

Photoelectrics

Through-beam, Transistor Output

Type PB18CNT15..

CARLO GAVAZZI



- Safety Edge sensor for doors
- Range 15 m
- Modulated, infrared light
- Supply voltage: 10 to 30 VDC
- Output: 100 mA, NPN or PNP type
- Make or break switching
- Protection: reverse polarity, short circuit, transients
- Cable versions with or without connector
- Emitter mute and power adjustment



Product Description

The PB18CNT. is a through beam sensor set specific designed for safety edge sensing in industrial automatic doors. The housing is designed to fit a Ø18 mm rubber profile and has integrated sealing

lips to prevent water from entering the profile. The emitter has a mute input to turn it off for evaluation of the sensor function. Available in 10-30 VDC version.

Ordering Key

PB18CNT15NO-C1

Type	_____
Housing style	_____
Housing size	_____
Housing material	_____
Sensor code	_____
Detection principle	_____
Sensing distance	_____
Output type	_____
Output configuration	_____
Connection type	_____
Cable connector	_____

Type Selection

Housing diameter	Range S _n	Con-nec-tor	Ordering no. Receiver NPN, NO	Ordering no. Receiver NPN, NC	Ordering no. Receiver PNP, NO	Ordering no. Receiver PNP, NC	Ordering no. Emitter
Ø 18 mm	15 m	NO	PB18CNT15NO	PB18CNT15NC	PB18CNT15PO	PB18CNT15PC	PB18CNT15
Ø 18 mm	15 m	YES	PB18CNT15NO-C1	PB18CNT15NC-C1	PB18CNT15PO-C1	PB18CNT15PC-C1	PB18CNT15-C1

Note: Please order emitter and receiver separately

Specifications Emitter

Rated operational volt. (U _B)	10 to 30 VDC	Light source	LED, 880 nm
Ripple (U _{rrp})	≤ 10%	Light type	Infrared, modulated
Supply current	≤ 20 mA	Optical angle	± 5°
Protection	Reverse polarity, transients	Indication function	
Control input		Power supply ON	LED, green
Normal oper.	> 1.5 VDC	Mute input ON	LED, green flashing
Mute	< 1.2 VDC	Power adjustment	
		R _x ~ 3 kΩ -10 kΩ	0 - 100%, in 20 steps



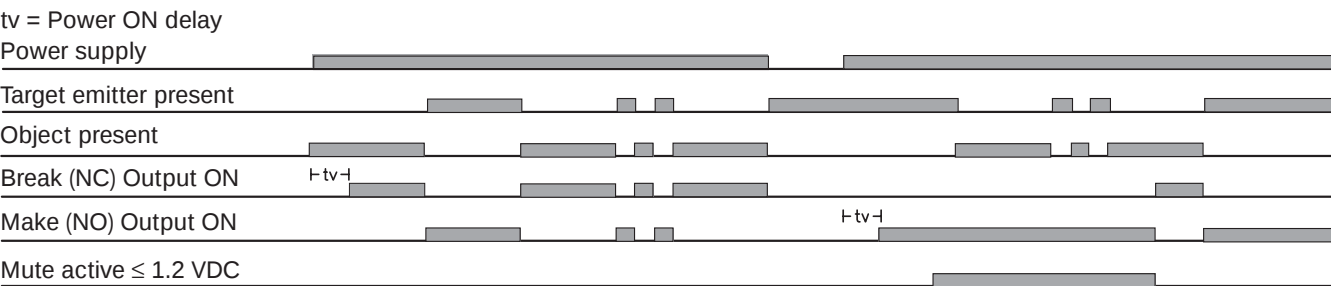
Specifications Receiver

Rated operating dist. (S _n)	15 m	Optical angle	± 5°
Blind zone	None	OFF-state current (I _r)	≤100 µA
Temperature drift	≤ 0.4%/°C	Voltage drop (U _d)	≤ 1.6 VDC @ 100 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)	100 Hz
Ripple (U _{rrp})	≤ 10%	Response time	OFF-ON (t _{ON}) ≈ 3.5 ms ON-OFF (t _{OFF}) ≈ 6.5 ms
Output current		Power ON delay (t _v)	≤ 300 ms
Continuous (I _e)	≤ 100 mA	Output function	NPN or PNP Make or break (NO or NC)
Short-time (I)	≤ 100 mA, (max. load capacity 100 nF)	Indication function	Output ON LED, yellow
No load supply current (I _o)	≤ 13 mA		
Minimum operational current (I _m)	0.5 mA		
Ambient light	>20.000 LUX		

