Inductive Linear Position Sensor
IO-Link
LI1000P0-Q25LM0-ELIUPN8X3-H1151

Type designation: LI1000P0-Q25LM0-ELIUPN8X3-H1151
Ident-No.: 1590611

Measuring principle
- Inductive

Measuring range: 1000 mm
Resolution: 0.015 mm/16 bit
Nominal distance: 1.5 mm
Blind zone a: 29 mm
Blind zone b: 29 mm
Reproducibility: ≤ 36 µm
Linearity deviation: ≤ 0.035 % f.s.
Temperature drift: ≤ ± 0.003 % / K
Hysteresis: not applied
Ambient temperature: -25…+70 °C

Operating voltage
- 15…30 VDC
- Residual ripple: ≤ 10 % Uss
- Isolation test voltage: ≤ 0.5 kV
- Wire breakage/Reverse polarity protection: yes/Complete
- Output function:
  - 5-pin, NO/NC, PNP/NPN, analog output, IO-Link
  - Switching output or IO-Link mode
  - analog or switching output
- Voltage output:
  - 0...10V
- Current output:
  - 4...20 mA
  - programmable via IO-Link
- Load resistance voltage output: ≥ 4.7 kΩ
- Load resistance, current output: ≤ 0.4 kΩ
- Sample rate: 1000 Hz
- Current consumption: < 50 mA

IO-Link Specification
- IO-Link specified acc. to version 1.0
- Programming: FDT / DTM
- Process data width: 16 bit
- Frame type: 2.2

Design
- Profile: Q25L
- Dimensions: 1058 x 35 x 25 mm
- Housing material: Aluminum/plastic, PA6-GF30, Anodized
- Active area material: Plastic, PA6-GF30
- Electrical connection: Connector, M12 x 1
- Vibration resistance: 55 Hz (1 mm)
- Shock resistance: 30 g (11 ms)
- Protection class: IP67
- MTTF: 138 years acc. to SN 29500 (Ed. 99) 40 °C
- Packaging unit: 1

Power-on indication
- LED Green
- Measuring range display: multifunction LED, green, yellow, yellow flashing

Rectangular, aluminium / plastic
Versatile mounting possibilities
Measuring range indicated via LED
Immune to electromagnetic interferences
Extremely short blind zones
Programmable measuring range
16 bit resolution
15…30 VDC
Analog output, factory setting 0…10 V
All functions programmable via IO-Link / PACTware
4 programmable switching zones
Programmable current and voltage output functions
NC / NO programmable functions, available as NPN or PNP version
Process value 16 bit IO-Link telegram
M12 x 1 male, 5-pin

Wiring Diagram

Functional principle
The measuring principle of linear position sensors is based on RLC coupling between the positioning element and the sensor, whereby an output signal is provided proportionally to the position of the positioning element. The rugged sensors are wear and tear-free, thanks to the contactless operating principle. They convince through their excellent repeatability, resolution and linearity within a broad temperature range. The innovative technology ensures a high immunity to electromagnetic DC and AC fields.
Mounting instructions/Description

Extensive mounting accessories provide various options for installation. The measuring principle of RLC coupling makes the sensor immune to magnetized metal splinters and other interference fields.

LED indications
- green: positioning element is in the measuring range
- yellow: positioning element is in the measuring range, the distance is too large. This is indicated by a weaker signal
- yellow flashing: positioning element is outside the coverage.
- off: positioning element is outside the programmed area (only with teachable versions)

Teaching
In addition to the setting via IO-link or PACTware, the start and end point of the measuring range can be set by pressing the button at the teachadapter. Moreover there is the possibility to invert the course of the output curve.
- Bridge pin 5 and pin 1 for 10 s = factory setting
- Bridge pin 5 and pin 3 for 10 s = factory setting inverted
- Bridge pin 5 and pin 3 for 2 s = sets start value of measuring range
- Bridge pin 5 and pin 1 for 2 s = sets end value of measuring range
## Accessories

<table>
<thead>
<tr>
<th>Type code</th>
<th>Ident-No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>P2-LI-Q25L</td>
<td>6901042</td>
<td>Floating positioning element for Li-Q25L; the nominal distance to the sensor is 1.5 mm; pairing with the linear position sensor at a distance of up to 5 mm or misalignment tolerance of up to 4 mm.</td>
</tr>
<tr>
<td>P3-LI-Q25L</td>
<td>6901044</td>
<td>Floating positioning element for Li-Q25L; Operational at an offset of 90°; Nominal distance to sensor 1.5mm; Pairing with linear position sensor at a distance of up to 5 mm; misalignment tolerance of up to 4 mm.</td>
</tr>
<tr>
<td>P6-LI-Q25L</td>
<td>6901069</td>
<td>Floating positioning element for Li-Q25L; The nominal distance to the sensor is 1.5mm; Pairing with the linear position sensor at a distance of up to 5 mm; Misalignment tolerance of up to 4 mm.</td>
</tr>
<tr>
<td>P7-LI-Q25L</td>
<td>6901087</td>
<td>Guided positioning element for Li-Q25L without ball joint</td>
</tr>
</tbody>
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<tbody>
<tr>
<td>M1-Q25L</td>
<td>6901045</td>
<td>Mounting foot for linear position sensor Q25L; aluminium; 2 pcs. per bag</td>
</tr>
<tr>
<td>M2-Q25L</td>
<td>6901046</td>
<td>Mounting foot for linear position sensor Q25L; aluminium; 2 pcs. per bag</td>
</tr>
<tr>
<td>M4-Q25L</td>
<td>6901048</td>
<td>Mounting bracket for linear position sensor Q25L; material: Stainless steel; 2 pcs. per bag</td>
</tr>
<tr>
<td>MN-M4-Q25</td>
<td>6901025</td>
<td>Sliding block with M4 thread for the backside profile of the Q25L; material: galvanized steel; 10 pcs. per bag</td>
</tr>
<tr>
<td>AB-M5</td>
<td>6901057</td>
<td>Axial joint for Li-Q25SL specific guided positioning elements</td>
</tr>
</tbody>
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<td>ABVA-M5</td>
<td>6901058</td>
<td>Axial joint for guided positioning element, stainless steel</td>
</tr>
<tr>
<td>RBVA-M5</td>
<td>6901059</td>
<td>Angle joint for guided positioning element, stainless steel</td>
</tr>
<tr>
<td>USB-2-IOL-0002</td>
<td>6825482</td>
<td>IO-Link Master with integrated USB port</td>
</tr>
</tbody>
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