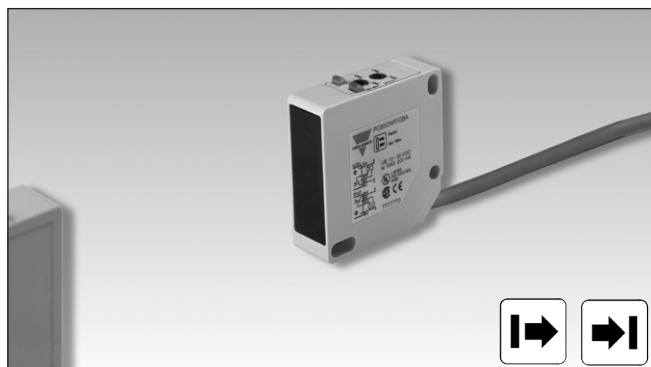


# Photoelectrics Through-beam, Relay Output Type PC50CNT20R.

CARLO GAVAZZI



- Range: 20 m
- Adjustable sensitivity
- Modulated, infrared light
- Supply voltage:  
12 to 240 VDC and 24 to 240 VAC, 50/60 Hz
- Output: Relay 3 A, 30 VDC, 240 VAC
- Make and break switching function
- LED-indication for output ON, signal stability and supply ON
- 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 RC/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. Light and dark operation is switch selectable.

## Ordering Key

**PC50CNT20RP**

Type	_____
Housing style	_____
Housing size	_____
Housing material	_____
Housing length	_____
Detection principle	_____
Sensing distance	_____
Output type	_____
Output configuration	_____

## Type Selection

Housing W x H x D	Range S <sub>n</sub>	Ordering no. Receiver Make and break switching	Ordering no. Emitter
17 x 50 x 50 mm	20 m	PC 50 CNT 20 RP	PC 50 CNT 20 R

Note: Please order emitter and receiver separately

## Specifications Emitter

Rated operational volt. (U <sub>B</sub> )	12-240 VDC 24-240 VAC, 50-60 Hz	Optical angle	± 2° at 1/2 range
Rated operational power	≤ 2.5 VA	Indication function	LED, green
Light source	GaAs LED, 880 nm	Power supply ON	
Light type	Infrared, modulated		

## Specifications Receiver

Rated operating dist. (S <sub>n</sub> )	Up to 20 m	Protection	Reverse polarity, transients
Blind zone	None	Operating frequency (f)	20 Hz
Sensitivity	Adj. single-turn pot.meter	Response time	OFF-ON (t <sub>ON</sub> ) ≤ 25 ms ON-OFF (t <sub>OFF</sub> ) ≤ 25 ms
Temperature drift	≤ 0.5%/°C	Power ON delay (t <sub>v</sub> )	≤ 300 ms
Hysteresis (H) (differential travel)	3-20%	Output function	Light or dark operation is switch selectable
Rated operational volt. (U <sub>B</sub> )	12-240 VDC 24-240 VAC, 50-60 Hz	Indication function	LED, yellow LED, green
Rated operational power	≤ 2.0 VA (relay ON)	Output ON	
Output		Supply ON, signal stability	
Contact ratings			
Resistive loads	AC 1 3 A/230 VAC DC 1 3 A/30 VDC (>10 mA/5 VDC)		
Mechanical life (typ.)	≥ 15 x 10 <sup>6</sup> operations		
Electrical life (typ.)	≥ 1 x 10 <sup>5</sup> operations at 3 A/240 VAC		

