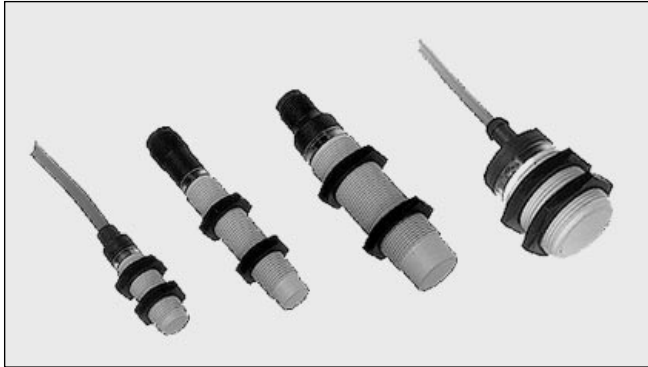


# Proximity Sensors Inductive Thermoplastic Polyester Housing Types EI, AC, M 12, M 18, M 30

CARLO GAVAZZI



- Thermoplastic polyester housing, cylindrical
- Diameter: M 12, M 18, M 30
- 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 M 12 plug (double keyed)

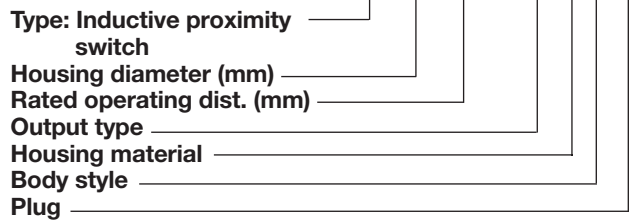
## Product Description

AC proximity switches constructed in rugged thermoplastic polyester housings. Sizes available are M 12, M18 and M 30. 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 M 12 Plug

Housing diameter	Body style	Connection	Rated operating dist. (S <sub>n</sub> )	Ordering no. SCR Make switching	Ordering no. SCR Break switching
M 12	Long	Cable	2 mm <sup>1)</sup>	EI 1202 TBOPL	EI 1202 TBCPL
M 12	Long	Plug	2 mm <sup>1)</sup>	EI 1202 TBOPL-6	EI 1202 TBCPL-6
M 12	Long	Cable	4 mm <sup>2)</sup>	EI 1204 TBOPL	EI 1204 TBCPL
M 12	Long	Plug	4 mm <sup>2)</sup>	EI 1204 TBOPL-6	EI 1204 TBCPL-6
M 18	Short	Cable	5 mm <sup>1)</sup>	EI 1805 TBOPS	EI 1805 TBCPS
M 18	Short	Plug	5 mm <sup>1)</sup>	EI 1805 TBOPS-6	EI 1805 TBCPS-6
M 18	Long	Cable	5 mm <sup>1)</sup>	EI 1805 TBOPL	EI 1805 TBCPL
M 18	Long	Plug	5 mm <sup>1)</sup>	EI 1805 TBOPL-6	EI 1805 TBCPL-6
M 18	Short	Cable	8 mm <sup>2)</sup>	EI 1808 TBOPS	EI 1808 TBCPS
M 18	Short	Plug	8 mm <sup>2)</sup>	EI 1808 TBOPS-6	EI 1808 TBCPS-6
M 18	Long	Cable	8 mm <sup>2)</sup>	EI 1808 TBOPL	EI 1808 TBCPL
M 18	Long	Plug	8 mm <sup>2)</sup>	EI 1808 TBOPL-6	EI 1808 TBCPL-6
M 30	Short	Cable	10 mm <sup>1)</sup>	EI 3010 TBOPS	EI 3010 TBCPS
M 30	Short	Plug	10 mm <sup>1)</sup>	EI 3010 TBOPS-6	EI 3010 TBCPS-6
M 30	Long	Cable	10 mm <sup>1)</sup>	EI 3010 TBOPL	EI 3010 TBCPL
M 30	Long	Plug	10 mm <sup>1)</sup>	EI 3010 TBOPL-6	EI 3010 TBCPL-6
M 30	Short	Cable	15 mm <sup>2)</sup>	EI 3015 TBOPS	EI 3015 TBCPS
M 30	Short	Plug	15 mm <sup>2)</sup>	EI 3015 TBOPS-6	EI 3015 TBCPS-6
M 30	Long	Cable	15 mm <sup>2)</sup>	EI 3015 TBOPL	EI 3015 TBCPL
M 30	Long	Plug	15 mm <sup>2)</sup>	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)

