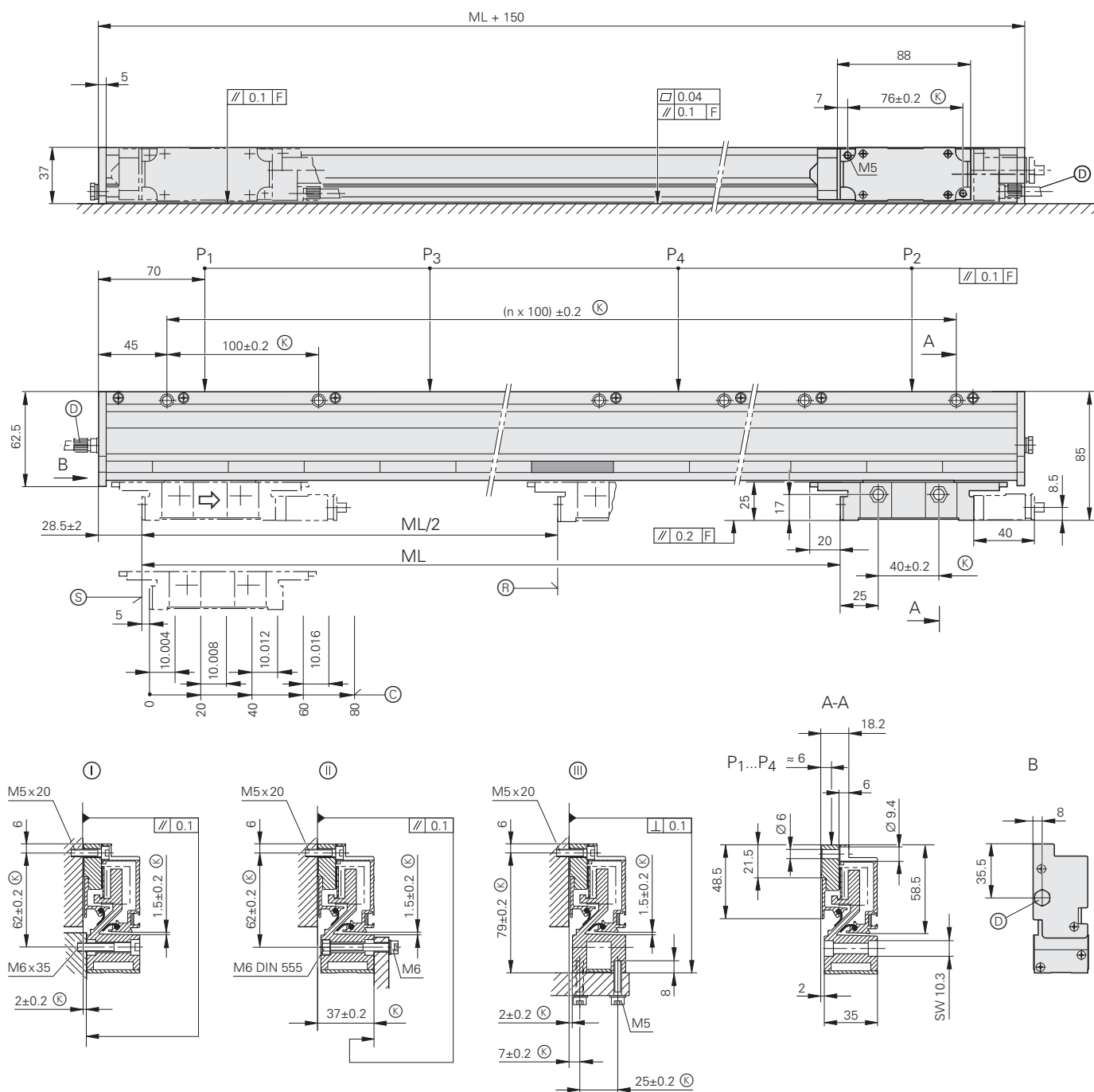


LF 183

- **Incremental linear encoder for measuring steps to 0.1 μm**
- **Thermal behavior similar to steel or cast iron**
- **High vibration rating**
- **Horizontal mounting possible**



Dimensions in mm



Tolerancing ISO 8015

ISO 2768 - m H

< 6 mm: ± 0.2 mm

- , ⊙,
 ⊕ = Mounting options
 F = Machine guideway
 P = Gauging points for alignment
 ⊗ = Required mating dimensions
 ⊖ = Compressed air inlet
 ⊕ = Reference-mark position on LF 183
 ⊙ = Reference-mark position on LF 183C
 ⊕ = Beginning of measuring length (ML)
 ⇒ = Direction of scanning unit motion for output signals in accordance with interface description



Specifications	LF 183
Measuring standard Expansion coefficient	DIADUR phase grating on steel $\alpha_{\text{therm}} \approx 10 \times 10^{-6} \text{ K}^{-1}$
Accuracy grade*	$\pm 3 \mu\text{m}$; $\pm 2 \mu\text{m}$
Measuring length ML* 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
Incremental signals	$\sim 1 \text{ V}_{\text{pp}}$
Grating period Signal period	8 μm 4 μm
Reference marks* LF 183 LF 183C	Selectable with magnets every 50 mm Standard setting: 1 reference mark at midpoint of measuring length Distance-coded
Cutoff frequency -3dB	$\geq 200 \text{ kHz}$
Power supply without load	5 V $\pm 5 \%$ / < 200 mA
Electrical connection	Separate adapter cable (1 m/3 m/6 m/9 m) connectable to mounting block
Cable length ¹⁾	$\leq 150 \text{ m}$
Traversing speed	$\leq 60 \text{ m/min}$
Required moving force	$\leq 4 \text{ N}$
Vibration 55 to 2000 Hz Shock 11 ms Acceleration	$\leq 150 \text{ m/s}^2$ (IEC 60068-2-6) $\leq 300 \text{ m/s}^2$ (IEC 60068-2-27) $\leq 100 \text{ m/s}^2$ in measuring direction
Operating temperature	0 °C to 40 °C
Protection IEC 60529	IP 53 when mounted according to the mounting instructions IP 64 if compressed air is connected via DA 300
Weight	1.1 kg + 3.8 kg/m measuring length

* Please indicate when ordering
¹⁾ With HEIDENHAIN cable