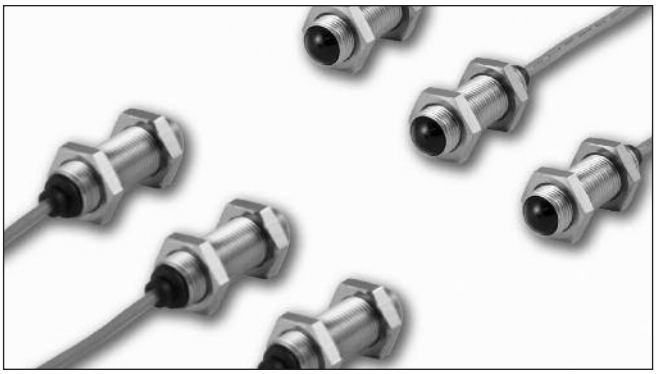
Photoelectrics
Through-beam, Transistor Output
Type PA12B.T20..



- **Elevators, Escalators and Entrance control**
- **Range 20 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**
- **High neighbour immunity, 3-codes**

Product Description

The PA12BNT. is a through beam sensor set specially designed for Elevators, Escalators, Entrance control to meet the requirements in the door market. The housing is very robust and is known for it's high long term relaibility mute. The emitter has a mute input to turn it off for evaluation of the sensor function.
The emitter and receivers can be delivered in 3 different codes on order to improve neighbour immunity. Available in 10-30 VDC version.

Ordering Key

PA12B1T20NO-C2

- **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
M12 mm Code 1	20 m	NO	**PA12B1T20NO**	**PA12B1T20NC**	**PA12B1T20PO**	**PA12B1T20PC**	**PA12B1T20**
M12 mm Code 2	20 m	NO	**PA12B2T20NO**	**PA12B2T20NC**	**PA12B2T20PO**	**PA12B2T20PC**	**PA12B2T20**
M12 mm Code 3	20 m	NO	**PA12B3T20NO**	**PA12B3T20NC**	**PA12B3T20PO**	**PA12B3T20PC**	**PA12B3T20**
M12 mm Code 1	20 m	YES	**PA12B1T20NO-C2**	**PA12B1T20NC-C2**	**PA12B1T20PO-C2**	**PA12B1T20PC-C2**	**PA12B1T20-C2**
M12 mm Code 2	20 m	YES	**PA12B2T20NO-C2**	**PA12B2T20NC-C2**	**PA12B2T20PO-C2**	**PA12B2T20PC-C2**	**PA12B2T20-C2**
M12 mm Code 3	20 m	YES	**PA12B3T20NO-C2**	**PA12B3T20NC-C2**	**PA12B3T20PO-C2**	**PA12B3T20PC-C2**	**PA12B3T20-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
Control input	
Normal oper.	> 1.5 VDC
Mute	< 1.2 VDC

Light source	LED, 880 nm
Light type	Infrared, modulated
Optical angle	± 5°
Power adjustment	
R_x ~ 1.5 kΩ -10 kΩ	50 - 100%, in 7 steps

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Specifications Receiver

Rated operating dist. (S_n)	20 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%
Output current	
Continuous (I_e)	≤ 100 mA
Short-time (I)	≤ 100 mA, (max. load capacity 100 nF)
No load supply current (I_o)	≤ 13 mA
Minimum operational current (I_m)	0.5 mA
Ambient light	>20.000 LUX

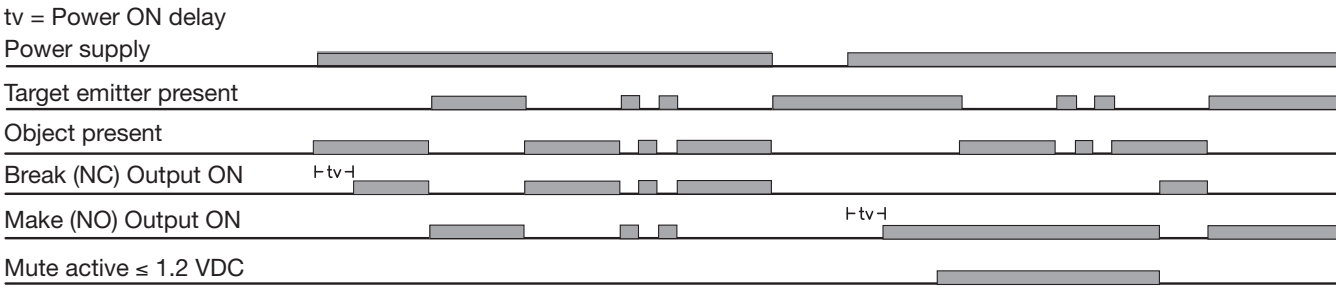
Optical angle	± 5°
OFF-state current (I_r)	≤ 100 µA
Voltage drop (U_d)	≤ 1.6 VDC @ 100 mA
Protection	Short-circuit, reverse polarity, transients
Operating frequency (f)	30 Hz
Response time OFF-ON (t_{ON})	≈ 10 ms
ON-OFF (t_{OFF})	≈ 20 ms
Power ON delay (t_v)	≤ 300 ms
Output function	
NPN or PNP	Make or break (NO or NC)

