

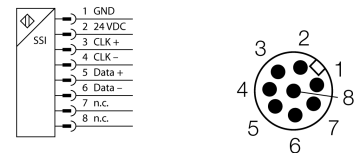
**Inductive linear position sensor**  
**Li100P0-Q25LM0-HESG25X3-H1181**



- Rectangular, aluminium / plastic
- Versatile mounting possibilities
- LED indicates measuring range
- Immune to electromagnetic interferences
- Extremely short blind zones
- Signal propagation delay: 150 µs (synchronized), jitter < 5 µs required on the master side
- 15...30 VDC
- Male M12 x 1, 8-pin
- SSI output
- 25 bit, Gray-coded, synchronous
- SSI clock rate: 62.5 kHz ... 1 MHz

|   |   |
|---|---|
| <b>Type code</b>                            | Li100P0-Q25LM0-HESG25X3-H1181   |
| Ident no.                                   | 1590201   |
| <b>Measuring range [A...B]</b>              | 100mm   |
| Resolution                                  | 0,001 mm  |
| blind zone a                                | 29 mm   |
| blind zone b                                | 29 mm   |
| Reproducibility                             | ≤ 10 µm   |
| Linearity deviation                         | ≤ 0.1 %   |
| Temperature drift                           | ≤ ± 0.0001 % / K  |
| Ambient temperature                         | -25...+70 °C  |
| <b>Operating voltage</b>                    | 15...30VDC  |
| Residual ripple                             | ≤ 10 % U <sub>ss</sub>  |
| No-load current I <sub>0</sub>              | ≤ 50 mA   |
| Rated insulation voltage                    | ≤ 0.5 kV  |
| Short-circuit protection                    | yes   |
| Wire breakage / Reverse polarity protection | yes/ yes (voltage supply)   |
| Output function                             | 8-wire, SSI, 25 Bit, Gray, synchronous  |
| Process data area                           | Bit 0 ... Bit 19  |
| Diagnostic bits                             | Bit 21: Positioning element left the measuring range and is outside the detectable area.<br>Bit 22: Positioning element is in the measuring range, lower signal quality (e.g. distance too large)<br>Bit 23: Positioning element is outside the measuring range<br>Bit 24: synchronous operation active |
| Sample rate                                 | 5000 Hz<br>The sensor's sampling rate depends on the master's SSI cycle time. Sampling rate 1...5 KHz in synchronized operating mode  |
| <b>Design</b>                               | rectangular, Q25L   |
| Dimensions                                  | 158 x 35 x 25 mm  |
| Housing material                            | aluminium   |
| Material active area                        | Plastic, FRIANYL B63V0GV  |
| Connection                                  | male, M12 x 1   |
| Vibration resistance                        | 55 Hz (1 mm)  |
| Shock resistance                            | 30 g (11 ms)  |
| Protection class                            | IP67  |
| MTTF  | 138 years   |
| <b>Power-on indication</b>                  | LED green   |
| Measuring range display                     | multifunction LED, green, yellow, yellow flashing   |

**Wiring diagram**



**Functional principle**

The measuring principle of inductive angle sensors is based on oscillation circuit coupling between the positioning element and the sensor. The output signal provided is proportional to the angle of the positioning element. The rugged sensors are wear and maintenance-free, thanks to the contactless operating principle. They convince through their excellent repeatability, resolution and linearity within a broad temperature range. Thanks to the innovative technology, electromagnetic AC and DC fields have no influence on the measured signal.

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## Mounting instructions / Description



A broad range of accessories allows the device to be mounted in many different ways. Based on the functional principle of RLC coupling, the sensor is immune to magnetized metal splinters and other interferences.

### LED indications:

#### green steady:

Positioning element is in the measuring range

#### yellow steady:

Positioning element has reached the end of the measuring range. This is indicated by a lower signal quality, see status bit 22.

#### yellow flashing:

Positioning element is outside the coverage, see status bit 23

#### off:

Positioning element is outside the programmed measuring range (only with teachable versions)

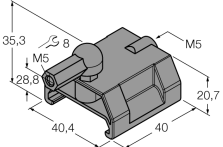
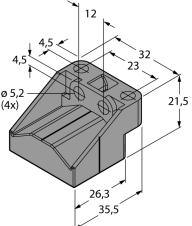
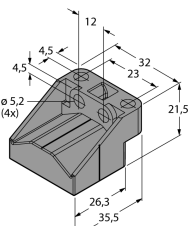
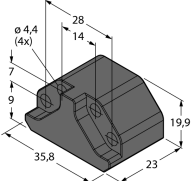
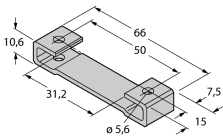


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**Accessories**

| Type code  | Ident no. | Description  | Dimension drawing   |
|------------|-----------|--|---|
| P1-Li-Q25L | 6901041   | Guided positioning element for Li-Q25L, inserted in the sensor guide.  |    |
| P2-Li-Q25L | 6901042   | Floating positioning element for Li-Q25L; The nominal distance to the sensor is 2 mm; Pairing with the linear position sensor at a distance of up to 5 mm; Misalignment tolerance of up to 4 mm.                   |    |
| P3-Li-Q25L | 6901044   | Floating positioning element for Li-Q25L; Operational at an offset of 90°; Nominal distance to sensor 2 mm; Pairing with linear position sensor at a distance of up to 5 mm; misalignment tolerance of up to 4 mm. |  |
| P6-Li-Q25L | 6901069   | Floating positioning element for Li-Q25L; The nominal distance to the sensor is 2 mm; Pairing with the linear position sensor at a distance of up to 5 mm; Misalignment tolerance of up to 4 mm.                   |  |
| M1-Q25L    | 6901045   | Mounting foot for linear position sensor Q25L; aluminium; 2 pcs. per bag   |  |

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**Accessories**

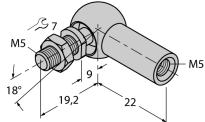
| Type code | Ident no. | Description  | Dimension drawing |
|-----------|-----------|--|-------------------|
| M2-Q25L   | 6901046   | Mounting foot for linear position sensor Q25L; aluminium; 2 pcs. per bag                           |                   |
| M4-Q25L   | 6901048   | Mounting bracket for linear position sensor Q25L; material Stainless steel; 2 pcs. per bag         |                   |
| MN-M4-Q25 | 6901025   | Sliding block with M4 thread for the backside profile of the Q25L; material Brass; 10 pcs. per bag |                   |
| AB-M5     | 6901057   | Axial joint for Li-Q25L specific guided positioning elements                                       |                   |
| ABVA-M5   | 6901058   | Axial joint for guided positioning element, stainless steel  |                   |

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**Accessories**

| Type code | Ident no. | Description   | Dimension drawing   |
|-----------|-----------|---|---|
| RBVA-M5   | 6901059   | Angle joint for guided positioning element, stainless steel |  |