

Proximity Sensors Inductive Thermoplastic Polyester Housing Types EI, AC, M12, M18, M30

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- Thermoplastic polyester housing, cylindrical
- Diameter: M12, M18, M30
- Sensing distance: 2 to 15 mm
- Power supply: 20 to 250 VAC
- Output: SCR, make or break switching
- Protection: Overvoltage
- LED-indication for output ON
- Long or short housing
- 2 m cable or M12 plug (double keyed)

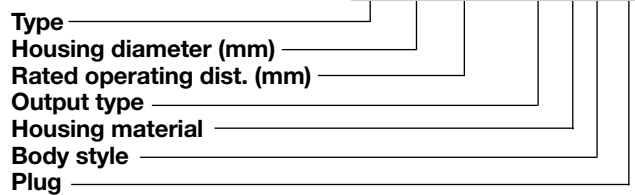
Product Description

AC proximity switches constructed in rugged thermoplastic polyester housings. Sizes available are M12, M18 and M30. Length of housing is selectable with 30 mm

thread or 50 mm thread. Bright LED ring utilizing a yellow LED clearly gives indication of output status. Protection rating IP 67 ensures environmental compatibility.

Ordering Key

EI 1202 TBOPL-6



Type Selection AC Types, Cable and M12 Plug

Housing diameter	Body style	Connec-tion	Rated operating dist. (S _n)	Ordering no. SCR Make switching	Ordering no. SCR Break switching
M12	Long	Cable	2 mm ¹⁾	EI 1202 TBOPL	EI 1202 TBCPL
M12	Long	Plug	2 mm ¹⁾	EI 1202 TBOPL-6	EI 1202 TBCPL-6
M12	Long	Cable	4 mm ²⁾	EI 1204 TBOPL	EI 1204 TBCPL
M12	Long	Plug	4 mm ²⁾	EI 1204 TBOPL-6	EI 1204 TBCPL-6
M18	Short	Cable	5 mm ¹⁾	EI 1805 TBOPS	EI 1805 TBCPS
M18	Short	Plug	5 mm ¹⁾	EI 1805 TBOPS-6	EI 1805 TBCPS-6
M18	Long	Cable	5 mm ¹⁾	EI 1805 TBOPL	EI 1805 TBCPL
M18	Long	Plug	5 mm ¹⁾	EI 1805 TBOPL-6	EI 1805 TBCPL-6
M18	Short	Cable	8 mm ²⁾	EI 1808 TBOPS	EI 1808 TBCPS
M18	Short	Plug	8 mm ²⁾	EI 1808 TBOPS-6	EI 1808 TBCPS-6
M18	Long	Cable	8 mm ²⁾	EI 1808 TBOPL	EI 1808 TBCPL
M18	Long	Plug	8 mm ²⁾	EI 1808 TBOPL-6	EI 1808 TBCPL-6
M30	Short	Cable	10 mm ¹⁾	EI 3010 TBOPS	EI 3010 TBCPS
M30	Short	Plug	10 mm ¹⁾	EI 3010 TBOPS-6	EI 3010 TBCPS-6
M30	Long	Cable	10 mm ¹⁾	EI 3010 TBOPL	EI 3010 TBCPL
M30	Long	Plug	10 mm ¹⁾	EI 3010 TBOPL-6	EI 3010 TBCPL-6
M30	Short	Cable	15 mm ²⁾	EI 3015 TBOPS	EI 3015 TBCPS
M30	Short	Plug	15 mm ²⁾	EI 3015 TBOPS-6	EI 3015 TBCPS-6
M30	Long	Cable	15 mm ²⁾	EI 3015 TBOPL	EI 3015 TBCPL
M30	Long	Plug	15 mm ²⁾	EI 3015 TBOPL-6	EI 3015 TBCPL-6

Short = 30 mm thread

Long = 50 mm thread

Make switching = Normally Open (NO)

Break switching = Normally Closed (NC)

¹⁾ For flush mounting in metal

²⁾ For non-flush mounting in metal

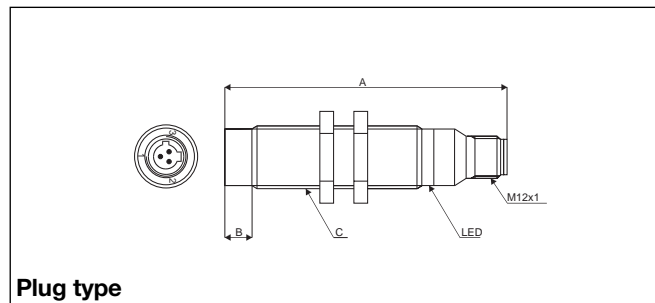
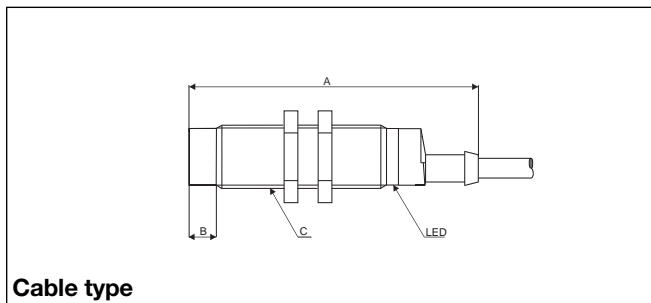
Specifications