<sup>1)</sup> For flush mounting in metal  
<sup>2)</sup> For non-flush mounting in metal



## Specifications

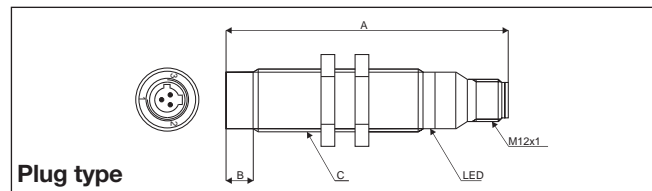
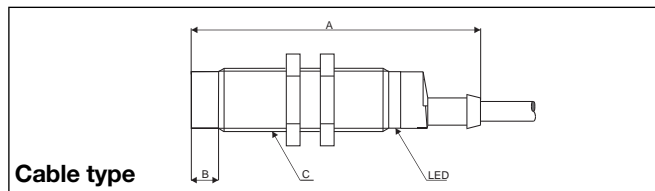
<b>Rated operational volt. (U<sub>e</sub>)</b>	24 to 240 VAC
(U <sub>B</sub> )	20 to 265 VAC, 50 to 60 Hz
<b>Rated operational current (I<sub>e</sub>)</b>	
Continuous	10 - 500 mA
Short-time	≤ 2.5 A, max. 20 ms
<b>Minimum load current</b>	10 mA
<b>OFF-state current (I<sub>r</sub>)</b>	≤ 2 mA
<b>Voltage drop (U<sub>d</sub>)</b>	≤ 8 VAC at max. load
<b>Protection</b>	Transients
<b>Transient voltage</b>	Level 3, 2.5 kV, acc. to IEC 60255-5 (500 Ω, 0.5 J) (prepared)
<b>Power ON delay</b>	≤ 100 ms
<b>Frequency of operating cycles (f)</b>	25 Hz
<b>Indication for output ON</b>	LED, yellow
<b>Assured operating dist. (S<sub>a</sub>)</b>	0 ≤ S <sub>a</sub> ≤ 0.81 S <sub>n</sub>
<b>Repeat accuracy (R)</b>	≤ 5%
<b>Hysteresis (H)</b> (Differential travel)	3 to 20% of sensing distance

<b>Effective operating dist. (S<sub>r</sub>)</b>	0.9 x S <sub>n</sub> ≤ S <sub>r</sub> ≤ 1.1 x S <sub>n</sub>
<b>Usable operating dist. (S)</b>	0.9 x S <sub>r</sub> ≤ S <sub>u</sub> ≤ 1.1 x S <sub>r</sub>
<b>Ambient temperature</b>	
Operating	-25° to +70°C (-13° to +158°F)
Storage	-30° to +80°C (-22° to +176°F)
<b>Degree of protection</b>	IP 67 (Nema 1, 3, 4, 6, 13)
<b>Housing material</b>	
Body	Grey thermoplastic polyester
Back	Black thermoplastic polyester
<b>Connection</b>	
Cable	2 m, 2 x 0.50 mm <sup>2</sup> grey PVC, oil proof
Plug	M 12 x 1 (double keyed)
Cables for plug (-6)	CONH6A-xx
<b>Weight (cable excluded)</b>	<b>EI 12</b> 60 g <b>EI 18</b> 110 g <b>EI 30</b> 180 g
<b>Tightening torque</b>	<b>EI 12</b> 1.8 Nm <b>EI 18</b> 2.6 Nm <b>EI 30</b> 7.5 Nm

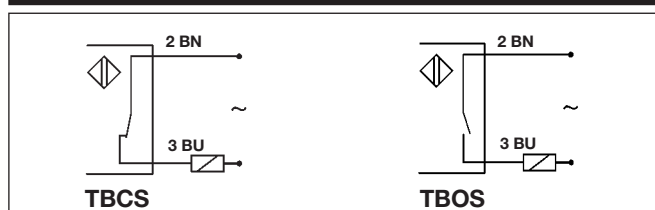
## Dimensions

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	87.5	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	71	12	M 30 x 1.5 x 50



## Wiring Diagrams



## Power Supplies

Power supplies VAC: > SS 110

## Installation Hints

Refer to "Installation Hints", Technical information.