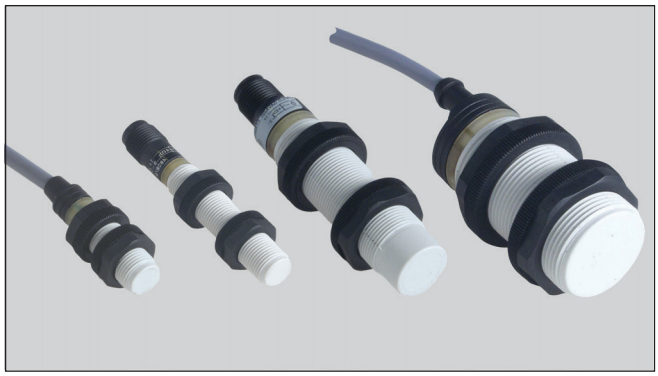
Proximity Sensors Inductive Thermoplastic Polyester Housing Types EI, DC, M12, M18, M30



- 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 32 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 EN 60947-5-2.

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 Normaly open	Ordering no. Transistor PNP Normaly open	Ordering no. Transistor PNP Normaly closed
M12	Long	Cable	2 mm [1]		**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	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_B)	10 to 32 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)	$0 \le S_a \le 0.81\ S_n$
Repeatability (R)	≤ 5%
Hysteresis (H) (Differential travel)	1 to 15% of sensing distance
Effective operating dist. (S_r)	$0.9 \times S_n \le S_r \le 1.1 \times S_n$
Usable operating dist. (S)	$0.9 \times S_r \le S_u \le 1.1 \times S_r$

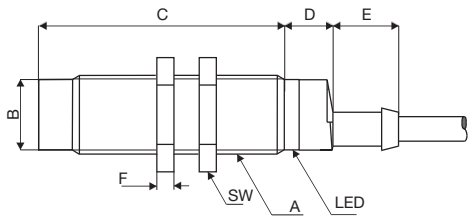
Specifications (cont.)

Ambient temperature	
Operating	-25° to +70°C (-13° to +158°F)
Storage	-30° to +80°C (-22° to +176°F)
Degree of protection	IP 67
Housing material	
Body	Grey thermoplastic polyester
Back	Black polyester
Connection	
Cable	2 m, 3 x 0.3 mm^2, grey PVC, oil proof
Plug	M 12 x 1
Cables for plug (-1)	CONx... series to be purchased separately

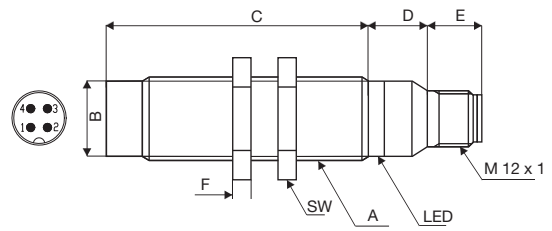
Weight (cable excluded)	
EI12	10 g
EI 1805	18 g
EI 1808	20 g
EI 3010	50 g
EI 3015	70 g
Tightening torque	
EI 12	1.8 Nm
EI 18	2.6 Nm
EI 30	7.5 Nm
Approvals	UL, CSA
CE-marking	Yes
EMC	Approved acc. to EN 60947-5-2

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 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 xPxPS-1	M 18 x 1 x 30	16,7	38	13,1	11,9	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



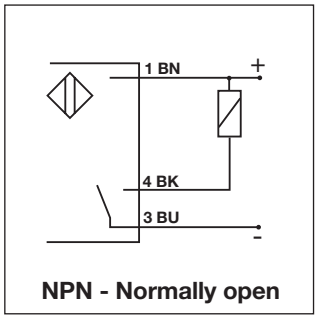
Cable



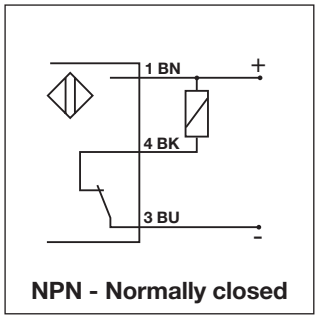
Plug

Wiring Diagrams

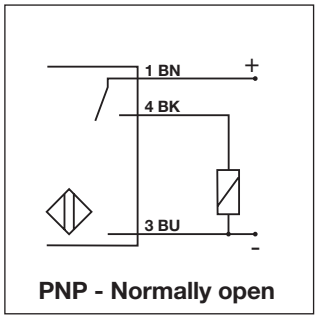
Cable version



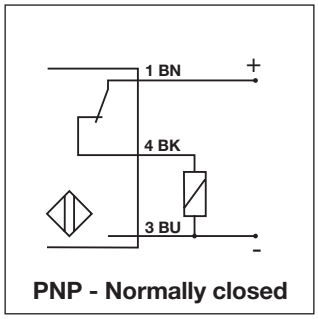
NPN - Normally open



NPN - Normally closed

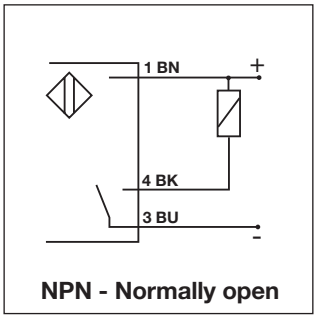


PNP - Normally open

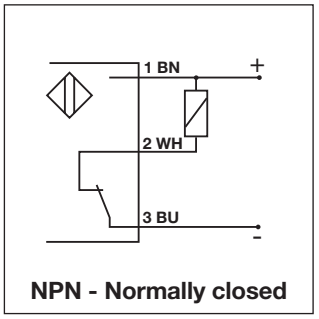


PNP - Normally closed

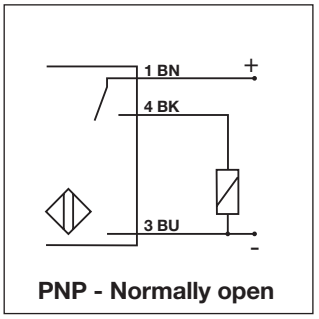
Plug version



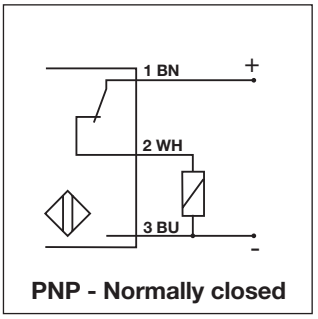
NPN - Normally open



NPN - Normally closed



PNP - Normally open

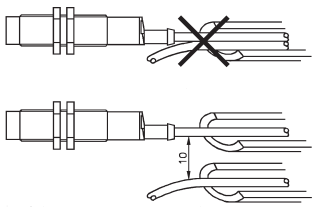


PNP - Normally closed

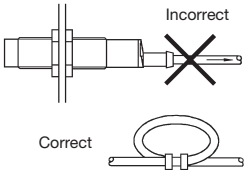
1 BN = Brown 2 WH = White 3 BU= Blue 4 BK = Black

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

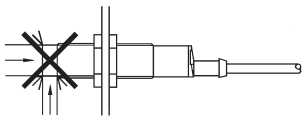


Relief of cable strain



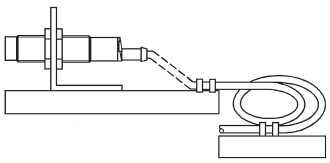
The cable should not be pulled

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