Rated operational volt. (U _e) (U _B)	24 to 240 VAC 20 to 265 VAC, 50 to 60 Hz	Usable operating dist. (S)	0.9 x S _r ≤ S _u ≤ 1.1 x S _r	
Rated operational current (I_e) Continuous Short-time	10 - 500 mA ≤ 2.5 A, max. 20 ms	Ambient temperature Operating Storage	-25° to +70°C (-13° to +158°F) -30° to +80°C (-22° to +176°F)	
Minimum load current	10 mA	Degree of protection	IP 67 (Nema 1, 3, 4, 6, 13)	
OFF-state current (I_r)	≤ 2 mA	Housing material Body Back	Grey thermoplastic polyester Black thermoplastic polyester	
Voltage drop (U_d)	≤ 8 VAC at max. load	Connection Cable Plug Cables for plug (-6)	2 m, 2 x 0.50 mm ² grey PVC, oil proof M12 x 1 (double keyed) CONH6A-xx	
Protection	Transients	Weight (cable excluded)	EI 12 60 g EI 18 110 g EI 30 180 g	
Transient voltage	Level 3, 2.5 kV, acc. to IEC 60255-5 (500 Ω, 0.5 J) (prepared)	Tightening torque	EI 12 1.8 Nm EI 18 2.6 Nm EI 30 7.5 Nm	
Power ON delay	≤ 100 ms	Approvals	UL, CSA	
Frequency of operating cycles (f)	25 Hz	CE-marking	Yes	
Indication for output ON	LED, yellow			
Assured operating dist. (S_a)	0 ≤ S _a ≤ 0.81 S _n			
Repeat accuracy (R)	≤ 5%			
Hysteresis (H) (Differential travel)	3 to 20% of sensing distance			
Effective operating dist. (S_r)	0.9 x S _n ≤ S _r ≤ 1.1 x S _n			

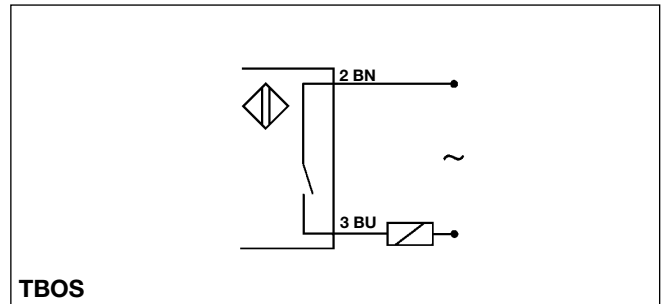
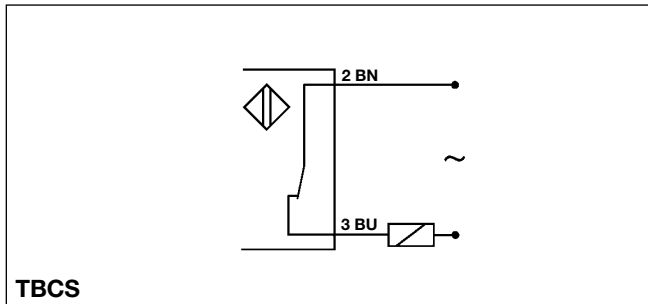
Dimensions

Type	A	B mm	C mm
EI 1202 TB..L	66	0	M 12 x 1 x 50
EI 1202 TB..L-6	74.5	0	M 12 x 1 x 50
EI 1204 TB..L	70	4	M 12 x 1 x 50
EI 1204 TB..L-6	78.5	4	M 12 x 1 x 50
EI 1805 TB..S	57	0	M 18 x 1 x 30
EI 1805 TB..S-6	55	0	M 18 x 1 x 30
EI 1805 TB..L	77	0	M 18 x 1 x 50
EI 1805 TB..L-6	75	0	M 18 x 1 x 50
EI 1808 TB..S	65	8	M 18 x 1 x 30
EI 1808 TB..S-6	63	8	M 18 x 1 x 30
EI 1808 TB..L	85	8	M 18 x 1 x 50
EI 1808 TB..L-6	83	8	M 18 x 1 x 50

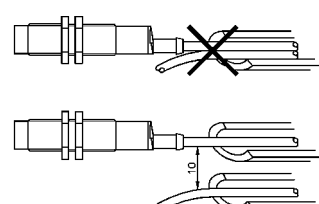
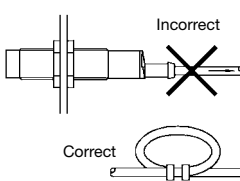
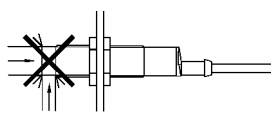
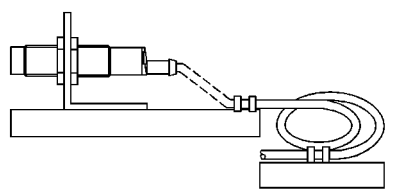
Type	A	B mm	C mm
EI 3010 TB..S	59	0	M 30 x 1.5 x 30
EI 3010 TB..S-6	55.5	0	M 30 x 1.5 x 30
EI 3010 TB..L	79	0	M 30 x 1.5 x 50
EI 3010 TB..L-6	75.5	0	M 30 x 1.5 x 50
EI 3015 TB..S	71	12	M 30 x 1.5 x 30
EI 3015 TB..S-6	67.5	12	M 30 x 1.5 x 30
EI 3015 TB..L	91	12	M 30 x 1.5 x 50
EI 3015 TB..L-6	87.5	12	M 30 x 1.5 x 50



Wiring Diagrams



Installation Hints

<p><i>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</i></p> 	<p><i>Relief of cable strain</i></p>  <p>Incorrect</p> <p>Correct</p> <p>The cable should not be pulled</p>	<p><i>Protection of the sensing face</i></p>  <p>A proximity switch should not serve as mechanical stop</p>	<p><i>Switch mounted on mobile carrier</i></p>  <p>Any repetitive flexing of the cable should be avoided</p>
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Power Supplies

Power supplies VAC: > SS 110