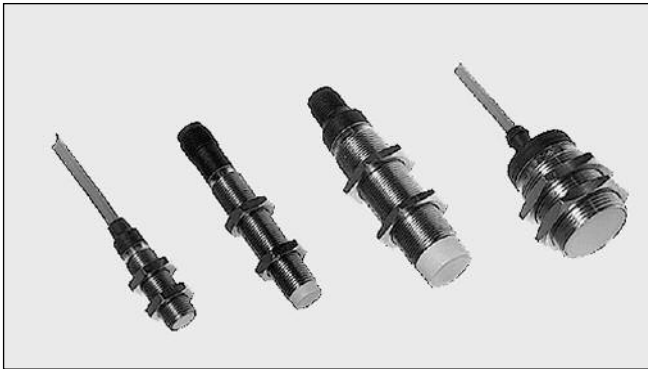


# Proximity Sensors Inductive Stainless Steel Housing Types EI, DC, M12, M18, M30



- Stainless steel housing, cylindrical
- Diameter: M12, M18, M30
- Short or long versions
- Sensing distance: 2 to 15 mm
- Power supply: 10 to 40 VDC
- Output: Transistor NPN/PNP, normally open or normally closed
- Protection: Short-circuit and reverse polarity
- LED-indication for output ON
- 2 m cable or plug M12

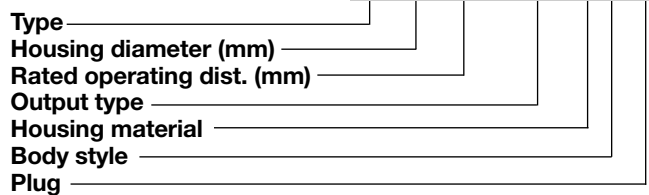


## Product Description

Proximity switch in housings ranging from M12 to M30. Short or long versions in standard stainless steel housing. Made after Euronorm EN 50 008.

## Ordering Key

**EI 1202 NPOSS-1**



## Type Selection DC Types, Cable and M12 Plug

Housing diameter	Body style	Connec-tion	Rated operating dist. (S.)	Ordering no. Transistor NPN Normally open	Ordering no. Transistor NPN Normally closed	Ordering no. Transistor PNP Normally open	Ordering no. Transistor PNP Normally closed
M12	Short	Cable	2 mm <sup>1)</sup>	EI 1202 NPOSS	EI 1202 NPCSS	EI 1202 PPOSS	EI 1202 PPCSS
M12	Short	Plug	2 mm <sup>1)</sup>	EI 1202 NPOSS-1	EI 1202 NPCSS-1	EI 1202 PPOSS-1	EI 1202 PPCSS-1
M12	Long	Cable	2 mm <sup>1)</sup>	EI 1202 NPOSL		EI 1202 PPOSL	EI 1202 PPCSL
M12	Long	Plug	2 mm <sup>1)</sup>	EI 1202 NPOSL-1		EI 1202 PPOSL-1	
M12	Short	Cable	4 mm <sup>2)</sup>	EI 1204 NPOSS	EI 1204 NPCSS	EI 1204 PPOSS	EI 1204 PPCSS
M12	Short	Plug	4 mm <sup>2)</sup>	EI 1204 NPOSS-1	EI 1204 NPCSS-1	EI 1204 PPOSS-1	EI 1204 PPCSS-1
M12	Long	Cable	4 mm <sup>2)</sup>	EI 1204 NPOSL		EI 1204 PPOSL	EI 1204 PPCSL
M12	Long	Plug	4 mm <sup>2)</sup>	EI 1204 NPOSL-1		EI 1204 PPOSL-1	
M18	Short	Cable	5 mm <sup>1)</sup>	EI 1805 NPOSS	EI 1805 NPCSS	EI 1805 PPOSS	EI 1805 PPCSS
M18	Short	Plug	5 mm <sup>1)</sup>	EI 1805 NPOSS-1	EI 1805 NPCSS-1	EI 1805 PPOSS-1	EI 1805 PPCSS-1
M18	Long	Cable	5 mm <sup>1)</sup>	EI 1805 NPOSL	EI 1805 NPCSL	EI 1805 PPOSL	EI 1805 PPCSL
M18	Long	Plug	5 mm <sup>1)</sup>	EI 1805 NPOSL-1		EI 1805 PPOSL-1	EI 1805 PPCSL-1
M18	Short	Cable	8 mm <sup>2)</sup>	EI 1808 NPOSS	EI 1808 NPCSS	EI 1808 PPOSS	EI 1808 PPCSS
M18	Short	Plug	8 mm <sup>2)</sup>	EI 1808 NPOSS-1	EI 1808 NPCSS-1	EI 1808 PPOSS-1	EI 1808 PPCSS-1
M18	Long	Cable	8 mm <sup>2)</sup>	EI 1808 NPOSL		EI 1808 PPOSL	EI 1808 PPCSL
M18	Long	Plug	8 mm <sup>2)</sup>	EI 1808 NPOSL-1		EI 1808 PPOSL-1	EI 1808 PPCSL-1
M30	Short	Cable	10 mm <sup>1)</sup>	EI 3010 NPOSS	EI 3010 NPCSS	EI 3010 PPOSS	EI 3010 PPCSS
M30	Short	Plug	10 mm <sup>1)</sup>			EI 3010 PPOSS-1	
M30	Long	Cable	10 mm <sup>1)</sup>	EI 3010 NPOSL		EI 3010 PPOSL	EI 3010 PPCSL
M30	Long	Plug	10 mm <sup>1)</sup>			EI 3010 PPOSL-1	
M30	Short	Cable	15 mm <sup>2)</sup>	EI 3015 NPOSS	EI 3015 NPCSS	EI 3015 PPOSS	EI 3015 PPCSS
M30	Short	Plug	15 mm <sup>2)</sup>	EI 3015 NPOSS-1		EI 3015 PPOSS-1	
M30	Long	Cable	15 mm <sup>2)</sup>	EI 3015 NPOSL	EI 3015 NPCSL	EI 3015 PPOSL	
M30	Long	Plug	15 mm <sup>2)</sup>			EI 3015 PPOSL-1	

