

# Proximity Sensors Inductive Stainless Steel Housing Types EI, AC, M12, M18, M30



- Stainless steel 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 plug M12 (double keyed)

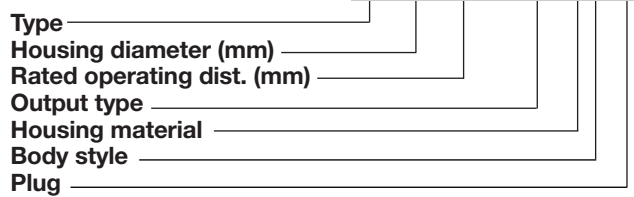
## Product Description

AC proximity switches constructed in stainless steel (1.4301) 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 TBOSL-6**



## Type Selection AC Types, Cable and M12 Plug

Housing diameter	Body style	Connec- tion	Rated operating dist. (S <sub>n</sub> )	Ordering no. SCR Make switching	Ordering no. SCR Break switching
M12	Long	Cable	2 mm <sup>1)</sup>	EI 1202 TBOSL	EI 1202 TBCSL
M12	Long	Plug	2 mm <sup>1)</sup>	EI 1202 TBOSL-6	EI 1202 TBCSL-6
M12	Long	Cable	4 mm <sup>2)</sup>	EI 1204 TBOSL	EI 1204 TBCSL
M12	Long	Plug	4 mm <sup>2)</sup>	EI 1204 TBOSL-6	EI 1204 TBCSL-6
M18	Short	Cable	5 mm <sup>1)</sup>	EI 1805 TBOSS	EI 1805 TBCSS
M18	Short	Plug	5 mm <sup>1)</sup>	EI 1805 TBOSS-6	EI 1805 TBCSS-6
M18	Long	Cable	5 mm <sup>1)</sup>	EI 1805 TBOSL	EI 1805 TBCSL
M18	Long	Plug	5 mm <sup>1)</sup>	EI 1805 TBOSL-6	EI 1805 TBCSL-6
M18	Short	Cable	8 mm <sup>2)</sup>	EI 1808 TBOSS	EI 1808 TBCSS
M18	Short	Plug	8 mm <sup>2)</sup>	EI 1808 TBOSS-6	EI 1808 TBCSS-6
M18	Long	Cable	8 mm <sup>2)</sup>	EI 1808 TBOSL	EI 1808 TBCSL
M18	Long	Plug	8 mm <sup>2)</sup>	EI 1808 TBOSL-6	EI 1808 TBCSL-6
M30	Short	Cable	10 mm <sup>1)</sup>	EI 3010 TBOSS	EI 3010 TBCSS
M30	Short	Plug	10 mm <sup>1)</sup>	EI 3010 TBOSS-6	EI 3010 TBCSS-6
M30	Long	Cable	10 mm <sup>1)</sup>	EI 3010 TBOSL	EI 3010 TBCSL
M30	Long	Plug	10 mm <sup>1)</sup>	EI 3010 TBOSL-6	EI 3010 TBCSL-6
M30	Short	Cable	15 mm <sup>2)</sup>	EI 3015 TBOSS	EI 3015 TBCSS
M30	Short	Plug	15 mm <sup>2)</sup>	EI 3015 TBOSS-6	EI 3015 TBCSS-6
M30	Long	Cable	15 mm <sup>2)</sup>	EI 3015 TBOSL	EI 3015 TBCSL
M30	Long	Plug	15 mm <sup>2)</sup>	EI 3015 TBOSL-6	EI 3015 TBCSL-6

Short = 30 mm thread

Long = 50 mm thread

Make switching = Normally Open (NO)

Break switching = Normally Closed (NC)

<sup>1)</sup> For flush mounting in metal

<sup>2)</sup> For non-flush mounting in metal

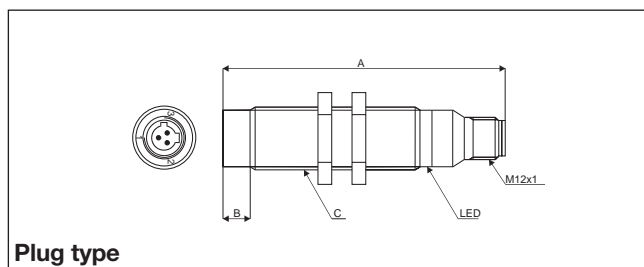
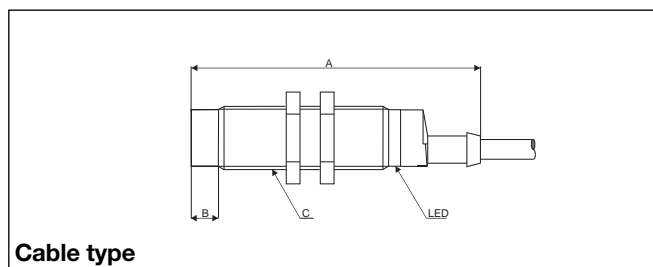


## Specifications

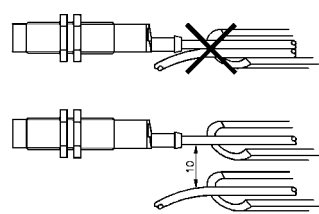
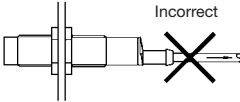

