



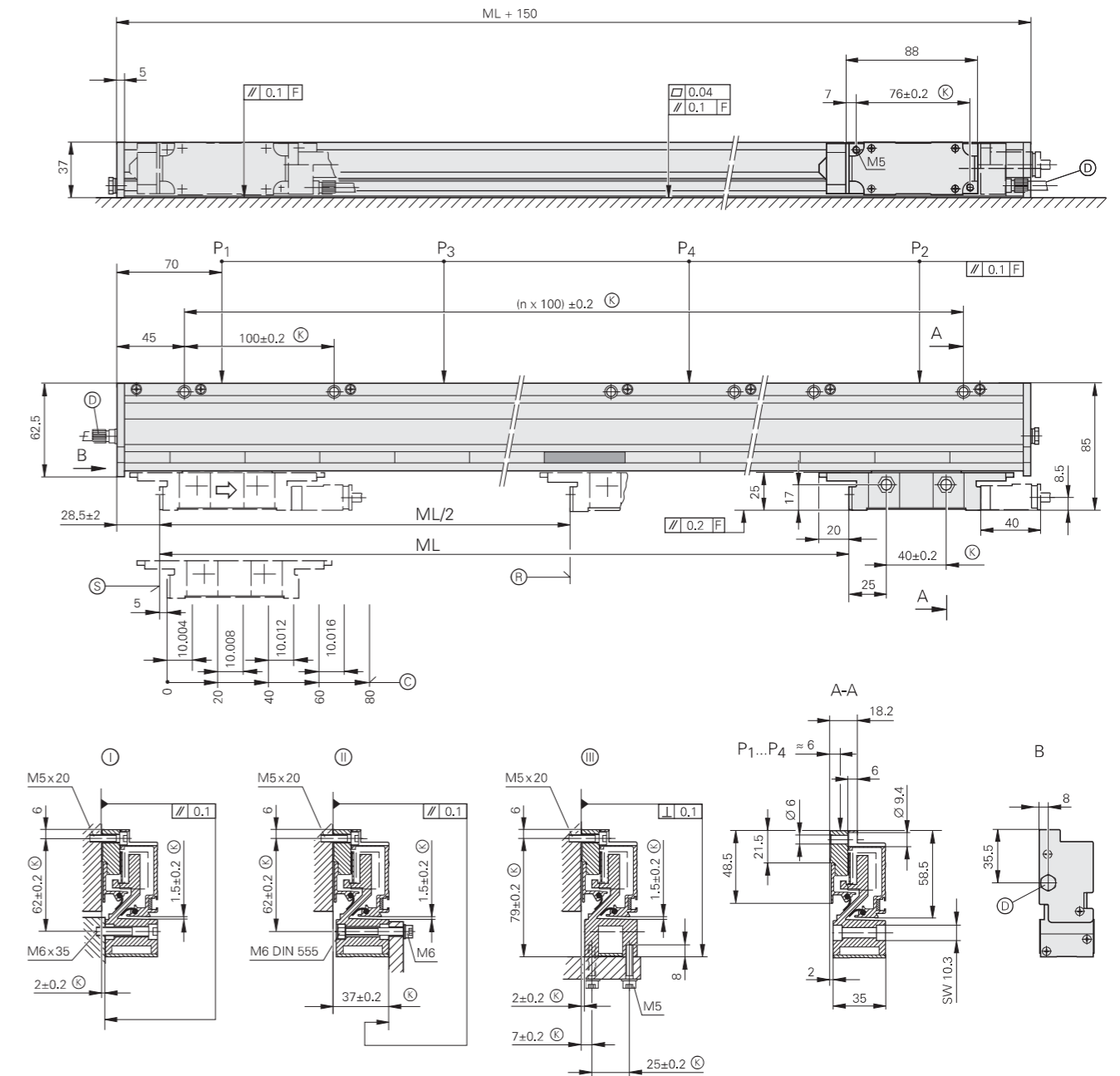
Specifications	LF 183
<b>Measuring standard</b> Expansion coefficient	DIADUR phase grating on steel $\alpha_{\text{therm}} \approx 10 \times 10^{-6} \text{ K}^{-1}$
<b>Accuracy grade*</b>	$\pm 3 \mu\text{m}; \pm 2 \mu\text{m}$
<b>Measuring length ML* in mm</b>	140 240 340 440 540 640 740 840 940 1040 1140 1240 1340 1440 1540 1640 1740 1840 2040 2240 2440 2640 2840 3040
<b>Incremental signals</b>	$\sim 1 \text{ V}_{\text{pp}}$
Grating period Signal period	8 $\mu\text{m}$ 4 $\mu\text{m}$
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	$\geq 200 \text{ kHz}$
<b>Power supply</b> without load	5 V $\pm 5 \%$ / < 200 mA
<b>Electrical connection</b>	Separate adapter cable (1 m/3 m/6 m/9 m) connectable to mounting block
<b>Cable length</b> <sup>1)</sup>	$\leq 150 \text{ m}$
<b>Traversing speed</b>	$\leq 60 \text{ m/min}$
<b>Required moving force</b>	$\leq 4 \text{ N}$
<b>Vibration</b> 55 to 2000 Hz <b>Shock</b> 11 ms <b>Acceleration</b>	$\leq 150 \text{ m/s}^2$ (IEC 60068-2-6) $\leq 300 \text{ m/s}^2$ (IEC 60068-2-27) $\leq 100 \text{ m/s}^2$ in measuring direction
<b>Operating temperature</b>	0 °C to 40 °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>	1.1 kg + 3.8 kg/m measuring length

\* Please indicate when ordering

<sup>1)</sup> With HEIDENHAIN cable

## LF 183

- Incremental linear encoder for measuring steps to 0.1  $\mu\text{m}$
- 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:  $\pm 0.2 \text{ mm}$

Ⓜ, Ⓜ

Ⓜ = 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