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

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



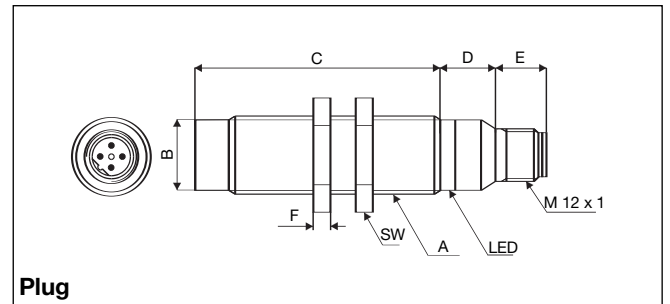
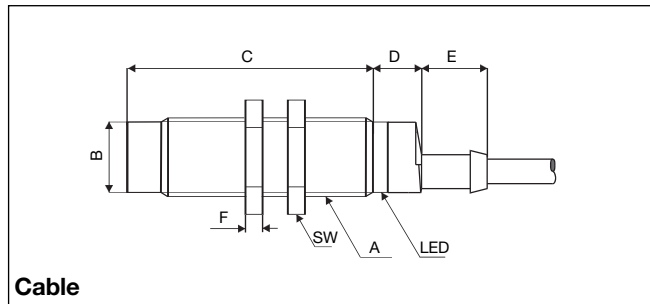
## Specifications

<b>Rated operational volt.</b> (U <sub>a</sub> ) (U <sub>B</sub> )	12 to 36 VDC 10 to 40 VDC (ripple included)	<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>Ripple</b>	≤ 10%	<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>Rated operational current (I<sub>a</sub>)</b> Continuous	≤ 200 mA	<b>Ambient temperature</b> Operating	-25° to +70°C (-13° to +158°F)
<b>No-load supply current (I<sub>o</sub>)</b>	Output ON: < 6.5 mA Output OFF: < 2.7 mA	Storage	-30° to +80°C (-22° to +176°F)
<b>Voltage drop (U<sub>d</sub>)</b>	≤ 2 VDC at max. load	<b>Degree of protection</b>	IP 67 (Nema 1, 3, 4, 6, 13)
<b>Protection</b>	Reverse polarity, short-circuit, transients	<b>Housing material</b> Body	Stainless steel (1.4301)
<b>Transient voltage</b>	≤ 700 V/0.5 J	Front	Grey thermoplastic polyester
<b>EMC</b>	Approved according to EN 50 080, EN 50 081	Back	Black polyester
<b>Power ON delay</b>	< 10 ms	<b>Connection</b> Cable	2 m, 3 x 0.3 mm <sup>2</sup> , grey PVC, oil proof
<b>Frequency of operating cycles (f)</b>	<b>EI 1202</b> 800 Hz <b>EI 1204</b> 500 Hz <b>EI 1805</b> 500 Hz <b>EI 1808</b> 400 Hz <b>EI 3010</b> 300 Hz <b>EI 3015</b> 100 Hz	Plug	M12 x 1
<b>Indication for output ON</b>	LED, yellow	Cables for plug (-1)	CONH1A serie
<b>Assured operating dist. (S<sub>a</sub>)</b>	0 ≤ S <sub>a</sub> ≤ 0.81 S <sub>n</sub>	<b>Weight (cable excluded)</b>	<b>EI 12</b> 10 g <b>EI 1805</b> 18 g <b>EI 1808</b> 20 g <b>EI 3010</b> 50 g <b>EI 3015</b> 70 g
<b>Repeat accuracy (R)</b>	≤ 5%	<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>Hysteresis (H) (Differential travel)</b>	1 to 15% of sensing distance	<b>Approvals</b>	UL, CSA
		<b>CE-marking</b>	Yes