General Specifications

Environment	
Overvoltage category	II (IEC 60664/60664A, 60947-1)
Pollution degree	3 (IEC 60664/60664A, 60947-1)
Degree of protection	IP 67 (IEC 60529, 60947-1)
Temperature	
Operating	-20° to +50°C (-4° to +122°F)
Storage	-25° to +80°C (-13° to +176°F)
Vibration	10 to 150 Hz, 0.5 mm/7.5 g (IEC 60068-2-6)
Shock	2 x 1 m & 100 x 0.5 m (IEC 60068-2-32)

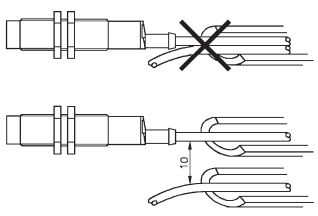
Rated insulation voltage	50 VDC
Housing material	
Body	M12-Stainless Steel
Front	PC black
Connection	
Cable	PVC, TX: grey / RX: black, 5 m, 3 x 0.14 mm², Ø 2.9 mm
Weight	
Emitter	90 g
Receiver	90 g
CE-marking	EN12445, EN12453, EN12978
Approval	UL508 and UL325

Operation Diagram

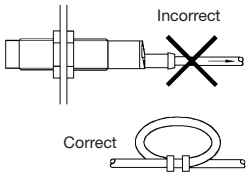


Installation Hints

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

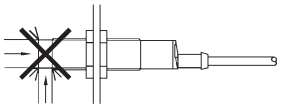


Relief of cable strain



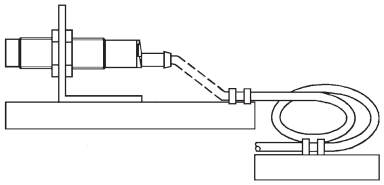
The cable should not be pulled

Protection of the sensing face



A proximity switch should not serve as mechanical stop

Switch mounted on mobile carrier



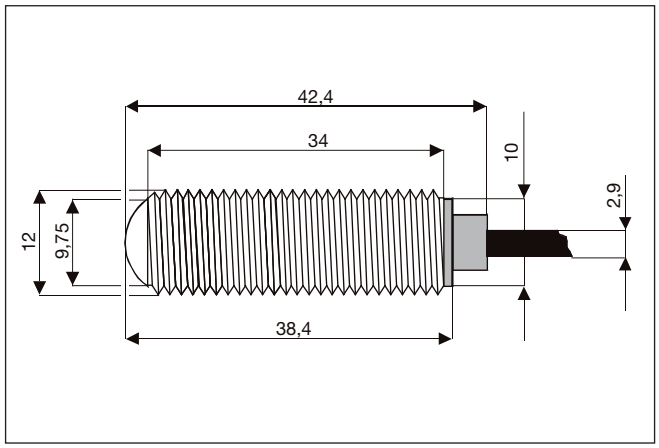
Any repetitive flexing of the cable should be avoided

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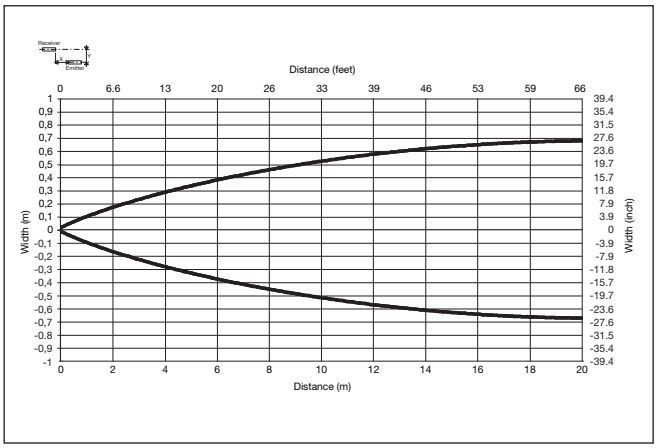
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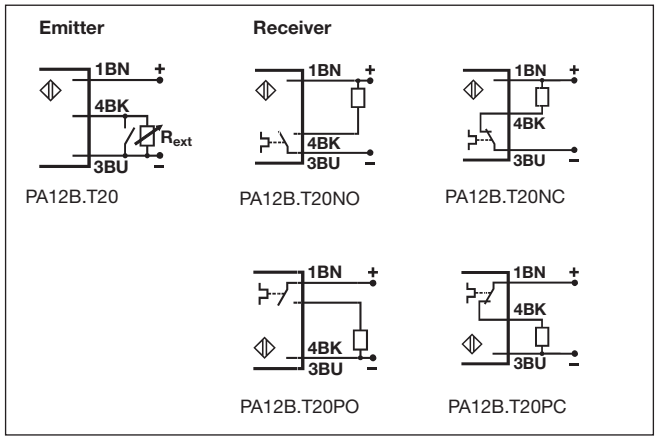
Dimensions



