

LC, LF, LS Sealed Linear Encoders with slimline scale housing

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

Absolute linear encoders of the **LC 400** series provide the **absolute position value** without any previous traverse required. Incremental signals can also be provided. 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 487

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

LF 481

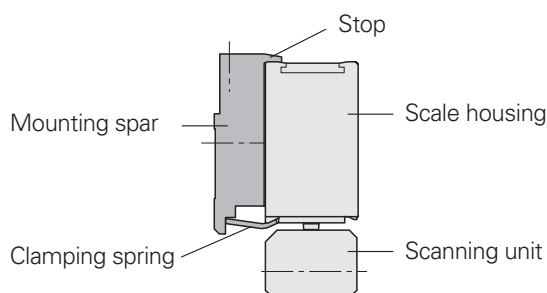
- **Very high repeatability**
- Thermal behavior similar to steel or cast iron
- Single-field scanning

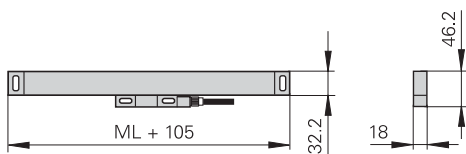
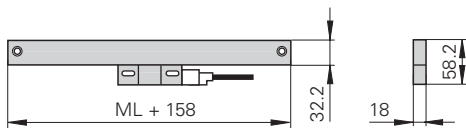
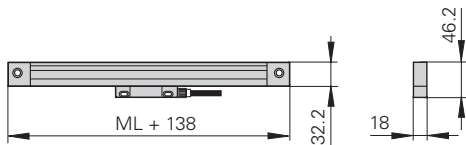
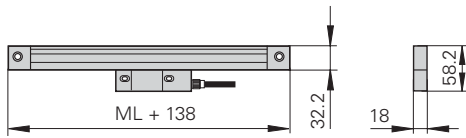
LS 300 Series

- **Typically for manual machines**

Simple installation with mounting spar

The use of a mounting spar can be of great benefit when mounting slimline linear encoders. They 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.





| | Absolute | Incremental | | |
|-----------------------------------|-------------------------------------|-------------------------------|--|--|
| | LC 483 LC 493 F/M | LF 481 | LS 487 LS 477 | LS 388C LS 328C |
| Measuring standard | DIADUR glass scale | DIADUR phase grating on steel | DIADUR glass scale | DIADUR glass scale |
| Incremental signals | Optional for LC 483 | $\sim 1 V_{PP}$ | LS 487: $\sim 1 V_{PP}$ LS 477: \square TTL | LS 388C: $\sim 1 V_{PP}$ LS 328C: \square TTL |
| Signal period | 20 μm | 4 μm | 20 μm LS 477: 4 $\mu m/2 \mu m$ | 20 μm |
| Absolute position values | EnDat 2.2 Fanuc/Mitsubishi | - | | |
| Accuracy grade | $\pm 5 \mu m, \pm 3 \mu m$ | $\pm 3 \mu m, \pm 2 \mu m$ | | $\pm 10 \mu m$ |
| Recommended measuring step | 0.05 to 0.005 μm ¹⁾ | 1 to 0.1 μm | 1 to 0.1 μm | LS 388C: to 1 μm LS 328C: 5 μm |
| Meas. lengths ML | 70 to 2040 mm ²⁾ | 50 to 1220 mm | 70 to 2040 mm ²⁾ | 70 to 1240 mm |
| Reference mark | - | One or distance-coded | | Distance-coded |

¹⁾ Absolute position values ²⁾ over ML 1240 mm only with mounting spar or tensioning element

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República Dominicana – Uruguay – Venezuela.]



Calle 49 N° 5764 - Villa Ballester (B1653AOX) - Prov. de Buenos Aires - ARGENTINA
Tel: (+54 11) 4768-4242 / Fax: (+54 11) 4849-1212
Mail: ventas@nakase.com.ar / Web: www.nakase.com.ar

