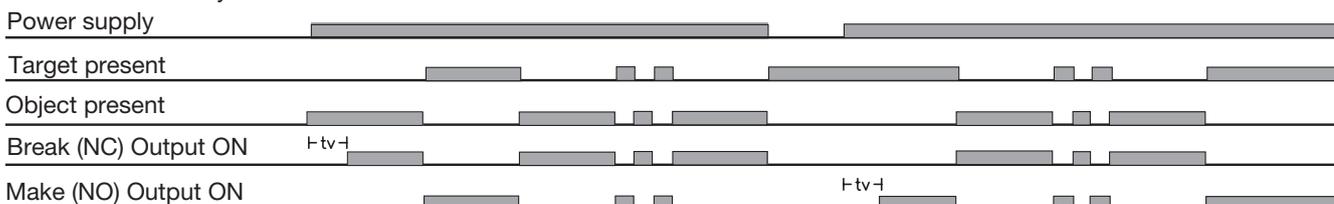
Rated operating dist. (S _n)	20 m	No load supply current (I _o)	≤ 40 mA
Blind zone	None	Minimum operational current (I _m)	0.5 mA
Sensitivity	Adj. by single-turn pot.meter	OFF-state current (I _r)	≤ 100 μA
Temperature drift	≤ 0.5%/°C	Voltage drop (U _d)	≤ 2.5 VDC @ 200 mA
Hysteresis (H)	3 - 20%	Protection	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}) ≤ 1 ms ON-OFF (t _{OFF}) ≤ 1 ms
Output current		Power ON delay (t _v)	≤ 300 ms
Continuous (I _a)	≤ 200 mA		
Short-time (I)	≤ 200 mA, (max. load capacity 100 nF)		

General Specifications

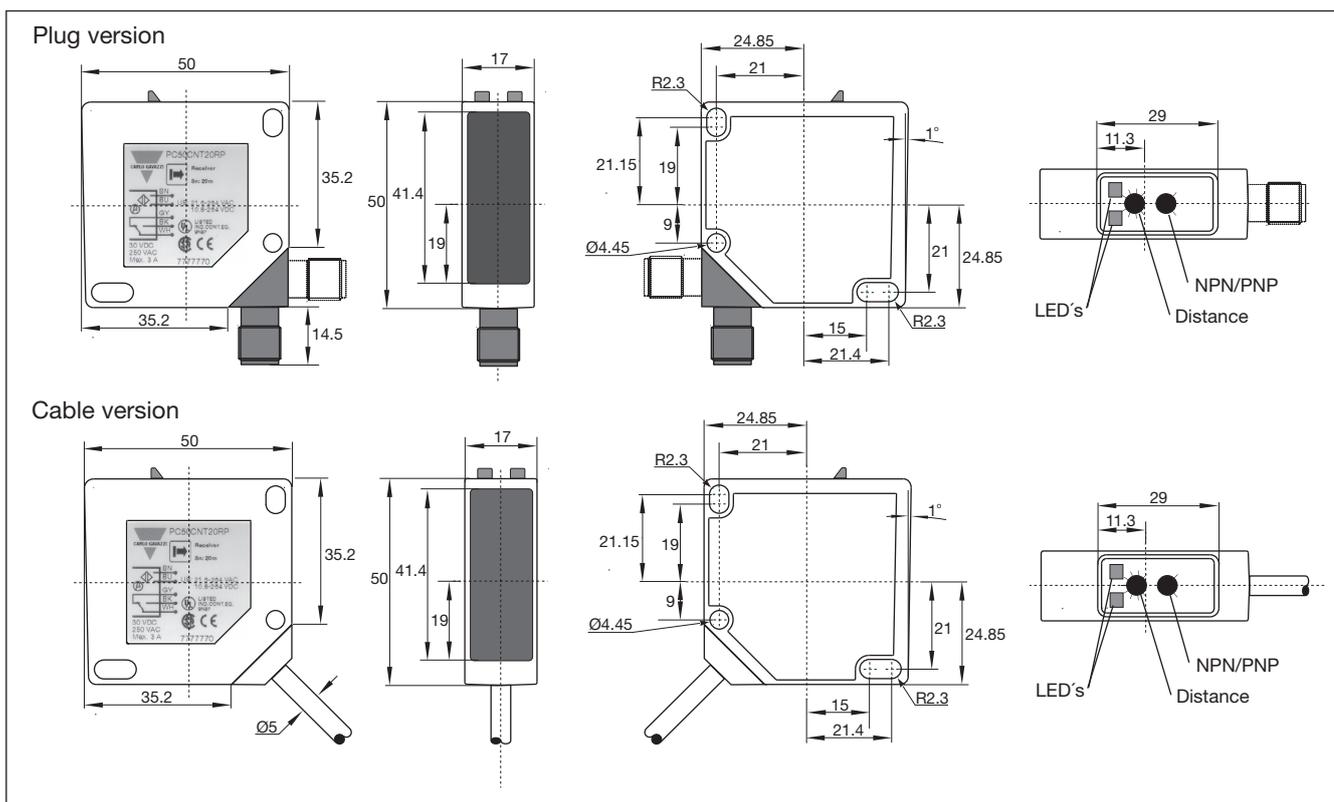
Output function NPN and PNP Complementary function	Switch selectable	Shock	2 x 1 m & 100 x 0.5 m (IEC 60068-2-32)	
	Make and break (NO + NC)		Rated insulation voltage	50 VDC
Indication function Output ON Signal stability ON and power ON	LED, yellow	Housing material Body Front glass Mounting bracket	PC/ABS, grey PC black Steel, galvanized	
	LED, green		Connection Cable receiver Cable emitter Plug (M1) Cables for plug (M1)	PVC, grey, 2 m, 4 x 0.25 mm ² PVC, grey, 2 m, 2 x 0.25 mm ² PBTP, M12 x 1 CON.14NF.. series
Environment Overvoltage category Pollution degree Degree of protection	II (IEC 60664/60664A, 60947-1)	Weight Cable version Plug version		185 g 102 g
	3 (IEC 60664/60664A, 60947-1)		Approvals	UL, CSA
	IP 67 (IEC 60529, 60947-1)			CE-marking
Temperature Operating Storage	-20° to +60°C (-4° to +140°F)			
	-25° to +80°C (-13° to +176°F)			
Vibration	10 to 150 Hz, 0.5 mm/7.5 g (IEC 60068-2-6)			

