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

CARLO GAVAZZI



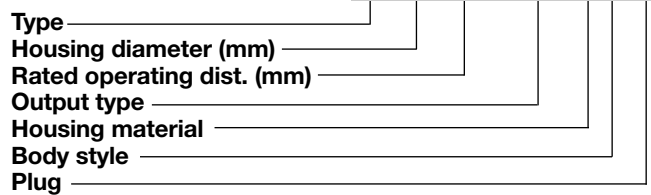
- Stainless steel housing, cylindrical
- Diameter: M12, M18, M30
- Short or long versions
- Sensing distance: 2 to 15 mm
- Power supply: 10 to 40 VDC
- Output: Transistor NPN/PNP, make or break switching
- Protection: Short-circuit and reverse polarity
- LED-indication for output ON
- 2 m cable or plug 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	Connection	Rated operating dist. (S _a)	Ordering no. Transistor NPN Make switching	Ordering no. Transistor NPN Break switching	Ordering no. Transistor PNP Make switching	Ordering no. Transistor PNP Break switching
M12	Short	Cable	2 mm ¹⁾	EI 1202 NPOSS	EI 1202 NPCSS	EI 1202 PPOSS	EI 1202 PPCSS
M12	Short	Plug	2 mm ¹⁾	EI 1202 NPOSS-1	EI 1202 NPCSS-1	EI 1202 PPOSS-1	EI 1202 PPCSS-1
M12	Long	Cable	2 mm ¹⁾	EI 1202 NPOSL	EI 1202 NPCSL	EI 1202 PPOSL	EI 1202 PPCSL
M12	Long	Plug	2 mm ¹⁾	EI 1202 NPOSL-1	EI 1202 NPCSL-1	EI 1202 PPOSL-1	EI 1202 PPCSL-1
M12	Short	Cable	4 mm ²⁾	EI 1204 NPOSS	EI 1204 NPCSS	EI 1204 PPOSS	EI 1204 PPCSS
M12	Short	Plug	4 mm ²⁾	EI 1204 NPOSS-1	EI 1204 NPCSS-1	EI 1204 PPOSS-1	EI 1204 PPCSS-1
M12	Long	Cable	4 mm ²⁾	EI 1204 NPOSL	EI 1204 NPCSL	EI 1204 PPOSL	EI 1204 PPCSL
M12	Long	Plug	4 mm ²⁾	EI 1204 NPOSL-1	EI 1204 NPCSL-1	EI 1204 PPOSL-1	EI 1204 PPCSL-1
M18	Short	Cable	5 mm ¹⁾	EI 1805 NPOSS	EI 1805 NPCSS	EI 1805 PPOSS	EI 1805 PPCSS
M18	Short	Plug	5 mm ¹⁾	EI 1805 NPOSS-1	EI 1805 NPCSS-1	EI 1805 PPOSS-1	EI 1805 PPCSS-1
M18	Long	Cable	5 mm ¹⁾	EI 1805 NPOSL	EI 1805 NPCSL	EI 1805 PPOSL	EI 1805 PPCSL
M18	Long	Plug	5 mm ¹⁾	EI 1805 NPOSL-1	EI 1805 NPCSL-1	EI 1805 PPOSL-1	EI 1805 PPCSL-1
M18	Short	Cable	8 mm ²⁾	EI 1808 NPOSS	EI 1808 NPCSS	EI 1808 PPOSS	EI 1808 PPCSS
M18	Short	Plug	8 mm ²⁾	EI 1808 NPOSS-1	EI 1808 NPCSS-1	EI 1808 PPOSS-1	EI 1808 PPCSS-1
M18	Long	Cable	8 mm ²⁾	EI 1808 NPOSL	EI 1808 NPCSL	EI 1808 PPOSL	EI 1808 PPCSL
M18	Long	Plug	8 mm ²⁾	EI 1808 NPOSL-1	EI 1808 NPCSL-1	EI 1808 PPOSL-1	EI 1808 PPCSL-1
M30	Short	Cable	10 mm ¹⁾	EI 3010 NPOSS	EI 3010 NPCSS	EI 3010 PPOSS	EI 3010 PPCSS
M30	Short	Plug	10 mm ¹⁾	EI 3010 NPOSS-1	EI 3010 NPCSS-1	EI 3010 PPOSS-1	EI 3010 PPCSS-1
M30	Long	Cable	10 mm ¹⁾	EI 3010 NPOSL	EI 3010 NPCSL	EI 3010 PPOSL	EI 3010 PPCSL
M30	Long	Plug	10 mm ¹⁾	EI 3010 NPOSL-1	EI 3010 NPCSL-1	EI 3010 PPOSL-1	EI 3010 PPCSL-1
M30	Short	Cable	15 mm ²⁾	EI 3015 NPOSS	EI 3015 NPCSS	EI 3015 PPOSS	EI 3015 PPCSS
M30	Short	Plug	15 mm ²⁾	EI 3015 NPOSS-1	EI 3015 NPCSS-1	EI 3015 PPOSS-1	EI 3015 PPCSS-1
M30	Long	Cable	15 mm ²⁾	EI 3015 NPOSL	EI 3015 NPCSL	EI 3015 PPOSL	EI 3015 PPCSL
M30	Long	Plug	15 mm ²⁾	EI 3015 NPOSL-1	EI 3015 NPCSL-1	EI 3015 PPOSL-1	EI 3015 PPCSL-1

¹⁾ For flush mounting in metal

²⁾ For non-flush mounting in metal

Make switching = Normally Open (NO)

Break switching = Normally Closed (NC)



