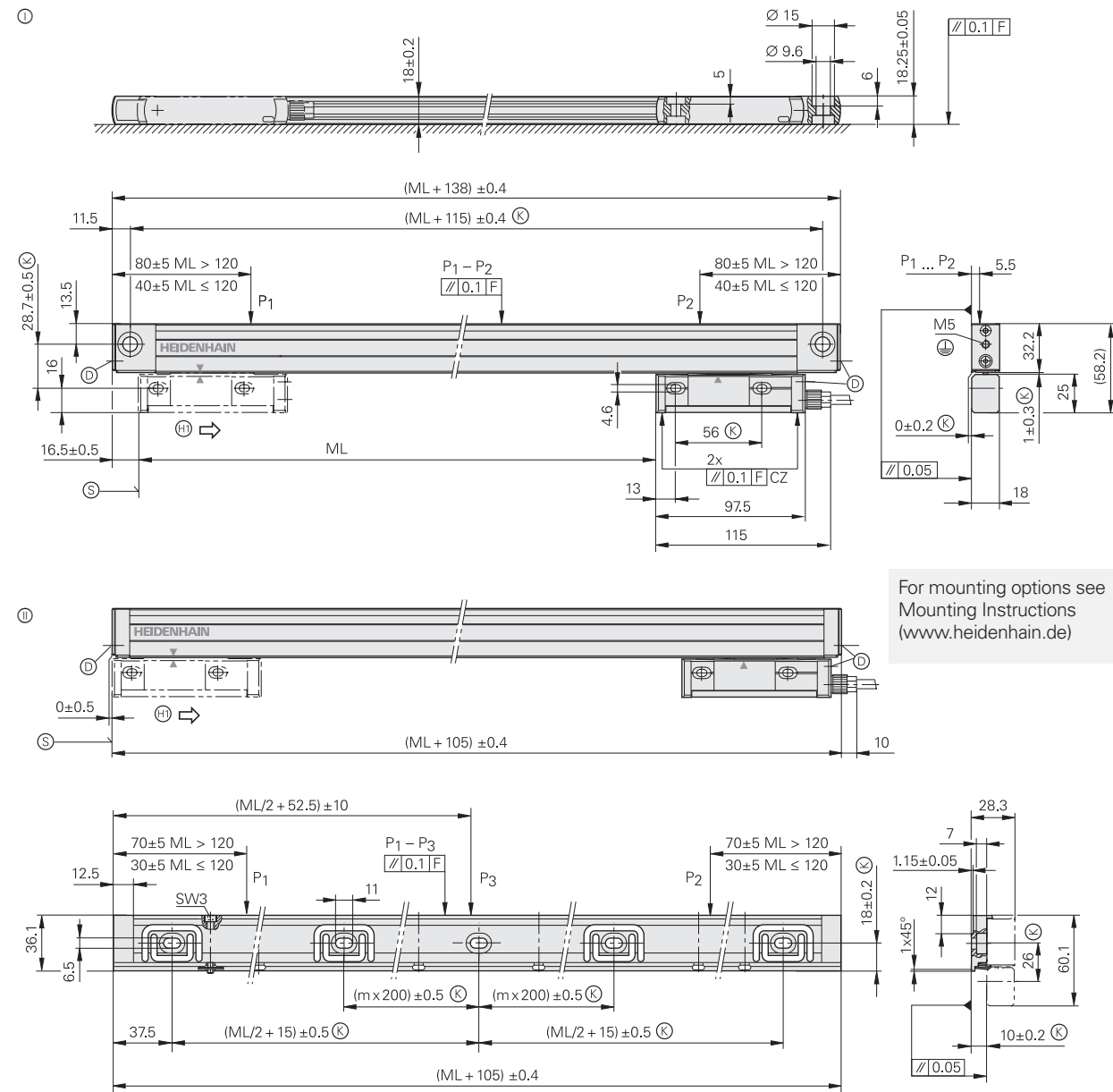


# LC 400 series

- Absolute linear encoders for measuring steps to 0.1 μm (resolution to 0.005 μm)
- For limited installation space
- Up to two additional scanning units are possible