General Specifications

Environment		Rated insulation voltage	50 VDC
Overvoltage category	II (IEC 60664/60664A, 60947-1)	Housing material	
Pollution degree	3 (IEC 60664/60664A, 60947-1)	Body	PTE black
Degree of protection	IP 67 (IEC 60529, 60947-1)	Front glass	PC black
Temperature		Connection	
Operating	-20° to +50°C (-4° to +122°F)	Cable	PVC, grey, 5 m, 3 x 0.12 mm ² , Ø 3.2 mm
Storage	-25° to +80°C (-13° to +176°F)	Weight	
Vibration	10 to 150 Hz, 0.5 mm/7.5 g (IEC 60068-2-6)	Emitter	80 g
Shock	2 x 1 m & 100 x 0.5 m (IEC 60068-2-32)	Receiver	80 g
		CE-marking	EN12445, EN12453, EN12978

Operation Diagram



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

Incorrect

Correct

The cable should not be pulled

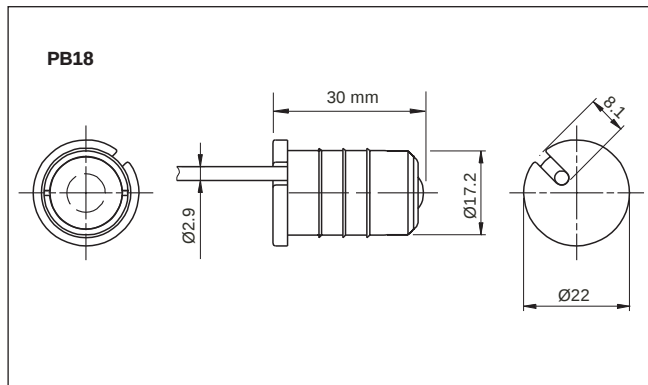
Protection of the sensing face

A proximity switch should not serve as mechanical stop

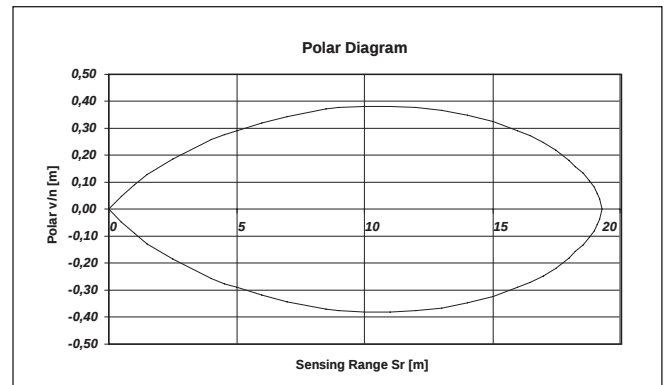
Switch mounted on mobile carrier

Any repetitive flexing of the cable should be avoided

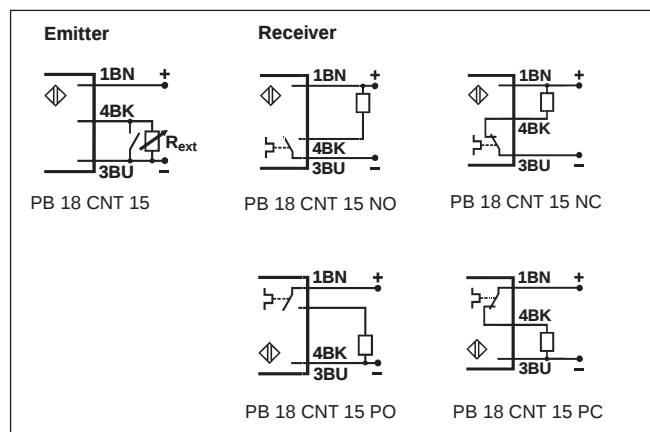
Dimensions



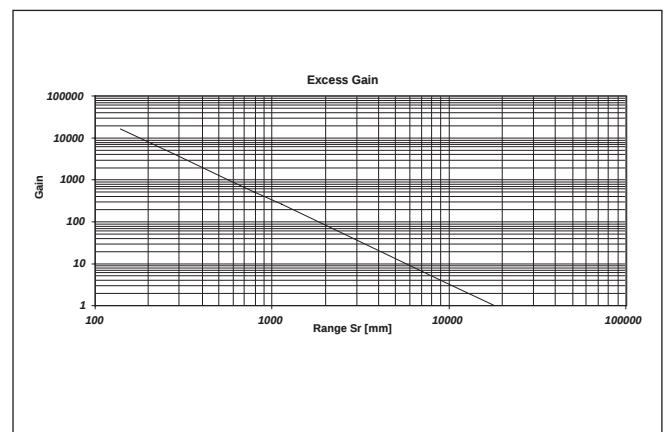
Detection Diagram



Wiring Diagram



Excess Gain



Delivery Contents

- PB18
- Installation instruction
- **Packaging:** plastic bag