Operation Diagram

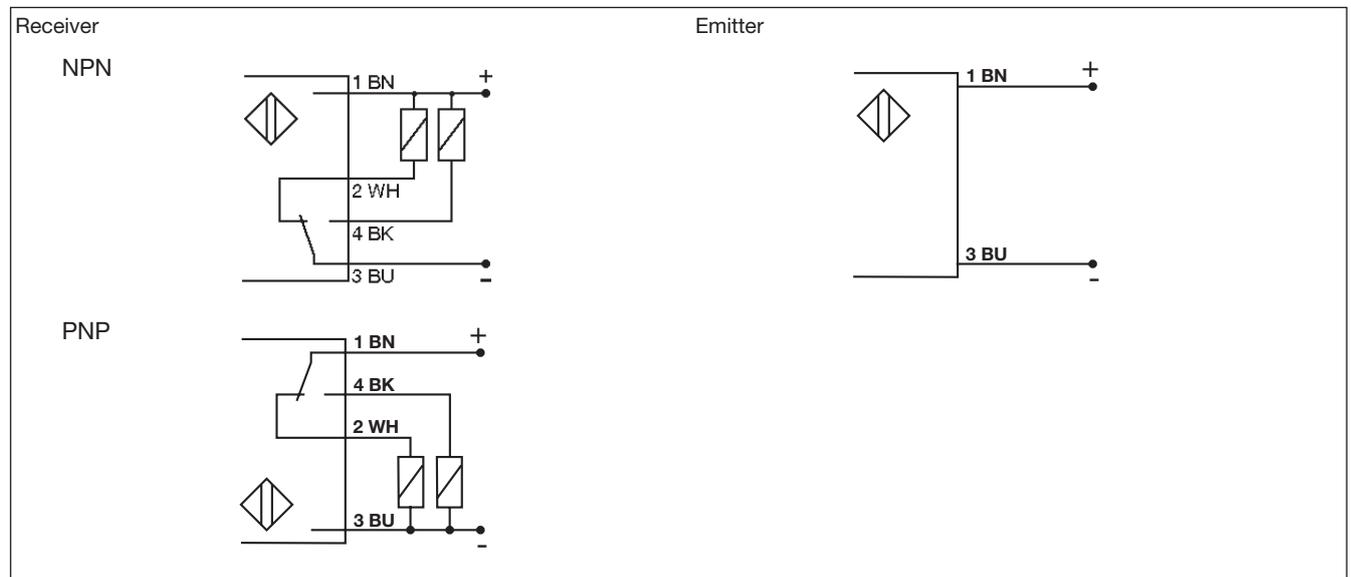
tv = Power ON delay



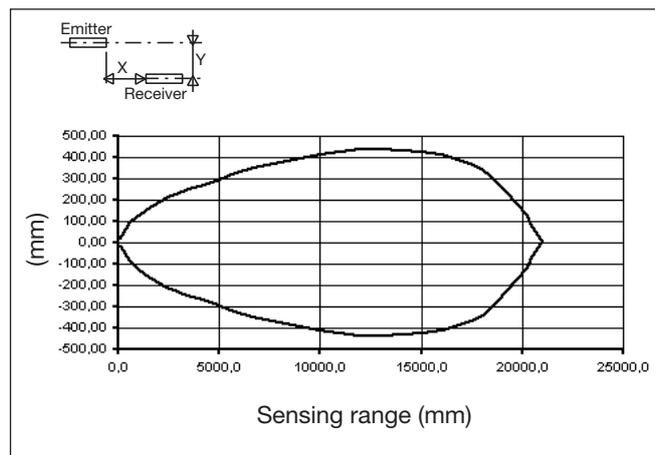
Dimensions



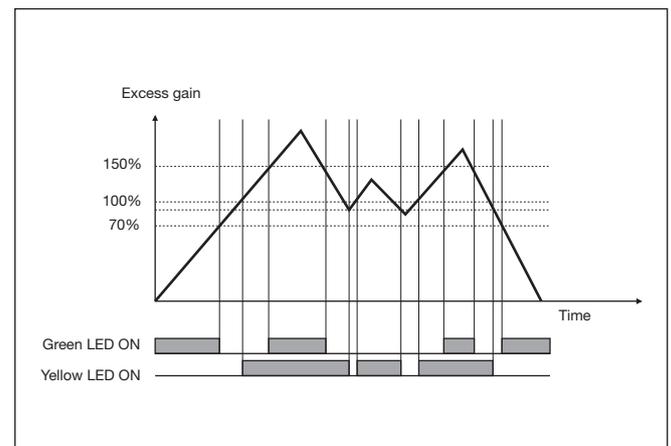
Wiring Diagrams



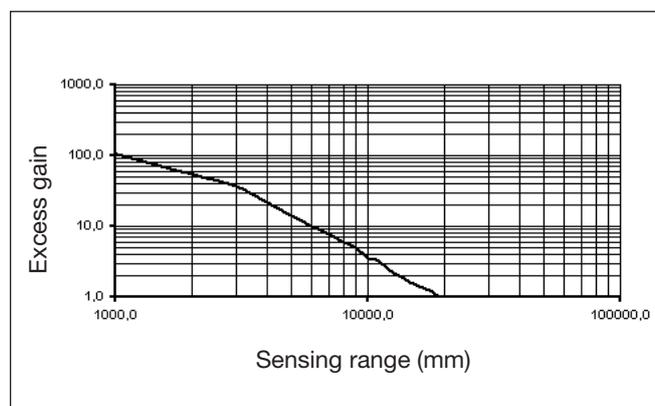
Detection Diagram



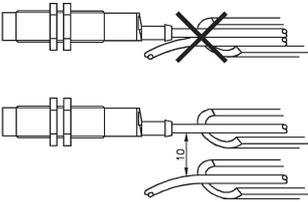
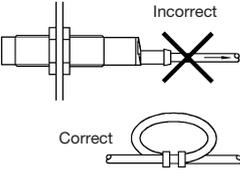
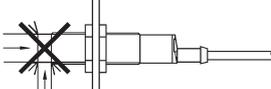
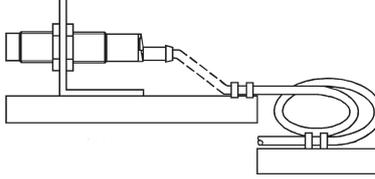
Signal Stability



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

Accessories

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

