

# LC, LF, LS sealed linear encoders

## With slimline scale housing

Sealed linear encoders with **slimline scale housing** are primarily used where installation space is limited.

Absolute linear encoders of the **LC 400** series provide the **absolute position value** without any previous traverse required. Like the **LS 400** series incremental linear encoders, their high accuracy and defined thermal behavior make them especially well suited for use on **numerically controlled machine tools**.

The incremental encoders of the **LF** type feature measuring standards with relatively fine grating periods. This makes them particularly attractive for applications requiring very **high repeatability**.

The **LS 300** series incremental linear encoders are used for simple positioning tasks, for example on **manual machine tools**.

### LC 400 series

- **Absolute position measurement**
- Defined thermal behavior
- Single-field scanning

### LS 400 series

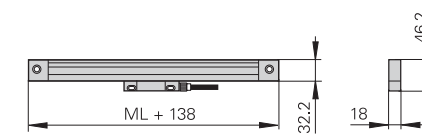
- **Incremental position measurement**
- Defined thermal behavior
- Single-field scanning

### LF 485

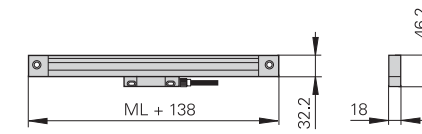
- **Very high repeatability**
- Thermal behavior similar to steel or cast iron
- Single-field scanning

### LS 300 series

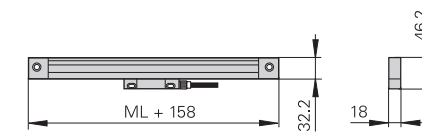
- **Typically for manual machines**



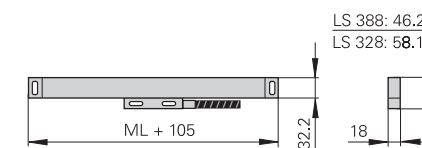
LC 400



LS 400



LF 485



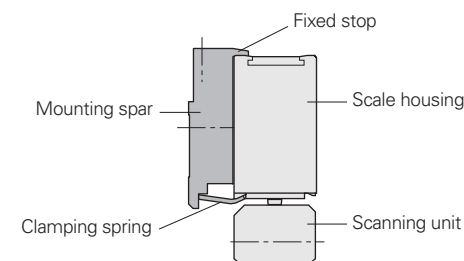
LS 300



### Simple installation with mounting spar

The use of a mounting spar can be of great benefit when mounting slimline linear encoders. It can be fastened as part of the machine assembly process. The encoder is then simply clamped on during final mounting. Easy exchange also facilitates servicing.

Moreover, installation with a mounting spar significantly improves the encoder's acceleration behavior.



	<b>Absolute</b> LC 415 LC 495 F/M/S <sup>1)</sup>	<b>Incremental</b> LF 485	LS 487 LS 477	LS 388 C LS 328 C
<b>Measuring standard</b>	DIADUR glass scale	SUPRADUR phase grating on steel	DIADUR glass scale	DIADUR glass scale
Grating period	20 µm	8 µm	20 µm	20 µm
<b>Interface</b>	LC 415: EnDat 2.2 LC 495: Fanuc αi/Mitsubishi/Siemens DRIVE-CLiQ	~ 1 V <sub>PP</sub>	LS 487: ~ 1 V <sub>PP</sub> LS 477: □ □ TTL	LS 388 C: ~ 1 V <sub>PP</sub> LS 328 C: □ □ TTL
Signal period	–	4 µm	LS 487: 20 µm LS 477: 4 µm/2 µm <sup>2)</sup>	20 µm
<b>Accuracy grade</b>	± 5 µm, ± 3 µm	± 5 µm, ± 3 µm		± 10 µm
<b>Measuring lengths ML</b>	Up to 2040 mm <sup>3)</sup>	Up to 1220 mm	Up to 2040 mm <sup>3)</sup>	Up to 1240 mm
<b>Reference mark</b>	–	One or distance-coded		Distance-coded

<sup>1)</sup> Available upon request    <sup>2)</sup> Integrated interpolation 5/10-fold  
<sup>3)</sup> Over ML 1240 mm only with mounting spar or tensioning elements