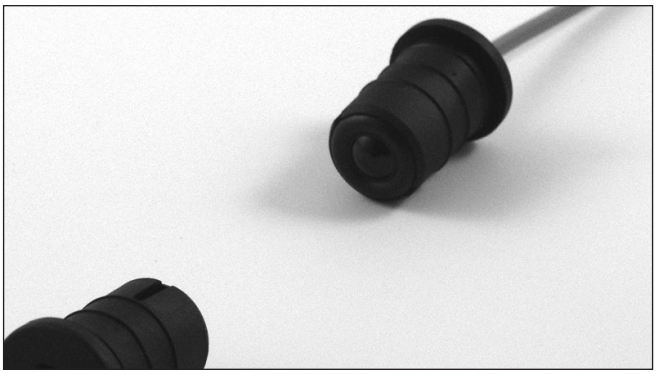
Photoelectrics
Through-beam, Transistor Output
Type PB18CNT15..



- Safety Edge sensor for doors
- Range 15 m
- ESPE, PSPE type 2, PL C
- 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
- CE, UL325 and UL508 approved

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 integreted 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-C2

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

Type Selection

Housing diameter	Range S_n	Connector	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-C2**	**PB18CNT15NC-C2**	**PB18CNT15PO-C2**	**PB18CNT15PC-C2**	**PB18CNT15-C2**

Note: Please order emitter and receiver separately

Specifications Emitter

Rated operational volt. (U_B)	10 to 30 VDC
Ripple (U_{rrp})	≤ 10%
Supply current	≤ 20 mA
Protection	Reverse polarity, transients
Power ON delay (t_v)	≤ 100 ms
Control input	
Normal operation	> 1.5 VDC
Mute	< 1.2 VDC
Light source	LED, 890 nm

Light type	Infrared, modulated
Light spot	940 mm @ 9 m
Emitter angle	± 3° @ 9 m
Power adjustment	
R_x ~ 3 kΩ -10 kΩ	3 m ... 18 m in 19 step

Specifications Receiver

Rated operating dist. (S_n)	15 m
Blind zone	None
Temperature drift	≤ 0.4 %/°C
Hysteresis (H)	3 - 20 %
Rated operational volt. (U_B)	10 to 30 VDC (ripple included)
Ripple (U_{rrp})	≤ 10 %
No load supply current (I_o)	≤ 16 mA
Output current	
Continuous (I_e)	≤ 100 mA
Short-time (I)	≤ 100 mA, (max. load capacity 100 nF)
Minimum operational current (I_m)	0.5 mA
OFF-state current (I_r)	≤100 µA
Voltage drop (U_d)	≤ 1.6 VDC @ 100 mA
Protection	Short-circuit, reverse polarity, transients

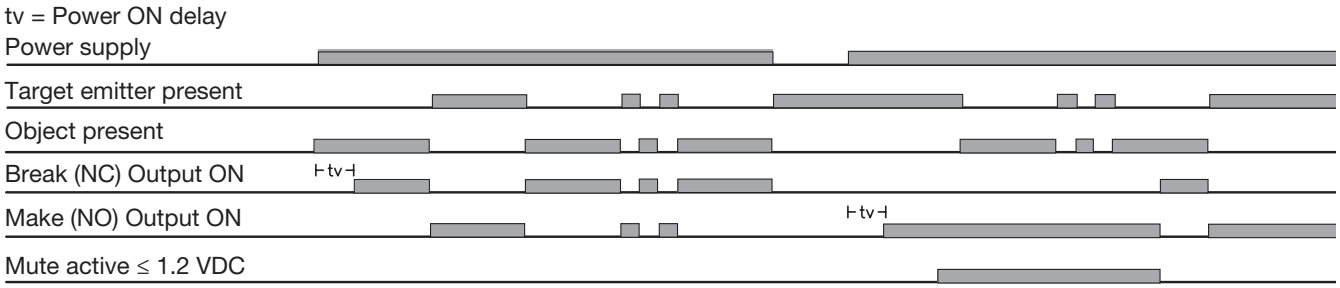
Utility category	DC12	Control of resistive loads and solid state loads with optical isolation
	DC13	Control of electromagnets
Ambient light 3,000 ... 3,200 K		> 80,000 LUX (EN60947-5-2)
Detection angle		± 2.5° @ 9 m
Operating frequency (f)		100 Hz
Response time	OFF-ON (t_{ON})	≈ 6.5 ms
	ON-OFF (t_{OFF})	≈ 3.5 ms
Power ON delay (t_v)		≤ 100 ms
Output function NPN or PNP		Make or break (NO or NC)

