

# Proximity Sensors Inductive

## Analogue Position Sensor

### Types EI, M 18, M 30

CARLO GAVAZZI



- Nickel-plated brass housing, cylindrical
- Diameter: M 18, M 30
- 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 M 18 and M 30 nickel-plated brass housings. High degree of linearity, output current 0 to 20 mA. Can be ex-

tended 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 <sub>n</sub> ) | Ordering no. Output type 0 to 20 mA | Ordering no. Output type 0 to 20 mA |
|------------------|-----------------------------------------|-------------------------------------|-------------------------------------|
| M 18             | 2 to 5 mm <sup>1)</sup>                 | EI 1805 I020                        | EI 1805 I020-1                      |
| M 30             | 3 to 8 mm <sup>1)</sup>                 | EI 3008 I020                        |                                     |

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

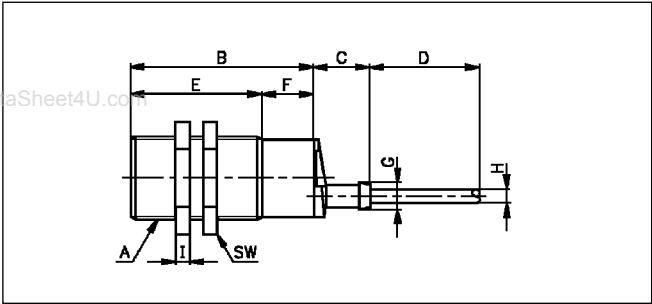
## Specifications

|                                                                |                                                                    |                                                      |                                                                                      |
|----------------------------------------------------------------|--------------------------------------------------------------------|------------------------------------------------------|--------------------------------------------------------------------------------------|
| <b>Rated operational volt. (U<sub>a</sub>) (U<sub>B</sub>)</b> | 17 to 27 VDC<br>15 to 30 VDC (ripple included)                     | <b>Ambient temperature</b><br>Operating<br>Storage   | -15° to +65°C (+5° to +144°F)<br>-20° to +70°C (-4° to +158°F)                       |
| <b>Ripple</b>                                                  | ≤ 10%                                                              | <b>Degree of protection</b>                          | IP 67<br>(Nema 1, 3, 4, 6, 13)                                                       |
| <b>Rated operational current (I<sub>a</sub>)</b>               | 0 to 20 mA<br>(R load: 0 to 500 Ω)<br>Max. 30 mA (current limiter) | <b>Housing material</b><br>Body<br>Front<br><br>Back | Nickel-plated brass<br>Blue thermoplastic polyester<br>Black thermoplastic polyester |
| <b>No-load supply current (I<sub>o</sub>)</b>                  | ≤ 7 mA (no load)                                                   | <b>Cable</b>                                         | 2 m, 3 x 0.25 mm <sup>2</sup> grey PVC, oil proof                                    |
| <b>Protection</b>                                              | Reverse polarity current limiter                                   | <b>Weight (cable included)</b>                       | EI 1805 I020 85 g<br>EI 3008 I020 195 g                                              |
| <b>Transient voltage</b>                                       | ≤ 2 kV/0.5 J (prepared)                                            | <b>Tightening torque</b>                             | EI 1805 I020 17.5 Nm<br>EI 3008 I020 35.0 Nm                                         |
| <b>Power ON delay</b>                                          | Safe operation after 1 s                                           | <b>CE-marking</b>                                    | Yes                                                                                  |
| <b>Rate of rise</b>                                            | EI 1805 I020 ≥ 1 mm/ms<br>EI 3008 I020 ≥ 3 mm/ms                   |                                                      |                                                                                      |
| <b>Assured operating dist. (S<sub>a</sub>)</b>                 | EI 1805 I020 2 to 5 mm<br>EI 3008 I020 3 to 8 mm                   |                                                      |                                                                                      |
| <b>Linearity</b>                                               | ±3% of full scale                                                  |                                                      |                                                                                      |
| <b>Repeat accuracy (R)</b>                                     | ≤ 1%                                                               |                                                      |                                                                                      |
| <b>Temperature drift</b>                                       | EI 1805 I020 ≤ 2 µm/°C per mm<br>EI 3008 I020 ≤ 1 µm/°C per mm     |                                                      |                                                                                      |



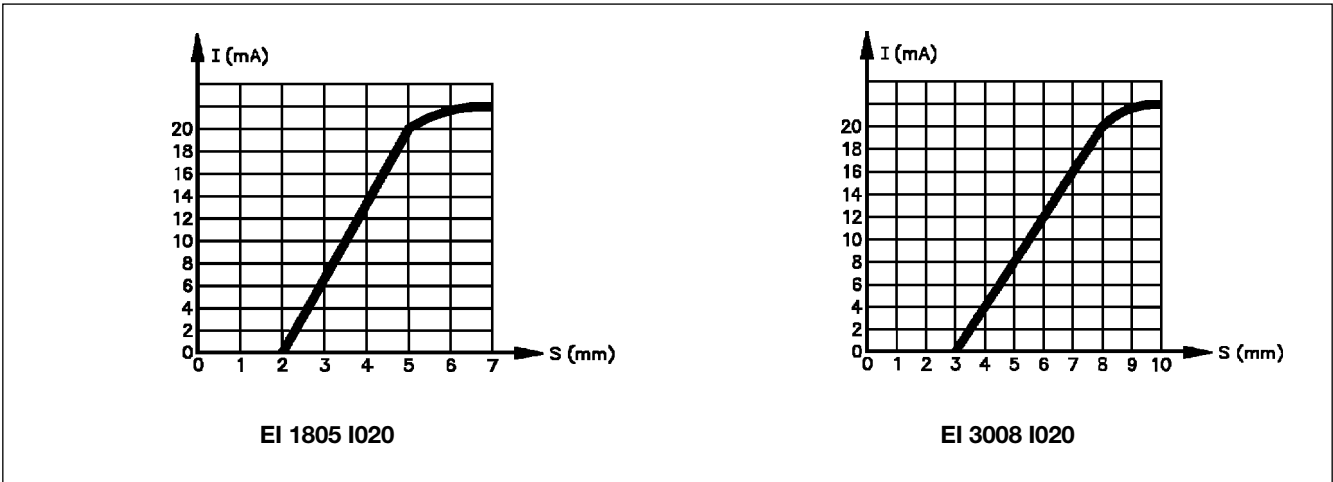
Dimensions

| Type         | A          | B<br>mm | C<br>mm | D<br>mm | E<br>mm | F<br>mm | G<br>mm | H<br>Ø mm | I<br>mm | SW<br>mm |
|--------------|------------|---------|---------|---------|---------|---------|---------|-----------|---------|----------|
| EI 1805 I020 | M 18 x 1   | 71      | 20.5    | 2000    | 52      | 19      | 10      | 5.2       | 4       | 24       |
| EI 3008 I020 | M 30 x 1.5 | 67      | 20.5    | 2000    | 48      | 19      | 10      | 5.2       | 5       | 36       |



EI .... I020

Output curves



Wiring Diagram

Refer to "Wiring Diagrams",  
Technical information.

Installation Hints

Refer to "Installation Hints",  
Technical information.

Power Supplies

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