

LI400P0-Q25LM0-IOLX3-H1141

Inductive Linear Position Sensor – IO-Link



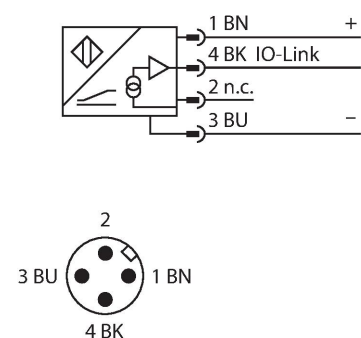
Technical data

Type	LI400P0-Q25LM0-IOLX3-H1141
ID	100012827
Measuring principle	Inductive
General data	
Measuring range	400 mm
Nominal distance	1.5 mm
Blind zone a	29 mm
Blind zone b	29 mm
Repeat accuracy	≤ 0.02 % of full scale
Linearity deviation	≤ 0.05 % f.s. also under the influence of shock and vibration
Temperature drift	≤ ± 0.0001 %/K
Hysteresis	omitted as a matter of principle
Electrical data	
Operating voltage U_B	15...30 VDC
Ripple U_{ss}	≤ 10 % U_{Bmax}
Isolation test voltage	0.5 kV
Short-circuit protection	yes
Wire break/reverse polarity protection	yes (voltage supply)
Communication protocol	IO-Link
Diagnostic	Positioning element not within detection range via diagnostic bit
Sample rate	5000 Hz
Current consumption	< 100 mA
IO-Link	
IO-Link specification	V 1.1
Programming	FDT/DTM
Communication mode	COM 3 (230.4 kBaud)

Features

- Rectangular, aluminium / plastic
- Versatile mounting possibilities
- Measuring range displayed via LED
- Immune to electromagnetic interference
- Extremely short blind zones
- Process value in 32-bit IO-Link telegram
- 15...30 VDC
- M12 × 1 male connector, 4-pin

Wiring diagram



Functional principle

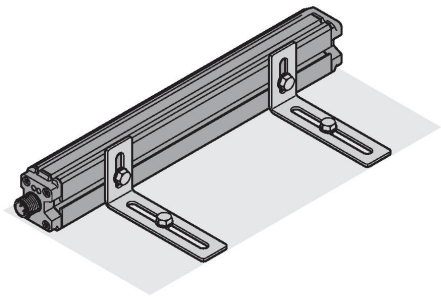
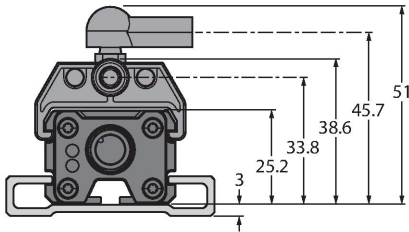
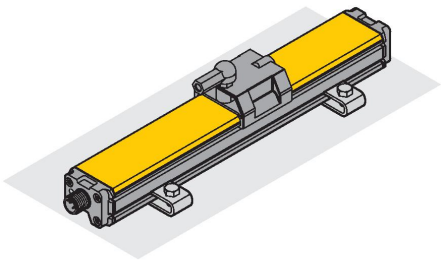
The measuring principle of linear position sensors is based on RLC coupling between the positioning element and the sensor, whereby an output signal is provided proportional to the position of the positioning element. The rugged sensors are wear and tear-free, thanks to the contactless operating principle. 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.

Technical data

Process data width	32 bit
Minimum cycle time	1 ms
Function pin 4	IO-Link
Mechanical data	
Design	Profile, Q25L
Dimensions	458 x 35 x 25 mm
Housing material	Aluminum/plastic, PA6-GF30, Anodized
Active area material	Plastic, PA6-GF30
Electrical connection	Connector, M12 × 1
Environmental conditions	
Ambient temperature	-25...+70 °C
Vibration resistance (EN 60068-2-6)	20 g; 1.25 h/axis; 3 axes
Shock resistance (EN 60068-2-27)	200 g; 4 ms ½ sine
Protection class	IP67
MTTF	138 years acc. to SN 29500 (Ed. 99) 20 °C
Power-on indication	LED, Green
Measuring range display	multifunction LED, green, yellow, yellow flashing

Mounting instructions

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 indicates measuring range

Green:
Positioning element is within the measuring range

Yellow:
Positioning element is within the measuring range, low signal intensity (e.g. distance too large)

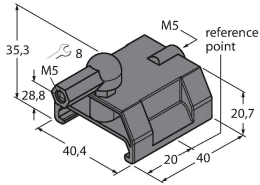
Yellow flashing:
Positioning element is outside the detection range

