





Specifications	LC 183	LC 193F	LC 193M
<b>Measuring standard</b> Expansion coefficient	DIADUR glass scale with absolute track and incremental track $\alpha_{\text{therm}} \approx 8 \times 10^{-6} \text{ K}^{-1}$		
<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 1540 1640 1740 1840 2040 2240 2440 2640 2840 3040 3240 3440 3640 3840 4040 4240		
<b>Absolute position values*</b>	EnDat 2.2 <i>Ordering designation</i> EnDat 02	Fanuc 02 serial interface	Mitsubishi high speed serial interface, Mit 02-4 or Mitsu 01
Resolution <i>Accuracy <math>\pm 3 \mu\text{m}</math></i> <i>Accuracy <math>\pm 5 \mu\text{m}</math></i>	0.005 $\mu\text{m}$ 0.01 $\mu\text{m}$	0.01 $\mu\text{m}$ 0.05 $\mu\text{m}$	
Calculation time $t_{\text{cal}}$ <i>EnDat 2.1 command set</i> <i>EnDat 2.2 command set</i>	< 1 ms $\leq 5 \mu\text{s}$	– –	
<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> 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 <b>Shock</b> 11 ms <b>Acceleration</b>	$\leq 200 \text{ m/s}^2$ (IEC 60068-2-6) $\leq 300 \text{ m/s}^2$ (IEC 60068-2-27) $\leq 100 \text{ m/s}^2$ 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 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



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