General Specifications

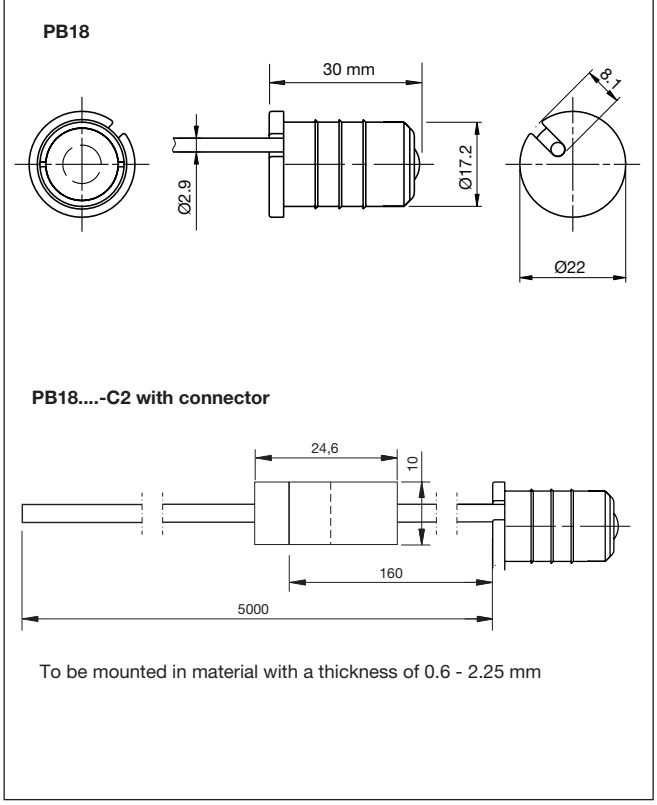
Environment	
Overvoltage category	III (IEC 60664/60664A, 60947-1)
Pollution degree	3 (IEC 60664/60664A, 60947-1)
Degree of protection	IP67 (IEC 60529; EN60947-1) 1, 2, 12 (NEMA types)
Temperature	
Operating	-20° to +50°C (-4° to +122°F)
Storage	-25° to +80°C (-13° to +176°F)
Rated insulation voltage	75 VDC
Dielectric test voltage	500 Vac rms (EN60947-1)
Rated impulse withstand test	800 V (1.2 / 50 µs) (EN60947-1)
ESPE, PSPE	Type 2
PFH_d	6 x 10^{-8} failure per hour (worst case SRP for CS)
Diagnostic coverage	99 % (EN13849-1: 2008)
Performance level	C (EN13849-1: 2008)
$MTTF_d$ (worst case full sensor)	298 Years (worst case full receiver) EN ISO 13849-1, SN 29500 368 Years (worst case full emitter) EN ISO 13849-1, SN 29500
Electrostatic discharge (EN61000-4-2)	
Contact discharge	> 12 kV
Air discharge	> 8 kV
Radiated RF electromagnetic fields (EN 61000-4-3)	> 10 V/m
Electrical fast transients/burst (EN 61000-4-4)	± 4 kV

Surge (EN 61000-4-5)	
Power-supply	> 1 kV (with 500 Ω)
Sensor output	> 1 kV (with 500 Ω)
Wire conducted disturbances (EN 61000-4-6)	> 10 Vrms
Power-frequency magnetic fields (EN 61000-4-8)	
Continous	> 30 A/m, 38 µ tesla
Short-time	> 300 A/m, 380 µ tesla
Vibration (IEC 60068-2-6)	10 to 150 Hz, 1 mm / 15 g
Shock (IEC 60068-2-27)	30 g / 11 ms, 6 pos, 6 neg per axis
Free fall (IEC 60068-2-31)	2 times from 1 m, 100 times from 0.5 m
Pig-tail connector (-C2)	3-pol micro MATE-N-LOK Series, AMP/TE
Housing material	
Body	PTE, black
Front glass	PC, black
Connection	
Cable	PVC, Emitter: grey / Receiver: black, 5 m, 3 x 0.14 mm^2, Ø 2.9 mm
Weight	
Emitter	80 g
Receiver	80 g
CE-marking	EN12445, EN12453, EN12978, EN 60947-5-2
UL-Approval cURus	UL325
cULus	UL508, CSA-C22.2 No.247

