Proximity Sensors Inductive Analogue Position Sensor Types EI, M18, M30

CARLO GAVAZZI

- **Nickel-plated brass housing, cylindrical**
- **Diameter: M18, M30**
- **Sensing range: EI 1805 I020: 2 to 5 mm**
  EI 3008 I020: 3 to 8 mm
- **Power supply: 15 to 30 VDC**
- **Current source output: 0 to 20 mA**
- **Protection: Reverse polarity, internal current limiter**
- **2 m cable or plug M12**

Product Description

Cylindrical analogue position sensor in M18 and M30 nickel-plated brass housings. High degree of linearity, output current 0 to 20 mA. Can be extended with level amplifier relay S 183 and analogue display to make up complete measuring systems.

Ordering Key

EI 1805 I020-1

Type: Inductive switch
Housing diameter
Rated operating dist. (mm)
Current output 0 to 20 mA
Connection type

Type Selection

Housing diameter	Rated operating dist. (S_n)	Ordering no. Output type 0 to 20 mA	Ordering no. Output type 0 to 20 mA
M18	2 to 5 mm [1]	**EI 1805 I020**	**EI 1805 I020-1**
M30	3 to 8 mm [1]	**EI 3008 I020**	

[1] For flush mounting in metal

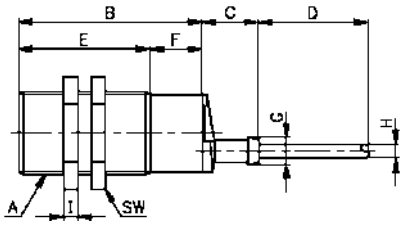
Specifications

Rated operational volt. (U_e)	17 to 27 VDC	
(U_B)	15 to 30 VDC (ripple included)	
Ripple	≤ 10%	
Rated operational current (I_e)	0 to 20 mA (R load: 0 to 500 Ω) Max. 30 mA (current limiter)	
No-load supply current (I_o)	≤ 7 mA (no load)	
Protection	Reverse polarity current limiter	
Transient voltage	≤ 2 kV/0.5 J (prepared)	
Power ON delay	Safe operation after 1 s	
Rate of rise	**EI 1805 I020**	≥ 1 mm/ms
	EI 3008 I020	≥ 3 mm/ms
Assured operating dist. (S_a)	**EI 1805 I020**	2 to 5 mm
	EI 3008 I020	3 to 8 mm
Linearity	± 3% of full scale	
Repeat accuracy (R)	≤ 1%	
Temperature drift	**EI 1805 I020** ≤ 2 µm/°C per mm **EI 3008 I020** ≤ 1 µm/°C per mm	

Ambient temperature		
Operating	-15° to +65°C (+5° to +144°F)	
Storage	-20° to +70°C (-4° to +158°F)	
Degree of protection	IP 67 (Nema 1, 3, 4, 6, 13)	
Housing material		
Body	Nickel-plated brass	
Front	Blue thermoplastic polyester	
Back	Black thermoplastic polyester	
Cable	2 m, 3 x 0.25 mm² grey PVC, oil proof	
Weight (cable included)	**EI 1805 I020**	85 g
	EI 3008 I020	195 g
Tightening torque	**EI 1805 I020**	17.5 Nm
	EI 3008 I020	35.0 Nm
CE-marking	Yes	

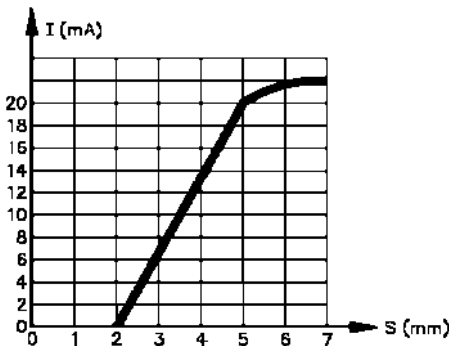
Dimensions

Type	A	B mm	C mm	D mm	E mm	F mm	G mm	H Ø mm	I mm	SW mm
EI 1805 I020	M18 x 1	71	20.5	2000	52	19	10	5.2	4	24
EI 3008 I020	M30 x 1.5	67	20.5	2000	48	19	10	5.2	5	36

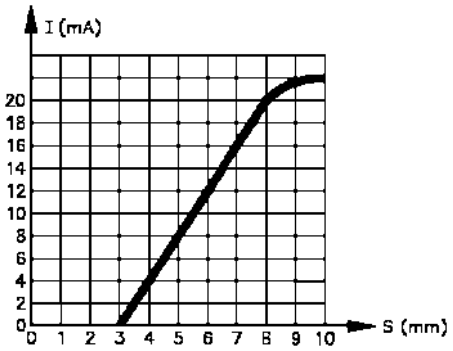


EI I020

Output Curves

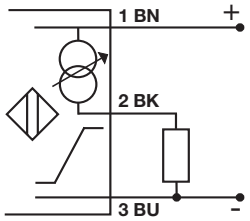


EI 1805 I020



EI 3008 I020

Wiring Diagram

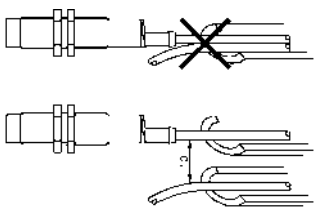


Power Supplies

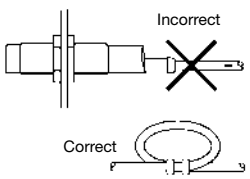
Power supplies VAC: > SS 110.
Power supplies VDC: > SS 130/140.

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

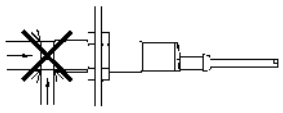


Relief of cable strain



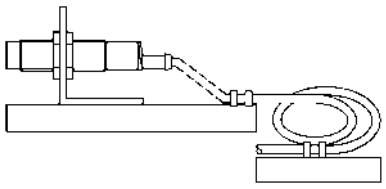
The cable should not be pulled

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