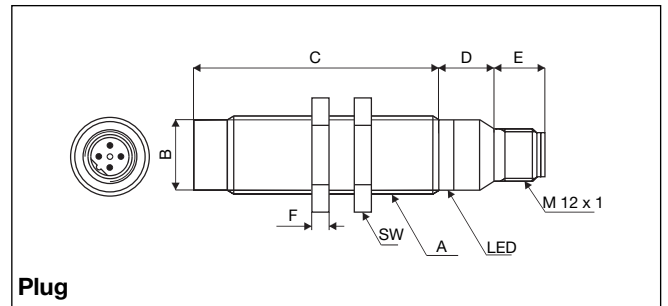
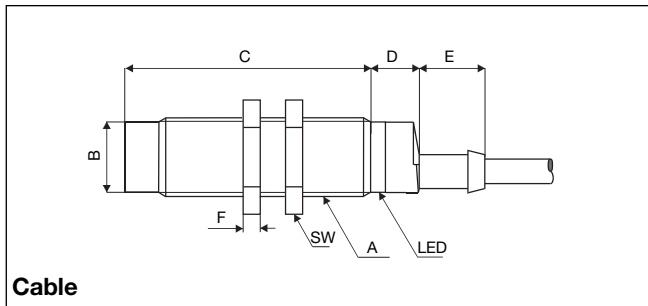
Specifications

Rated operational volt. (U_e) (U_B)	12 to 36 VDC 10 to 40 VDC (ripple included)	Effective operating dist. (S_r)	$0.9 \times S_n \leq S_r \leq 1.1 \times S_n$
Ripple	$\leq 10\%$	Usable operating dist. (S)	$0.9 \times S_r \leq S_u \leq 1.1 \times S_r$
Rated operational current (I_a) Continuous	≤ 200 mA	Ambient temperature Operating	-25° to +70°C (-13° to +158°F)
No-load supply current (I_o)	Output ON: < 6.5 mA Output OFF: < 2.7 mA	Storage	-30° to +80°C (-22° to +176°F)
Voltage drop (U_d)	≤ 2 VDC at max. load	Degree of protection	IP 67 (Nema 1, 3, 4, 6, 13)
Protection	Reverse polarity, short-circuit, transients	Housing material Body	Stainless steel (1.4301)
Transient voltage	≤ 700 V/0.5 J	Front	Grey thermoplastic polyester
EMC	Approved according to EN 50 080, EN 50 081	Back	Black polyester
Power ON delay	< 10 ms	Connection Cable	2 m, 3 x 0.3 mm ² , grey PVC, oil proof M12 x 1
Frequency of operating cycles (f)	EI 1202 800 Hz EI 1204 500 Hz EI 1805 500 Hz EI 1808 400 Hz EI 3010 300 Hz EI 3015 100 Hz	Plug	CONH1A serie
Indication for output ON	LED, yellow	Cables for plug (-1)	
Assured operating dist. (S_a)	$0 \leq S_a \leq 0.81 S_n$	Weight (cable excluded)	EI 12 10 g EI 1805 18 g EI 1808 20 g EI 3010 50 g EI 3015 70 g
Repeat accuracy (R)	$\leq 5\%$	Tightening torque	EI 12 7.5 Nm (x) 17.5 Nm (y) EI 18 27.5 Nm EI 30 100.0 Nm
Hysteresis (H) (Differential travel)	1 to 15% of sensing distance	Approvals	UL, CSA
		CE-marking	Yes

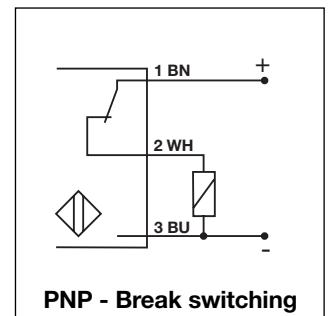
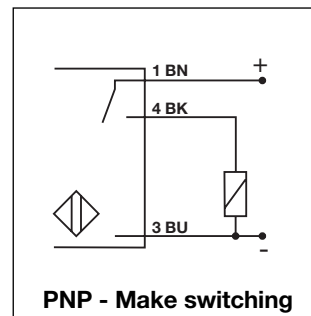
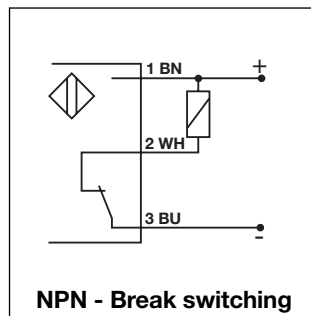
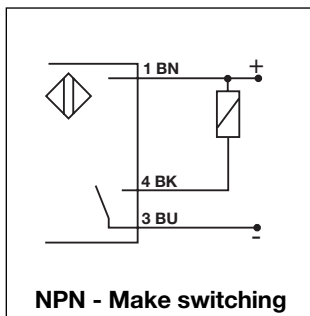
Dimensions

Type	A	B Ø mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	SW mm	K Ø mm	L Ø 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		

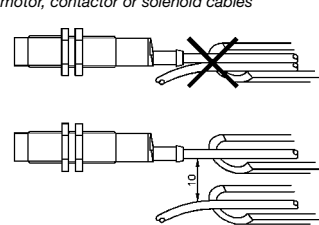
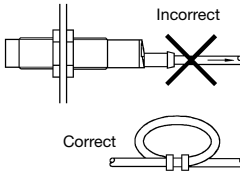
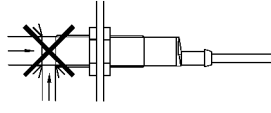
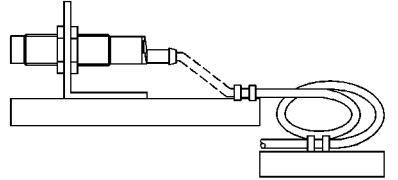
Dimensions (cont.)



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