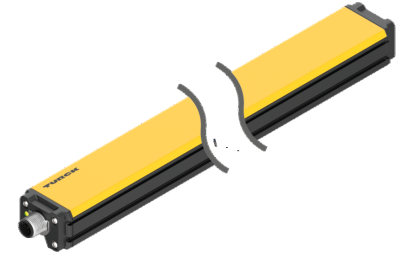


LI300P0-Q25LM0-ELIU5X3-H1151

Inductive Linear Position Sensor



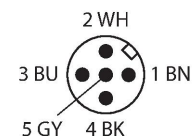
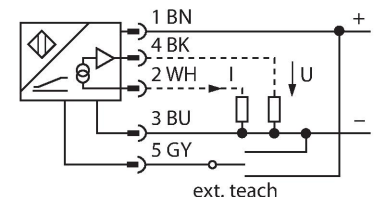
Technical data

Type	LI300P0-Q25LM0-ELIU5X3-H1151
ID	100001934
Measuring principle	Inductive
General data	
Measuring range	300 mm
Resolution	16 bit
Nominal distance	1.5 mm
Blind zone a	29 mm
Blind zone b	29 mm
Repeat accuracy	$\leq 0.02\%$ of full scale
Linearity deviation	$\leq 0.07\%$ f.s. also under the influence of shock and vibration
Temperature drift	$\leq \pm 0.003\%/K$
Hysteresis	omitted as a matter of principle
Electrical data	
Operating voltage U_B	15...30 VDC
Ripple U_{ss}	$\leq 10\%$ U_{Bmax}
Isolation test voltage	0.5 kV
Short-circuit protection	yes
Wire break/reverse polarity protection	yes/yes (voltage supply)
Output function	5-pin, Analog output
Voltage output	0...10 V
Current output	4...20 mA
Diagnostic	Positioning element not within detection range: Output signal 24 mA or 11 V

Features

- Rectangular, aluminium / plastic
- Versatile mounting possibilities
- Measuring range displayed via LED
- Immune to electromagnetic interference
- Extremely short blind zones
- Resolution, 16-bit
- 4-wire, 15...30 VDC
- Analog output
- Programmable measuring range
- 0...10 V and 4...20 mA, improved machine safety possible through redundancy
- M12 × 1 connector, 5-pin

Wiring diagram



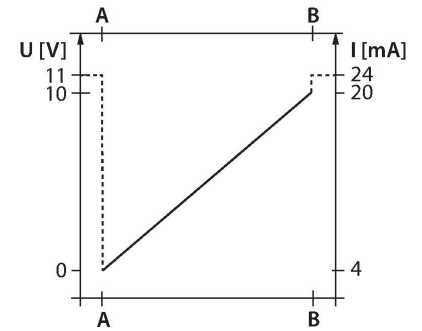
Functional principle

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 proportional to the

Technical data

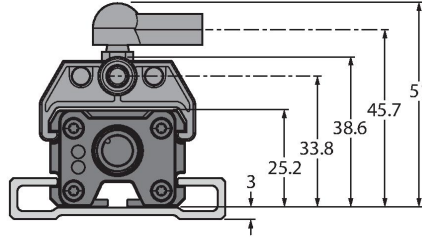
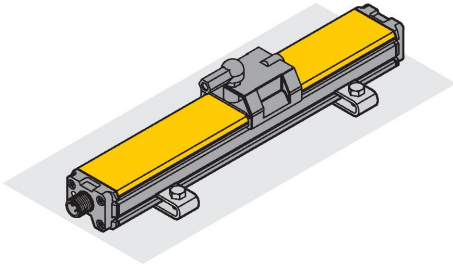
Load resistance voltage output	$\geq 4.7 \text{ k}\Omega$
Load resistance current output	$\leq 0.4 \text{ k}\Omega$
Sample rate	5000 Hz
Current consumption	< 100 mA
Mechanical data	
Design	Profile, Q25L
Dimensions	358 x 35 x 25 mm
Housing material	Aluminum/plastic, PA6-GF30, Anodized
Active area material	Plastic, PA6-GF30
Electrical connection	Connector, M12 x 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	IP66 IP67
MTTF	138 years acc. to SN 29500 (Ed. 99) 40 °C
Power-on indication	LED, Green
Measuring range display	multifunction LED, green, yellow, yellow flashing
UL certificate	E210608

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

Mounting instructions/Description



Extensive mounting accessories provide various options for installation. Due to the measuring principle, which is based on the functional principle of an RLC coupling, the linear position sensor is immune to magnetized metal splinters and other interferences.

Status display via LED

Green:

Sensor is supplied properly

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

Off:

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

Teaching

The start and end point of the measuring range are set by pressing the button on the teach adapter. Moreover there is the possibility of inverting the course of the output curve.

Zero/Span

Bridge pin 5 and pin 3 for 2 s = sets start value of measuring range

After 2 seconds the green LED is illuminated continuously

Bridge pin 5 and pin 1 for 2 s = sets end value of measuring range

After 2 seconds the green LED is illuminated continuously

Factory setting

Bridge pin 5 and pin 1 for 10 s = factory setting

After 10 seconds the green LED flashes green

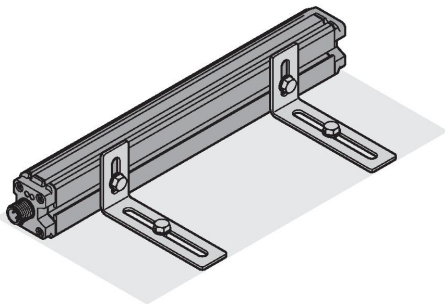
Bridge pin 5 and pin 3 for 10 s = factory setting inverted

After 10 seconds the green LED flashes green

Optional:

Bridge pin 5 and pin 1 for 30 s = teach lock active/inactive

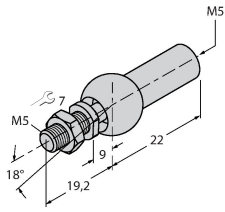
After 30 s. the flashing changes to fast flashing
The configured settings do not need to be locked using the teach lock because as a general rule they are saved in the sensor's non-volatile memory even after power is lost. The teach lock is recommended in situations where it is necessary to prevent subsequent alteration of the parameters.



ABVA-M5

6901058

Axial joint for guided positioning
element, stainless steel



RBVA-M5

6901059

Angle joint for guided positioning
element, stainless steel

