

Photoelectrics

Through-beam, Transistor Output

Type PB18CNT15..



- 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



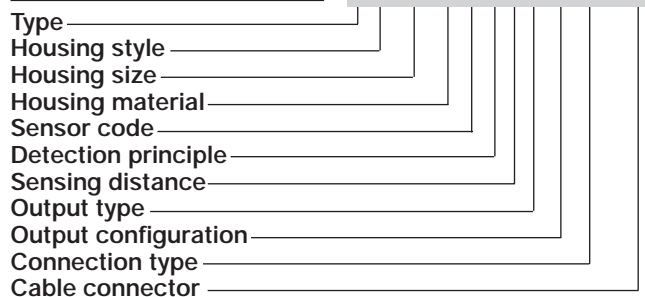
Product Description

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 $\varnothing 18$ 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 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
$\varnothing 18$ mm	15 m	NO	PB18CNT15NO	PB18CNT15NC	PB18CNT15PO	PB18CNT15PC	PB18CNT15
$\varnothing 18$ 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 _{rip})	≤ 10%	Light type	Infrared, modulated
Supply current	≤ 20 mA	Optical angle	± 5°
Protection	Reverse polarity, transients	Indication function	Power supply ON Mute input ON
Control input		Power adjustment	LED, green LED, green flashing
Normal oper.	> 1.5 VDC	R _x ~ 3 k Ω -10 k Ω	0 - 100%, in 20 steps
Mute	< 1.2 VDC		

Specifications Receiver

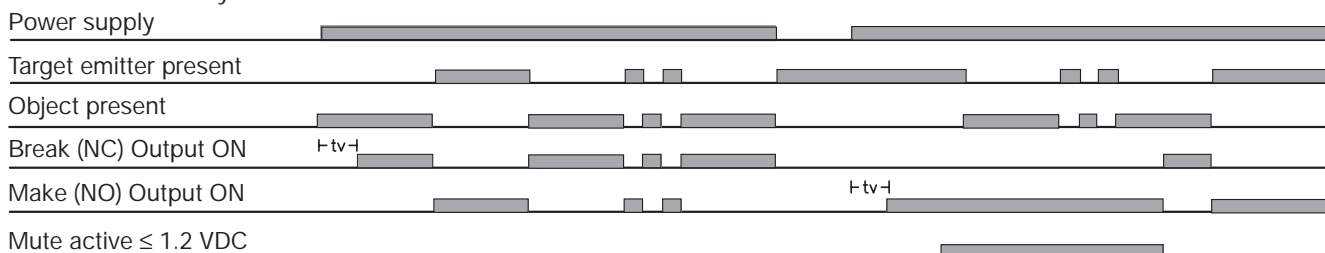
Rated operating dist. (S_n)	15 m	Optical angle	$\pm 5^\circ$
Blind zone	None	OFF-state current (I_r)	$\leq 100 \mu\text{A}$
Temperature drift	$\leq 0.4\%/^\circ\text{C}$	Voltage drop (U_d)	$\leq 1.6 \text{ VDC @ } 100 \text{ mA}$
Hysteresis (H)	3 - 20%	Protection	Short-circuit, reverse polarity, transients
Rated operational volt. (U_B)	10 to 30 VDC (ripple included)	Operating frequency (f)	100 Hz
Ripple (U_{rp})	$\leq 10\%$	Response time	OFF-ON (t_{ON}) $\approx 3.5 \text{ ms}$ ON-OFF (t_{OFF}) $\approx 6.5 \text{ ms}$
Output current		Power ON delay (t_v)	$\leq 300 \text{ ms}$
Continuous (I_o)	$\leq 100 \text{ mA}$	Output function	NPN or PNP
Short-time (I)	$\leq 100 \text{ mA}$, (max. load capacity 100 nF)	Indication function	Output ON
No load supply current (I_o)	$\leq 13 \text{ mA}$		LED, yellow
Minimum operational current (I_m)	0.5 mA		
Ambient light	$>20.000 \text{ LUX}$		