Accessories

P1-LI-Q25L

6901041

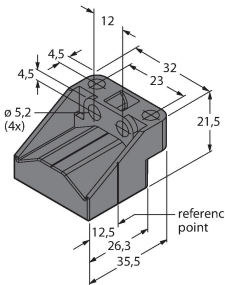
Guided positioning element for linear position sensors LI-Q25L, inserted in the groove of the sensor



P2-LI-Q25L

6901042

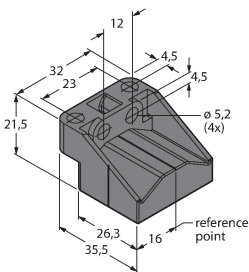
Floating positioning element for linear position sensors LI-Q25L; the nominal distance to the sensor is 1.5 mm; pairing with the linear position sensor at a distance of up to 5 mm or misalignment tolerance of up to 4 mm.



P3-LI-Q25L

6901044

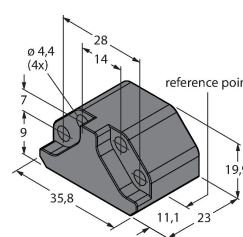
Floating positioning element for LI-Q25L linear position sensors; operational at an offset of 90°; nominal distance to sensor 1.5 mm; pairing with linear position sensor at a distance of up to 5 mm; misalignment tolerance of up to 4 mm



P6-LI-Q25L

6901069

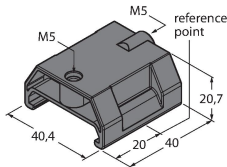
Floating positioning element for linear position sensors LI-Q25L; the nominal distance to the sensor is 1.5 mm; pairing with the linear position sensor at a distance of up to 5 mm or misalignment tolerance of up to 4 mm.



P7-LI-Q25L

6901087

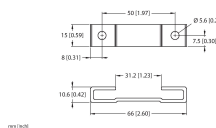
Guided positioning element for linear position sensors LI-Q25L, without ball joint



M1-Q25L

6901045

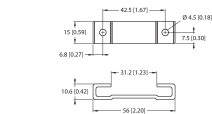
Mounting foot for linear position sensors LI-Q25L; material: aluminum; 2 pcs. per bag



M2-Q25L

6901046

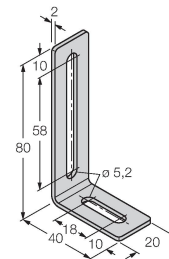
Mounting foot for linear position sensors LI-Q25L; material: aluminum; 2 pcs. per bag



M4-Q25L

6901048

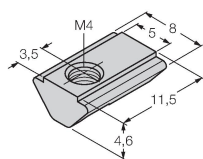
Mounting bracket and sliding block for linear position sensors LI-Q25L; material: Stainless steel; 2 pcs. per bag



MN-M4-Q25

6901025

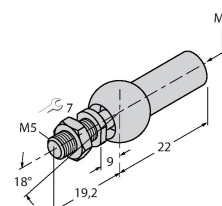
Sliding block with M4 thread for the backside profile of the LI-Q25L; material: galvanized steel; 10 pcs. per bag



AB-M5

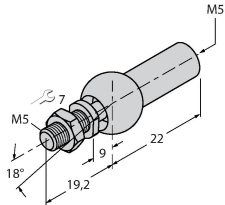
6901057

Axial Joint for Guided Positioning Elements



ABVA-M5 6901058

Axial joint for guided positioning
element, stainless steel

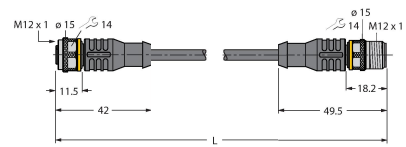
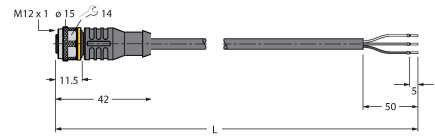


RBVA-M5 6901059

Angle joint for guided positioning
element, stainless steel



Accessories

Dimension drawing	Type	ID	
	RKC4T-2-RSC4T/TXL	6625604	Extension cable, M12 female connector, straight, 3-pin to M12 male connector, straight, 3-pin; cable length: 2 m, jacket material: PUR, black; cULus approval
	RKC4T-2/TXL	6625500	Connection cable, M12 female connector, straight, 3-pin, cable length: 2 m, jacket material: PUR, black; cULus approval