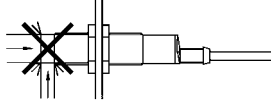
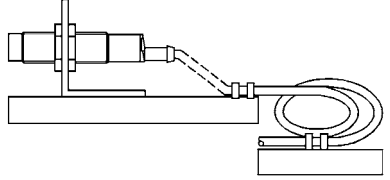
<b>Rated operational volt.</b> ( $U_e$ ) ( $U_B$ )	24 to 240 VAC, 20 to 265 VAC, 50 to 60 Hz	<b>Usable operating dist. (S)</b>	$0.9 \times S_r \leq S_u \leq 1.1 \times S_r$
<b>Rated operational current</b> ( $I_e$ ) Continuous Short-time	10 - 500 mA $\leq 2.5$ A, max. 20 ms	<b>Ambient temperature</b> Operating Storage	-25° to +70°C (-13° to +158°F) -30° to +80°C (-22° to +176°F)
<b>Minimum load current</b>	10 mA	<b>Degree of protection</b>	IP 67 (Nema 1, 3, 4, 6, 13)
<b>OFF-state current</b> ( $I_r$ )	$\leq 2$ mA	<b>Housing material</b> Body Front Back	Stainless steel (1.4301) Grey thermoplastic polyester Black thermoplastic polyester
<b>Voltage drop</b> ( $U_d$ )	$\leq 8$ VAC at max. load	<b>Connection</b> Cable  Plug Cables for plug (-6)	2 m, 2 x 0.50 mm <sup>2</sup> , grey PVC, oil proof M12 x 1 (double keyed) CONH6A-xx
<b>Protection</b>	Transients	<b>Weight</b> (cable excluded)	<b>EI 12</b> 80 g <b>EI 18</b> 130 g <b>EI 30</b> 200 g
<b>Transient voltage</b>	Level 3, 2.5 kV, acc. to IEC 60255-5 (500 $\Omega$ , 0.5 J) (prepared)	<b>Tightening torque</b>	<b>EI 12</b> 7.5 Nm (x) 17.5 Nm (y) <b>EI 18</b> 27.5 Nm <b>EI 30</b> 100.0 Nm
<b>Power ON delay</b>	$\leq 100$ ms	<b>Approvals</b>	UL, CSA
<b>Frequency of operating cycles</b> (f)	25 Hz	<b>CE-marking</b>	Yes
<b>Indication for output ON</b>	LED, yellow		
<b>Assured operating dist.</b> ( $S_a$ )	$0 \leq S_a \leq 0.81 S_n$		
<b>Repeat accuracy</b> (R)	$\leq 5\%$		
<b>Hysteresis</b> (H) (Differential travel)	3 to 20% of sensing distance		
<b>Effective operating dist.</b> ( $S_r$ )	$0.9 \times S_n \leq S_r \leq 1.1 \times S_n$		

## Dimensions

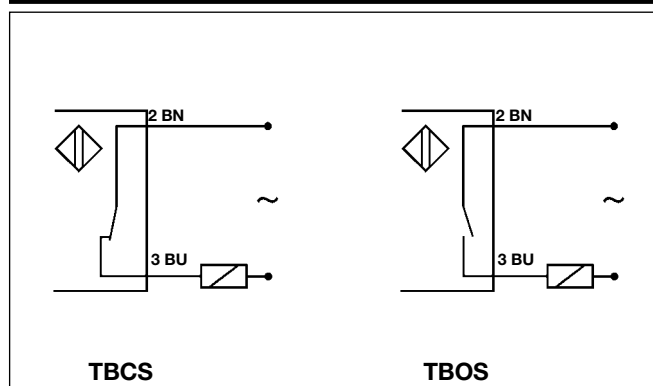
Type	A	B mm	C mm	Type	A	B mm	C mm
EI 1202 TB..L	66	0	M 12 x 1 x 50	EI 3010 TB..S	59	0	M 30 x 1.5 x 30
EI 1202 TB..L-6	74.5	0	M 12 x 1 x 50	EI 3010 TB..S-6	55.5	0	M 30 x 1.5 x 30
EI 1204 TB..L	70	4	M 12 x 1 x 50	EI 3010 TB..L	79	0	M 30 x 1.5 x 50
EI 1204 TB..L-6	78.5	4	M 12 x 1 x 50	EI 3010 TB..L-6	75.5	0	M 30 x 1.5 x 50
EI 1805 TB..S	57	0	M 18 x 1 x 30	EI 3015 TB..S	87.5	12	M 30 x 1.5 x 30
EI 1805 TB..S-6	55	0	M 18 x 1 x 30	EI 3015 TB..S-6	67.5	12	M 30 x 1.5 x 30
EI 1805 TB..L	77	0	M 18 x 1 x 50	EI 3015 TB..L	91	12	M 30 x 1.5 x 50
EI 1805 TB..L-6	75	0	M 18 x 1 x 50	EI 3015 TB..L-6	71	12	M 30 x 1.5 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				



## 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>Incorrect</p>  <p>Correct</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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## Wiring Diagrams



## Power Supplies

Power supplies VAC: > SS 110