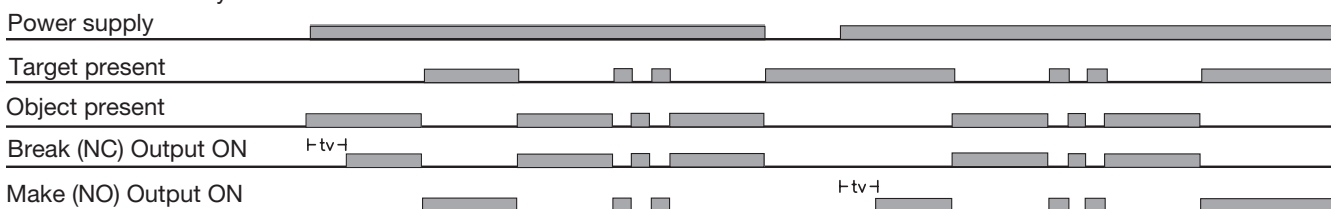


## General Specifications

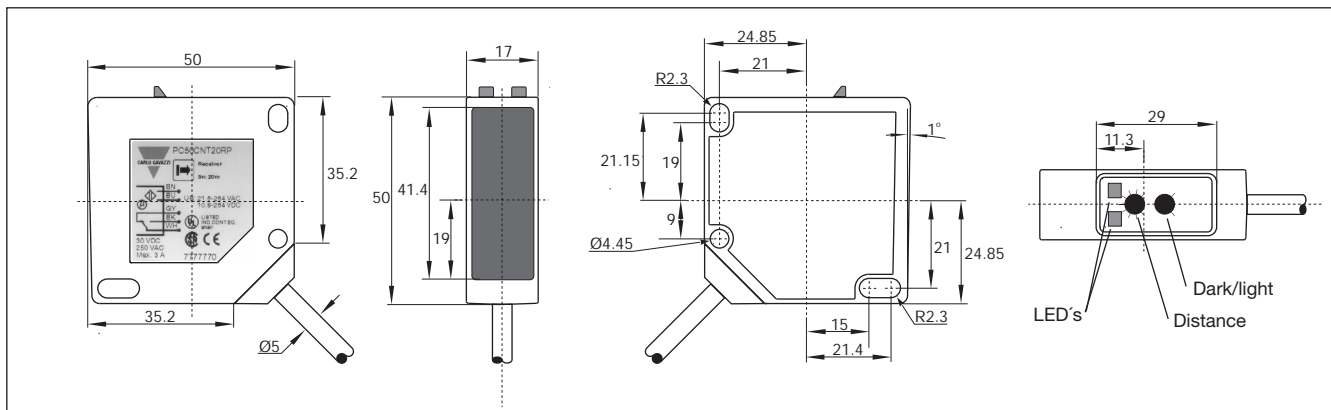
<b>Environment</b>		<b>Rated insulation voltage</b>	250 VAC (rms)
Overvoltage category	II (IEC 60664/60664A, 60947-1)	<b>Housing material</b>	Body PC/ABS, grey, reinforced Front glass PC, black Mounting bracket Steel, galvanized
Pollution degree	3 (IEC 60664/60664A, 60947-1)	<b>Connection</b>	Cable receiver PVC, grey, 2 m, 5 x 0.50 mm <sup>2</sup> Cable emitter PVC, grey, 2 m, 2 x 0.34 mm <sup>2</sup>
Degree of protection	IP 67 (IEC 60529, 60947-1)	<b>Weight</b>	Emitter 130 g Receiver 130 g
<b>Temperature</b>		<b>Approvals</b>	UL, CSA
Operating	-20° to +60°C (-4° to +140°F)	<b>CE-marking</b>	Yes
Storage	-25° to +80°C (-13° to +176°F)		
<b>Vibration</b>	10 to 150 Hz, 0.5 mm/7.5 g (IEC 60068-2-6)		
<b>Shock</b>	2 x 1 m & 100 x 0.5 m (IEC 60068-2-32)		

## Operation Diagram

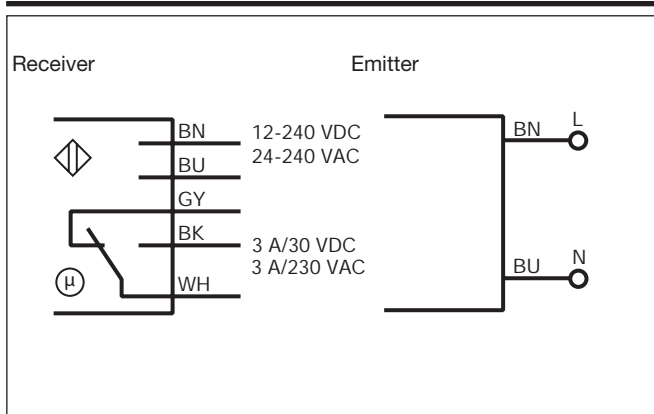
tv = Power ON delay



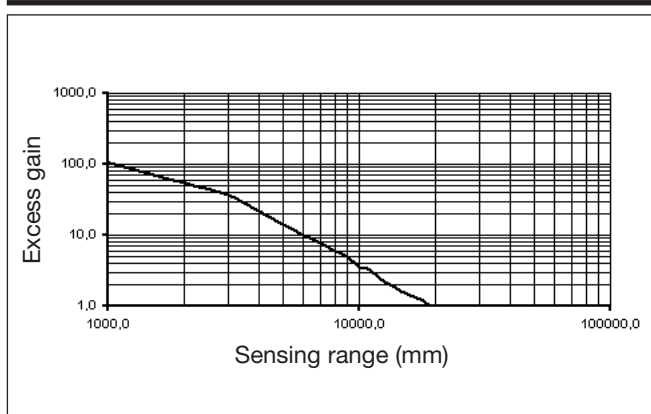
## Dimensions



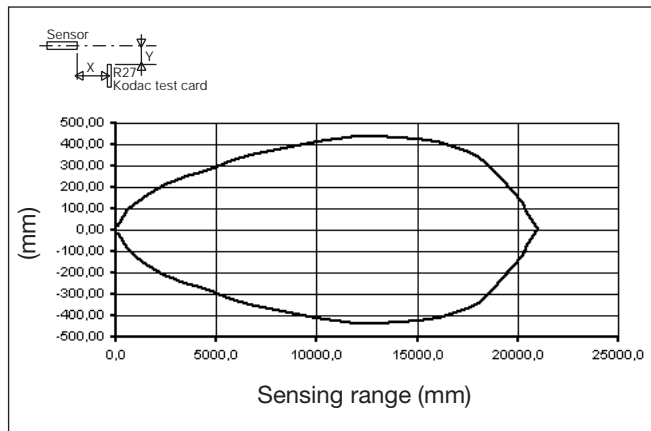
## Wiring Diagrams



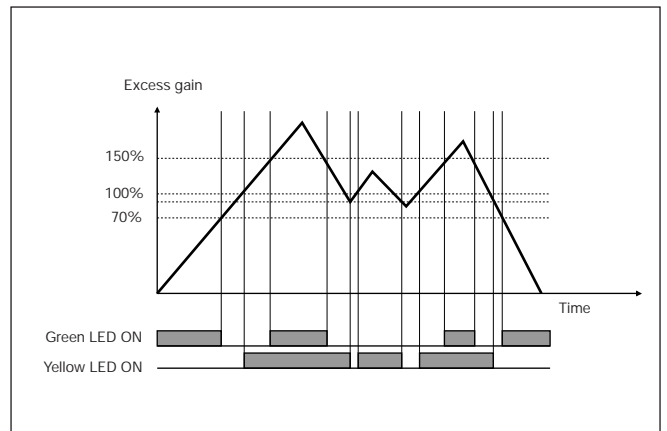
## Excess Gain



### Detection Diagram



### Signal Stability



### 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>Incorrect</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: PC50CNT..
- Installation instruction
- Mounting bracket APC50-1
- **Packaging:** Cardboard box

### Accessories

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

