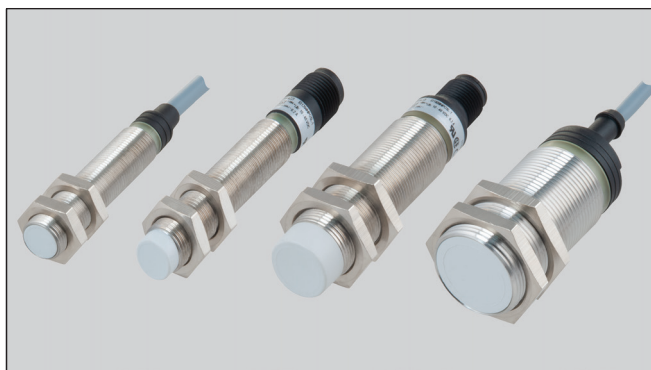


# Proximity Sensors Inductive Stainless Steel Housing Types EI, DC, M12, M18, M30



- Stainless steel housing, cylindrical
- Diameter: M12, M18, M30
- Short or long versions
- Sensing distance: 2 to 15 mm
- Power supply: 10 to 32 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

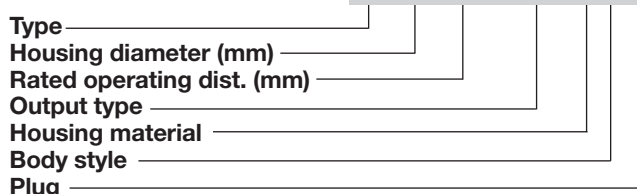
## Product Description

Proximity switch in housings ranging from M12 to M30. Short or long versions in standard stainless steel housing.

Made after EN 60947-5-2.

## Ordering Key

**EI 1202 NPOSS-1**



## Type Selection DC Types, Cable and M12 Plug

Housing diameter	Body style	Connec-tion	Rated operating dist. (S <sub>n</sub> )	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 NPOSS-1		EI 1202 PPOSS-1	EI 1202 PPCSS-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 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 NPOSS-1		EI 1204 PPOSS-1	EI 1204 PPCSS-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 PPOSL	EI 1805 PPCSL
M18	Long	Plug	5 mm <sup>1)</sup>	EI 1805 NPOSS-1		EI 1805 PPOSS-1	EI 1805 PPCSS-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 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 NPOSS-1		EI 1808 PPOSS-1	EI 1808 PPCSS-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 PPOSS-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 PPOSS-1	

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

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

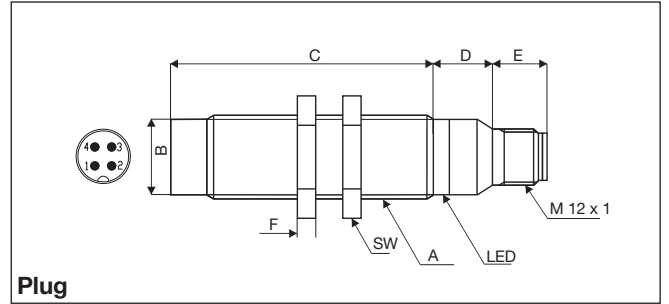
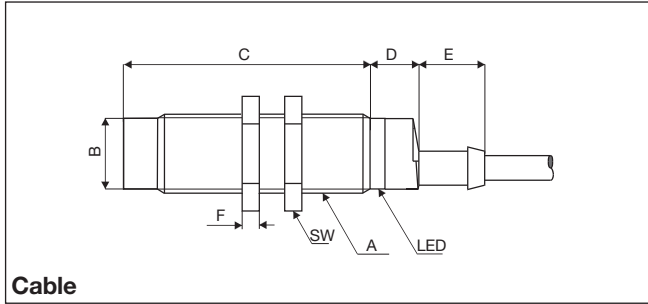
## Specifications