Operation Diagram

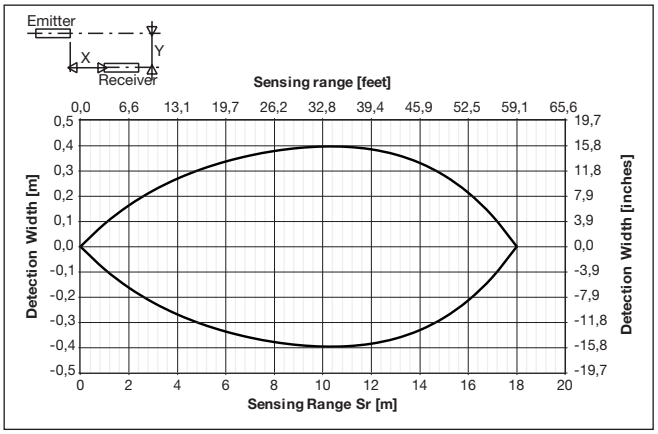


Dimensions

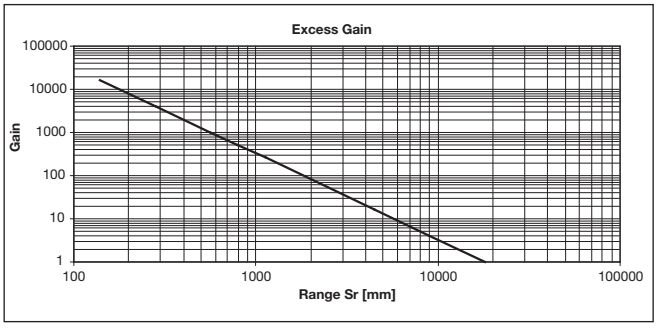


To be mounted in material with a thickness of 0.6 - 2.25 mm

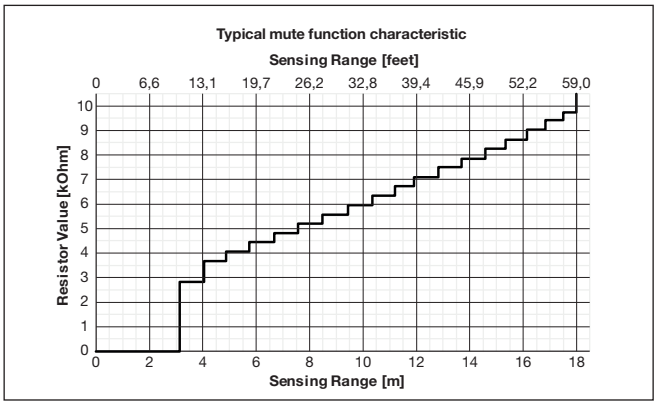
Detection Diagram



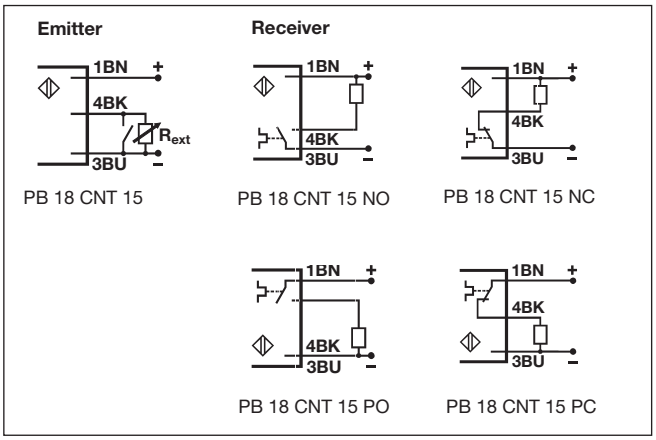
Excess Gain



Power adjustment curve



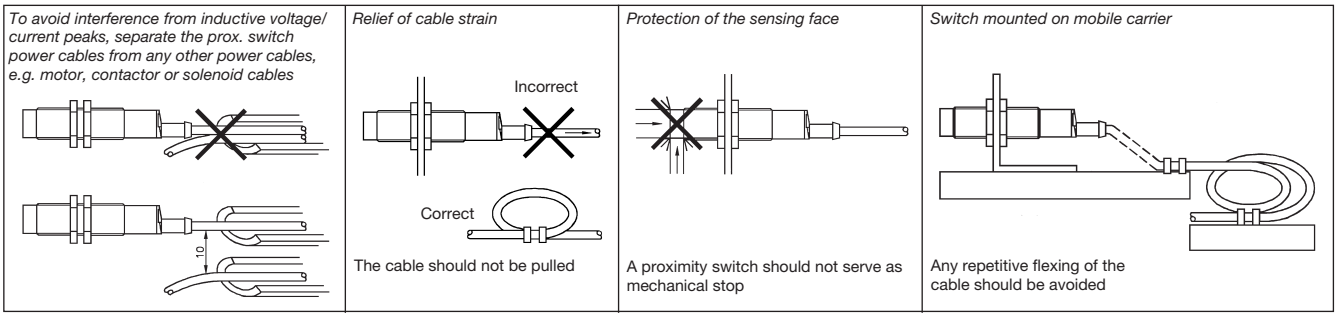
Wiring Diagram



Delivery Contents

- PB18
- **Packaging:** plastic bag

Installation Hints



Specifications are subject to change without notice. Rev. *1* (17.02.2016)