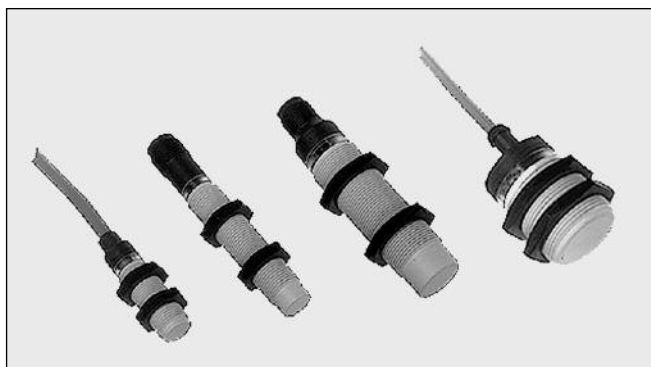


Proximity Sensors Inductive Thermoplastic Polyester Housing Types EI, DC, M12, M18, M30

CARLO GAVAZZI



- Euronorm thermoplastic polyester housing, cylindrical
- Diameter: M12, M18, M30
- Flush and non-flush types
- Long and short body 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, reverse polarity and overload
- LED-indication for output ON
- 2 m cable or M12 plug

Product Description

Proximity switch in M12, M18 and M30 polyester housings. Made in accordance with euronorms EN 50 008 and EN 50 036.

Ordering Key

EI 1808 PPCPL-1

Type _____
Housing diameter (mm) _____
Rated operating dist. (mm) _____
Output type _____
Housing material _____
Body style _____
Plug _____

Type Selection DC Types, Cable and M12 Plug

Housing diameter	Body style	Connection	Rated operating dist. (S _n)	Ordering no. Transistor NPN Normally open	Ordering no. Transistor PNP Normally open	Ordering no. Transistor PNP Normally closed
M12	Long	Cable	2 mm ¹⁾	EI 1202 NPOPL	EI 1202 PPOPL	
M12	Short	Cable	4 mm ²⁾		EI 1204 PPOPS	
M12	Long	Cable	4 mm ²⁾	EI 1204 NPOPL	EI 1204 PPOPL	
M18	Short	Cable	5 mm ¹⁾		EI 1805 PPOPS	
M18	Long	Cable	5 mm ¹⁾	EI 1805 NPOPL	EI 1805 PPOPL	
M18	Short	Cable	8 mm ²⁾	EI 1808 NPOPS	EI 1808 PPOPS	
M18	Short	Plug	8 mm ²⁾		EI 1808 PPOPS-1	
M18	Long	Cable	8 mm ²⁾	EI 1808 NPOPL	EI 1808 PPOPL	EI 1808 PPCPL
M18	Long	Plug	8 mm ²⁾		EI 1808 PPOPL-1	EI 1808 PPCPL-1
M30	Long	Cable	10 mm ¹⁾	EI 3010 NPOPL	EI 3010 PPOPL	EI 3010 PPCPL
M30	Short	Cable	15 mm ²⁾	EI 3015 NPOPS		
M30	Long	Cable	15 mm ²⁾		EI 3015 PPOPL	

¹⁾ For flush mounting in metal

²⁾ For non-flush mounting in metal

Specifications

Rated operational volt. (U _e)	12 to 36 VDC
(U _B)	10 to 40 VDC (ripple incl.)
Ripple	≤ 10%
Rated operational current (I _e)	
Continuous	≤ 200 mA
No-load supply current (I _o)	Output ON: < 6.5 mA Output OFF: < 2.7 mA
Voltage drop (U _d)	≤ 2 VDC at max. load
Protection	Reverse polarity, short-circuit, transients
Transient voltage	≤ 700 V/0.5 J
Power ON delay	< 10 ms

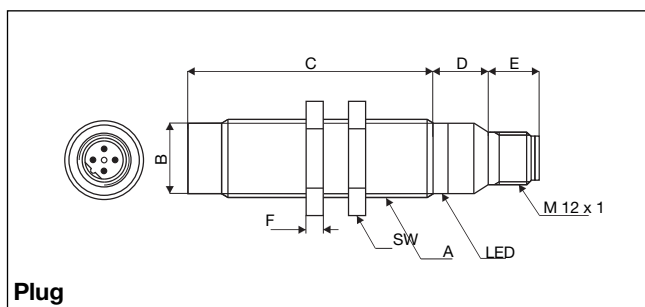
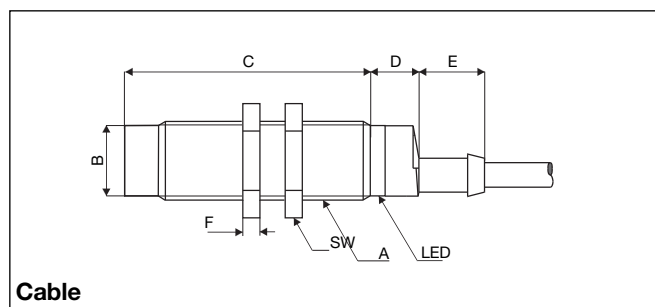
Frequency of operating cycles (f)	
EI 1202	800 Hz
EI 1204	500 Hz
EI 1805	500 Hz
EI 1808	400 Hz
EI 3010	300 Hz
EI 3015	100 Hz
Indication for output ON	LED, yellow
Assured operating dist. (S _a)	0 ≤ S _a ≤ 0.81 S _n
Repeat accuracy (R)	≤ 5%
Hysteresis (H) (Differential travel)	1 to 15% of sensing distance
Effective operating dist. (S _i)	0.9 x S _n ≤ S _i ≤ 1.1 x S _n
Usable operating dist. (S)	0.9 x S _r ≤ S _u ≤ 1.1 x S _r

Specifications (cont.)

