



Specifications	LS 187	LS 177															
Measuring standard Coefficient of linear expansion	Glass scale with DIADUR grating, grating period 20 µm $\alpha_{\text{therm}} \approx 8 \times 10^{-6} \text{ K}^{-1}$																
Accuracy grade*	± 3 µm; ± 5 µm																
Measuring length ML* in mm	140 1540	240 1640	340 1740	440 1840	540 2040	640 2240	740 2440	840 2640	940 2840	1040 3040	1140	1240	1340	1440			
Reference marks* <i>LS 1x7</i> <i>LS 1x7C</i>	Selectable with magnets every 50 mm, standard setting: 1 reference mark in the center Distance-coded																
Interface	~ 1 V _{PP}				□TTL												
Integrated interpolation* Signal period	– 20 µm				5-fold 4 µm		10-fold 2 µm			20-fold 1 µm							
Diagnostics interface	Analog				–												
Cutoff frequency –3 dB	≥ 160 kHz				–		–			–							
Scanning frequency* Edge separation a	–				100 kHz ≥ 0.5 µs		50 kHz ≥ 1 µs		100 kHz ≥ 0.25 µs		50 kHz ≥ 0.5 µs		25 kHz ≥ 1 µs		50 kHz ≥ 0.25 µs		25 kHz ≥ 0.5 µs
Measuring step	Depends on interpolation				1 µm ¹⁾		0.5 µm ¹⁾			0.25 µm ¹⁾							
Electrical connection	Separate adapter cable (1 m/3 m/6 m/9 m) connectible to mounting block																
Cable length ²⁾	≤ 150 m				≤ 100 m												
Voltage supply without load	5 V DC ± 0.25 V / < 120 mA				5 V DC ± 0.25 V / < 140 mA												
Traversing speed	≤ 120 m/min				≤ 120 m/min		≤ 60 m/min		≤ 120 m/min		≤ 60 m/min		≤ 30 m/min		≤ 60 m/min		≤ 30 m/min
Required moving force	≤ 4 N																
Vibration 55 to 2000 Hz Shock 11 ms Acceleration	≤ 200 m/s ² (EN 60068-2-6) ≤ 400 m/s ² (EN 60068-2-27) ≤ 60 m/s ² in measuring direction																
Operating temperature	0 °C to +50 °C																
Protection EN 60529	IP 53 when mounted according to the instructions and mounting information IP 64 if compressed air is connected via DA 400																
Weight	0.4 kg + 2.3 kg/m measuring length																

* Please select when ordering

¹⁾ After 4-fold evaluation in the subsequent electronics

²⁾ With HEIDENHAIN cable