<b>Rated operational volt. (U<sub>B</sub>)</b>	10 to 32 VDC (ripple included)	<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>Ripple</b>	≤ 10%	<b>Ambient temperature</b>	Operating Storage	
<b>Rated operational current (I<sub>a</sub>)</b> Continuous	≤ 200 mA		-25° to +70°C (-13° to +158°F) -30° to +80°C (-22° to +176°F)	
<b>No-load supply current (I<sub>o</sub>)</b>	Output ON: < 6.5 mA Output OFF: < 2.7 mA	<b>Degree of protection</b>	IP 67	
<b>Voltage drop (U<sub>d</sub>)</b>	≤ 2 VDC at max. load	<b>Housing material</b>	Body Front Back	
<b>Protection</b>	Reverse polarity, short-circuit, transients		Stainless steel (1.4301) Grey thermoplastic polyester Black polyester	
<b>Transient voltage</b>	≤ 700 V/0.5 J	<b>Connection</b>	Cable	
<b>EMC</b>	Approved according to EN 60947-5-2		2 m, 3 x 0.3 mm <sup>2</sup> , grey PVC, oil proof M12 x 1	
<b>Power ON delay</b>	< 10 ms		Cables for plug (-1) CONx... series to be purchased separately	
<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	<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>Indication for output ON</b>	LED, yellow	<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>Assured operating dist. (S<sub>a</sub>)</b>	0 ≤ S <sub>a</sub> ≤ 0.81 S <sub>n</sub>	<b>Approvals</b>	UL, CSA	
<b>Repeatability (R)</b>	≤ 5%	<b>CE-marking</b>	Yes	
<b>Hysteresis (H) (Differential travel)</b>	1 to 15% 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>			

## Dimensions

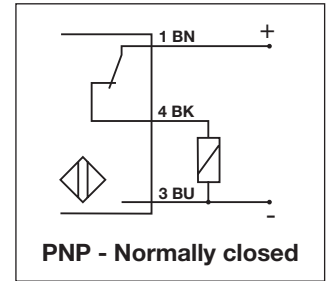
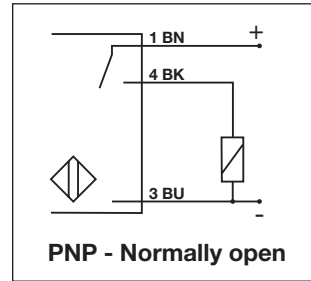
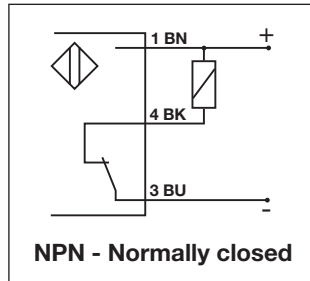
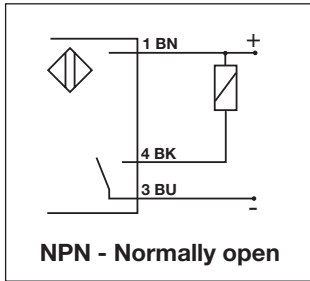
Type	A	B Ø mm	C mm	D mm	E mm	F mm	SW mm
EI 1202 xPxSS	M12 x 1 x 30	10.7	30	11	5.0	4	17
EI 1202 xPxSL	M12 x 1 x 50	10.7	50	11	5.0	4	17
EI 1202 xPxSS-1	M12 x 1 x 30	10.7	30	12.6	11.9	4	17
EI 1202 xPxSL-1	M12 x 1 x 50	10.7	50	12.6	11.9	4	17
EI 1204 xPxSS	M12 x 1 x 30	10.7	34	11	5.0	4	17
EI 1204 xPxSL	M12 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.)

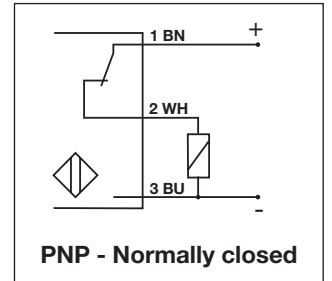
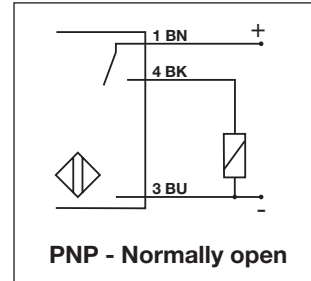
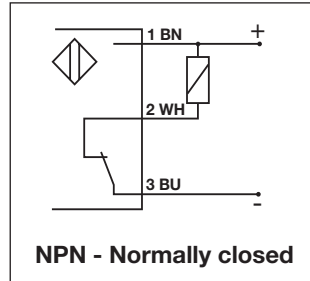
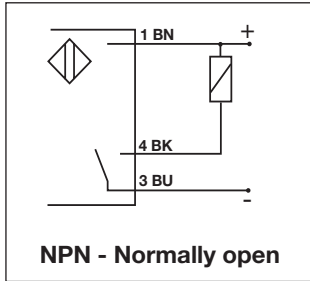


## Wiring Diagrams

### Cable versions



### Plug versions



1 BN = Brown    2 WH = White    3 BU = Blue    4 BK = Black

## Installation Hints