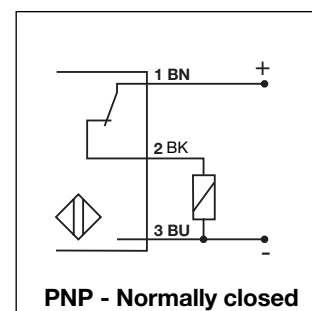
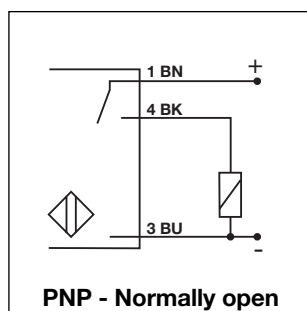
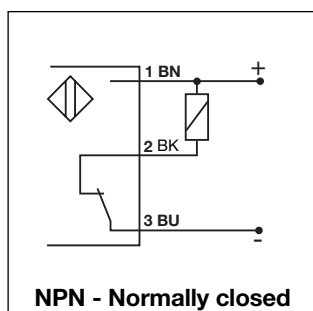
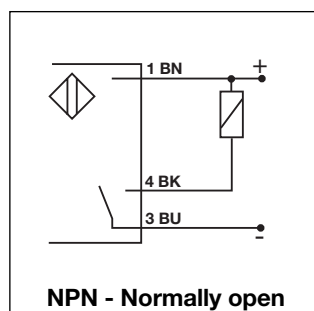
Ambient temperature	Operating	-25° to +70°C (-13° to +158°F)	Weight (cable excluded)	EI12	10 g
	Storage	-30° to +80°C (-22° to +176°F)		EI 1805	18 g
Degree of protection	IP 67 (Nema 1, 3, 4, 6, 13)	EI 1808		20 g	
		EI 3010		50 g	
		EI 3015		70 g	
Housing material	Body	Grey thermoplastic polyester	Tightening torque	EI 12	1.8 Nm
	Back	Black polyester		EI 18	2.6 Nm
Connection	Cable	2 m, 3 x 0.3 mm², grey PVC, oil proof M 12 x 1 CONH1A serie	EI 30	7.5 Nm	
	Plug		Approvals	UL, CSA	
	Cables for plug (-1)		CE-marking	Yes	
			EMC	Approved acc. to EN 50 080, EN 50 081	

Dimensions

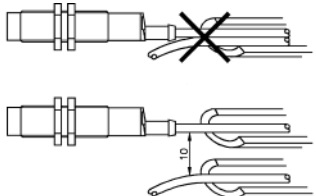
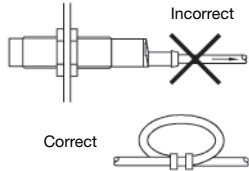
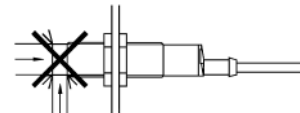
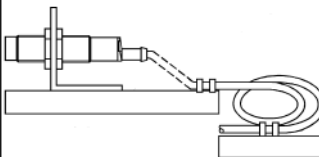
Type	A	B (Ø mm)	C (mm)	D (mm)	E (mm)	F (mm)	SW (mm)
EI 1202 XPXPL	M 12 x 1 x 50	10.7	50	11	5.0	8	17
EI 1204 XPXPS	M 12 x 1 x 30	10.7	34	11	5.0	8	17
EI 1204 XPXPL	M 12 x 1 x 50	10.7	54	11	5.0	8	17
EI 1805 XPXPS	M 18 x 1 x 30	16.7	30	11.6	15.4	8	24
EI 1805 XPXPL	M 18 x 1 x 50	16.7	50	11.6	15.4	8	24
EI 1808 XPXPS	M 18 x 1 x 30	16.7	38	11.6	15.4	8	24
EI 1808 XPXPL	M 18 x 1 x 50	16.7	58	11.6	15.4	8	24
EI 1808 XPXPL-1	M 18 x 1 x 50	16.7	58	13.1	11.9	8	24
EI 3010 XPXPL	M 30 x 1.5 x 50	28	50	13.6	15.4	10	36
EI 3015 XPXPS	M 30 x 1.5 x 30	28	42	13.6	15.4	10	36
EI 3015 XPXPL	M 30 x 1.5 x 50	28	62	13.6	15.4	10	36



Wiring Diagrams



Installation Hints

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 	Relief of cable strain  The cable should not be pulled	Protection of the sensing face  A proximity switch should not serve as mechanical stop	Switch mounted on mobile carrier  Any repetitive flexing of the cable should be avoided
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Power Supplies

Power supplies VAC: > SS 110.
 Power supplies VDC: > SS 130/140.
 Power supplies with amplifier relays: > SV 190.