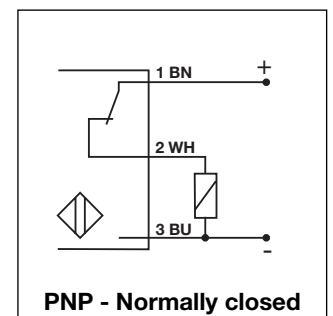
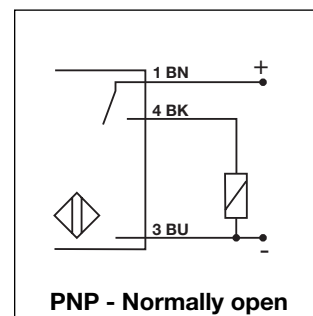
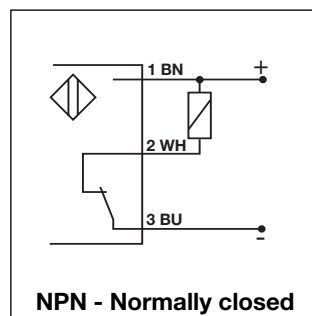
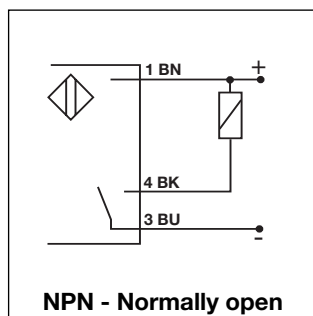
## Dimensions

Type	A	B Ø mm	C mm	D mm	E mm	F mm	SW mm
EI 1202 XPXSS	M12 x 1 x 30	10.7	30	11	5.0	4	17
EI 1202 XPXSL	M12 x 1 x 50	10.7	50	11	5.0	4	17
EI 1202 XPXSS-1	M12 x 1 x 30	10.7	30	12.6	11.9	4	17
EI 1202 XPXSL-1	M12 x 1 x 50	10.7	50	12.6	11.9	4	17
EI 1204 XPXSS	M12 x 1 x 30	10.7	34	11	5.0	4	17
EI 1204 XPXSL	M12 x 1 x 50	10.7	54	11	5.0	4	17
EI 1204 XPXSS-1	M12 x 1 x 30	10.7	34	12.6	11.9	4	17
EI 1204 XPXSL-1	M12 x 1 x 50	10.7	54	12.6	11.9	4	17
EI 1805 XPXSS	M18 x 1 x 30	16.7	30	11.6	15.4	4	24
EI 1805 XPXSL	M18 x 1 x 50	16.7	50	11.6	15.4	4	24
EI 1805 XPXSS-1	M18 x 1 x 30	16.7	30	13.1	11.9	4	24
EI 1805 XPXSL-1	M18 x 1 x 50	16.7	50	13.1	11.9	4	24
EI 1808 XPXSS	M18 x 1 x 30	16.7	38	11.6	15.4	4	24
EI 1808 XPXSL	M18 x 1 x 50	16.7	58	11.6	15.4	4	24
EI 1808 XPXSS-1	M18 x 1 x 30	16.7	38	13.1	11.9	4	24
EI 1808 XPXSL-1	M18 x 1 x 50	16.7	58	13.1	11.9	4	24
EI 3010 XPXSS	M30 x 1.5 x 30	28	30	13.6	15.4	5	36
EI 3010 XPXSL	M30 x 1.5 x 50	28	50	13.6	15.4	5	36
EI 3010 XPXSS-1	M30 x 1.5 x 30	28	30	13.6	11.9	5	36
EI 3010 XPXSL-1	M30 x 1.5 x 50	28	50	13.6	11.9	5	36
EI 3015 XPXSS	M30 x 1.5 x 30	28	42	13.6	15.4	5	36
EI 3015 XPXSL	M30 x 1.5 x 50	28	62	13.6	15.4	5	36
EI 3015 XPXSS-1	M30 x 1.5 x 30	28	42	13.6	11.9	5	36
EI 3015 XPXSL-1	M30 x 1.5 x 50	28	62	13.6	11.9	5	36

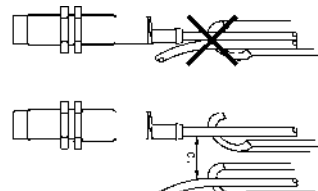
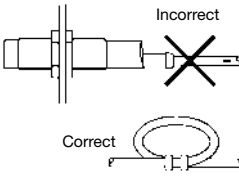
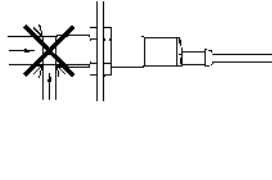
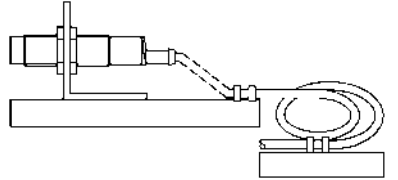
## Dimensions (cont.)



## 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>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 VDC: > SS 130/140.  
 Power supplies with amplifier relays: > SV 190.