mm  
 Tolerancing ISO 8015  
 ISO 2768 - m H  
 < 6 mm: ±0.2 mm

- ⊖ = Without mounting spar (with M8 screws)
- ⊕ = Mounting with mounting spar (LC 483 with short end pieces shown; LC with normal end pieces can also be mounted)
- F = Machine guideway
- P = Gauging points for alignment  
 ML ≤ 820 P<sub>1</sub> - P<sub>2</sub>  
 ML > 820 P<sub>1</sub> - P<sub>3</sub>
- ⊗ = Required mating dimensions
- ⊙ = Compressed air inlet
- ⊖ = Beginning of measuring length (ML) at 20 mm
- ⊙ = Direction of scanning unit motion for output signals in accordance with interface description

| Mounting spar | ML            | m |
|---------------|---------------|---|
|               | 70 ... 520    | 0 |
|               | 570 ... 920   | 1 |
|               | 1020 ... 1340 | 2 |
|               | 1440 ... 1740 | 3 |
|               | 1840 ... 2040 | 4 |



LC 483 without mounting spar

LC 483 with mounting spar

| Specifications  | LC 483   | LC 493F                   | LC 493M  |
|---|--|---------------------------|--|
| <b>Measuring standard</b><br>Coefficient of linear expansion                              | DIADUR glass scale with absolute track and incremental track<br>$\alpha_{\text{therm}} \approx 8 \times 10^{-6} \text{ K}^{-1}$ (mounting type ⊖); with mounting spar: $\alpha_{\text{therm}} \approx 9 \times 10^{-6} \text{ K}^{-1}$ (mounting type ⊕) |                           |  |
| <b>Accuracy grade*</b>  | ± 3 μm; ± 5 μm   |                           |  |
| <b>Measuring length ML* in mm</b>   | Mounting spar* or clamping elements* optional<br>70 120 170 220 270 320 370 420 470 520 570 620 670 720<br>770 820 870 920 1020 1140 1240<br>Mounting spar* or clamping elements* required<br>1340 1440 1540 1640 1740 1840 2040                         |                           |  |
| <b>Absolute position values*</b>  | EnDat 2.2<br>Ordering designation EnDat 02   | Fanuc 02 serial interface | Mitsubishi high speed serial interface, Mit 02-4 or Mitsu 01 |
| <b>Resolution</b><br>Accuracy ± 3 μm<br>Accuracy ± 5 μm                                   | 0.005 μm<br>0.01 μm  | 0.01 μm<br>0.05 μm        |  |
| <b>Calculation time t<sub>cal</sub></b><br>EnDat 2.1 command set<br>EnDat 2.2 command set | < 1 ms<br>≤ 5 μs   | -<br>-                    |  |
| <b>Incremental signals</b>  | ~ 1 V <sub>PP</sub> <sup>1)</sup>  | -                         |  |
| <b>Grating period/signal period</b>   | 20 μm  | -                         |  |
| <b>Cutoff frequency</b>   | -3dB   | ≥ 150 kHz                 | -  |
| <b>Power supply</b><br>Without load   | 3.6 to 5.25 V / < 300 mA   |                           |  |
| <b>Electrical connection</b>  | Separate adapter cable (1 m/3 m/6 m/9 m) connectable to mounting block   |                           |  |
| <b>Cable length<sup>2)</sup></b>  | ≤ 150 m; depending on the interface and subsequent electronics   | ≤ 30 m                    | ≤ 20 m   |
| <b>Traversing speed</b>   | ≤ 180 m/min  |                           |  |
| <b>Required moving force</b>  | ≤ 5 N  |                           |  |
| <b>Vibration</b> 55 to 2000 Hz  | Without mounting spar: ≤ 100 m/s <sup>2</sup> (EN 60068-2-6)<br>With mounting spar and cable outlet at right/left: ≤ 200 m/s <sup>2</sup> /100 m/s <sup>2</sup> (EN 60068-2-6)   |                           |  |
| <b>Shock</b> 11 ms<br><b>Acceleration</b>   | ≤ 300 m/s <sup>2</sup> (EN 60068-2-27)<br>≤ 100 m/s <sup>2</sup> in measuring direction  |                           |  |
| <b>Operating temperature</b>  | 0 °C to 50 °C  |                           |  |
| <b>Protection</b> EN 60529  | IP 53 when mounted according to the instructions and mounting information<br>IP 64 if compressed air is connected via DA 400   |                           |  |
| <b>Weight</b>   | Encoder: 0.2 kg + 0.5 kg/m measuring length, mounting spar: 0.9 kg/m   |                           |  |

\* Please select when ordering  
<sup>1)</sup> Depending on the adapter cable

<sup>2)</sup> With HEIDENHAIN cable