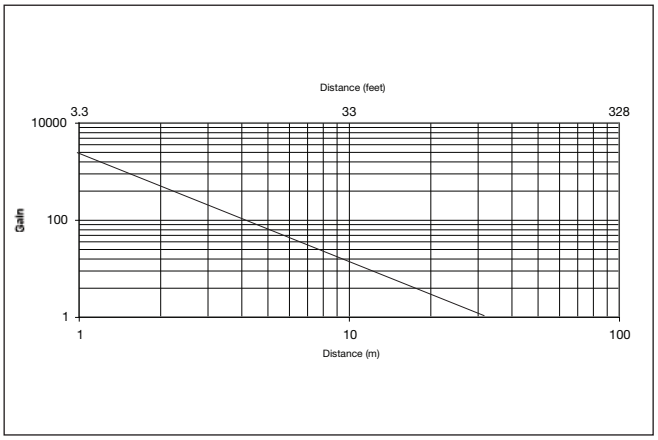
Detection Diagram



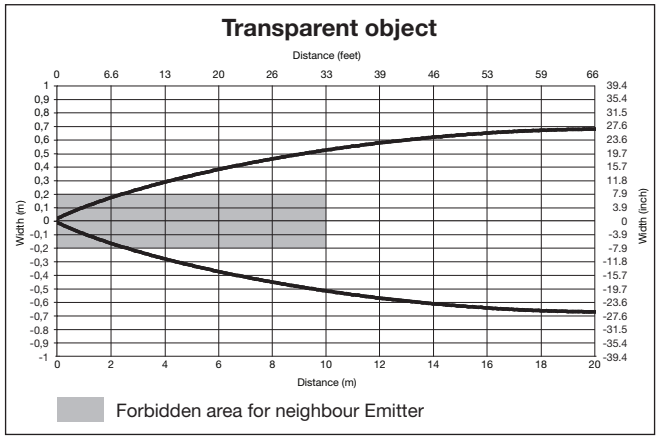
Wiring Diagram

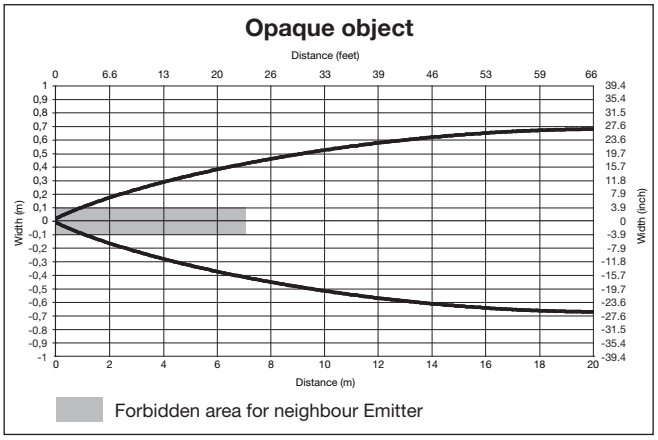


Excess Gain



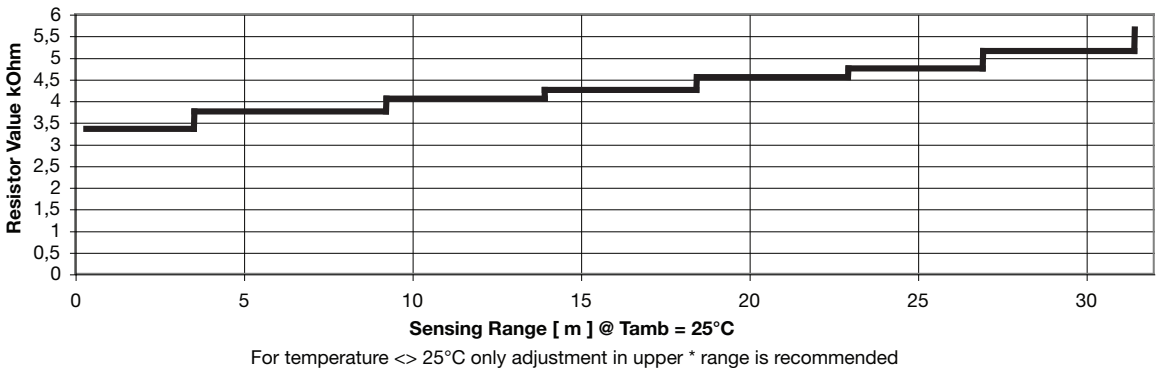
Neighbour Immunity Diagram





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Mute Function



For temperature <> 25°C only adjustment in upper * range is recommended

Delivery Contents

- PA12
- Installation instruction
- **Packaging:** plastic bag

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