General Specifications

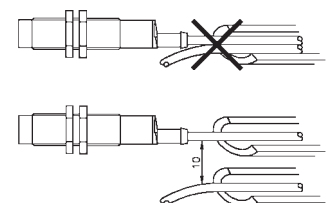
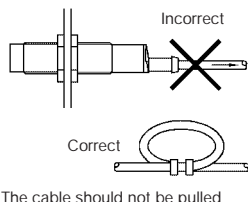
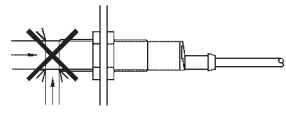
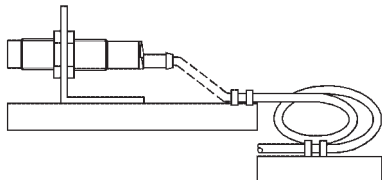
Environment		Rated insulation voltage	50 VDC
Overvoltage category	II (IEC 60664/60664A, 60947-1)	Housing material	
Pollution degree	3 (IEC 60664/60664A, 60947-1)	Body	PTE black
Degree of protection	IP 67 (IEC 60529, 60947-1)	Front glass	PC black
Temperature		Connection	
Operating	-20° to $+50^\circ\text{C}$ (-4° to $+122^\circ\text{F}$)	Cable	PVC, grey, 5 m, 3 x 0.12 mm ² , $\varnothing 3.2 \text{ mm}$
Storage	-25° to $+80^\circ\text{C}$ (-13° to $+176^\circ\text{F}$)	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

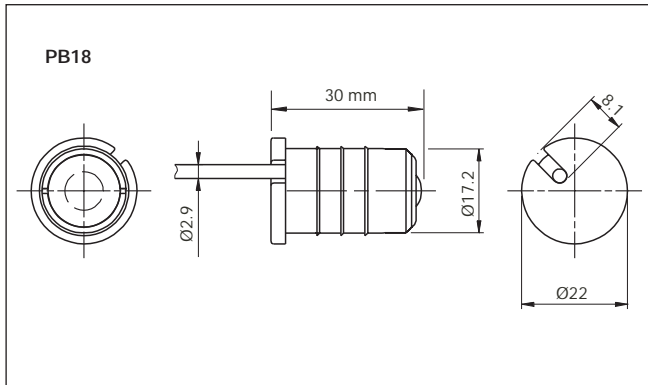
t_v = Power ON delay



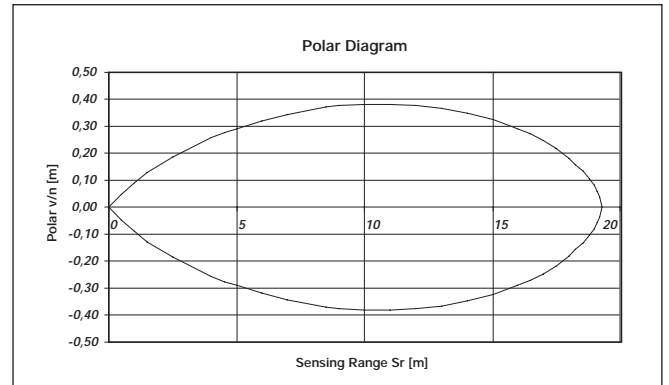
Installation Hints

<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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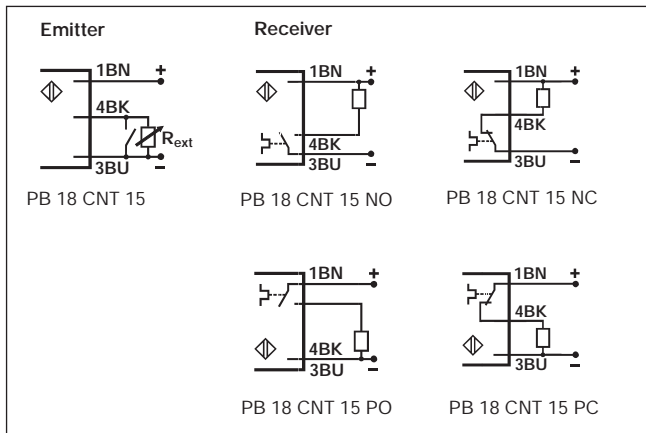
Dimensions



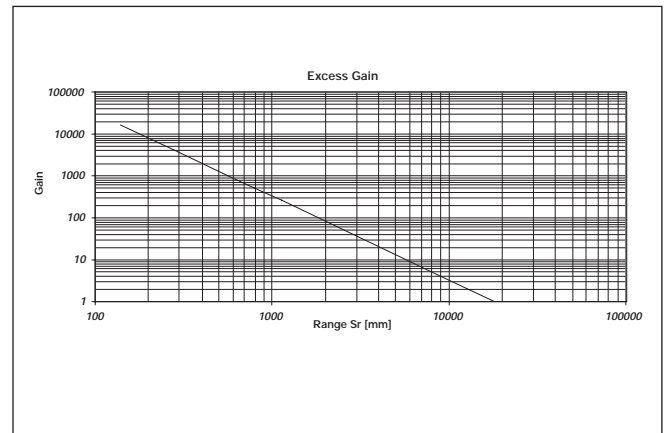
Detection Diagram



Wiring Diagram



Excess Gain



Delivery Contents

- PB18
- Installation instruction
- Packaging: plastic bag