



| Specifications   | LC 183   | LC 193F                                  | LC 193M  |
|--|--|--|--|
| <b>Measuring standard</b><br>Expansion coefficient   | DIADUR glass scale with absolute track and incremental track<br>$\alpha_{\text{therm}} \approx 8 \times 10^{-6} \text{ K}^{-1}$                    |  |  |
| <b>Accuracy grade*</b>   | $\pm 3 \mu\text{m}$ (up to measuring length 3040); $\pm 5 \mu\text{m}$   |  |  |
| <b>Measuring length ML*</b> in mm  | 140 240 340 440 540 640 740 840 940 1040 1140 1240 1340 1440<br>1540 1640 1740 1840 2040 2240 2440 2640 2840 3040 3240 3440 3640 3840<br>4040 4240 |  |  |
| <b>Absolute position values*</b>   | EnDat 2.2<br><i>Ordering designation</i> EnDat 02  | Fanuc 02 serial interface                | Mitsubishi high speed serial interface, Mit 02-4 or Mitsu 01 |
| Resolution<br><i>Accuracy <math>\pm 3 \mu\text{m}</math></i><br><i>Accuracy <math>\pm 5 \mu\text{m}</math></i> | 0.005 $\mu\text{m}$<br>0.01 $\mu\text{m}$  | 0.01 $\mu\text{m}$<br>0.05 $\mu\text{m}$ |  |
| Calculation time $t_{\text{cal}}$<br><i>EnDat 2.1 command set</i><br><i>EnDat 2.2 command set</i>              | < 1 ms<br>$\leq 5 \mu\text{s}$   | –<br>–                                   |  |
| <b>Incremental signals</b>   | $\sim 1 \text{ V}_{\text{PP}}^{1)}$  | –  |  |
| Grating period/signal period   | 20 $\mu\text{m}$   | –  |  |
| Cutoff frequency –3dB  | $\geq 150 \text{ kHz}$   | –  |  |
| <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 either side of mounting block  |  |  |
| <b>Cable length<sup>2)</sup></b>   | $\leq 150 \text{ m}$ ; depending on the interface and subsequent electronics   | $\leq 30 \text{ m}$                      | $\leq 20 \text{ m}$  |
| <b>Traversing speed</b>  | $\leq 180 \text{ m/min}$   |  |  |
| <b>Required moving force</b>   | $\leq 4 \text{ N}$   |  |  |
| <b>Vibration</b> 55 to 2000 Hz<br><b>Shock</b> 11 ms<br><b>Acceleration</b>                                    | $\leq 200 \text{ m/s}^2$ (IEC 60068-2-6)<br>$\leq 300 \text{ m/s}^2$ (IEC 60068-2-27)<br>$\leq 100 \text{ m/s}^2$ in measuring direction           |  |  |
| <b>Operating temperature</b>   | 0 °C to 50 °C (starting from ML 3240 mm, the storage temperature is restricted to –10 °C to +50 °C)  |  |  |
| <b>Protection</b> IEC 60529  | IP 53 when mounted according to the mounting instructions<br>IP 64 if compressed air is connected via DA 300                                       |  |  |
| <b>Weight</b>  | 0.4 kg + 3.3 kg/m measuring length   |  |  |

\* Please indicate when ordering

<sup>1)</sup> Depending on the adapter cable

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