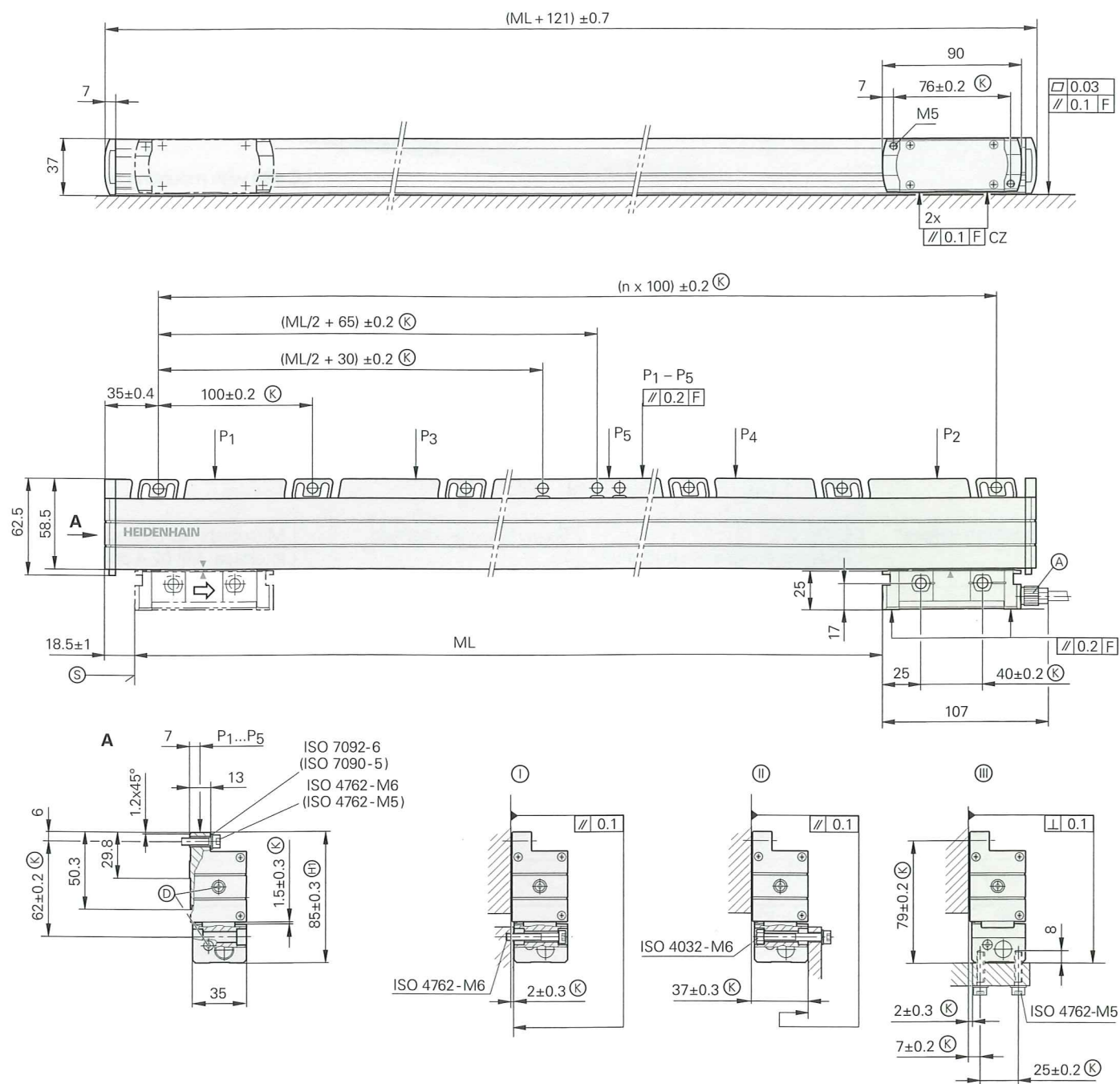


LC 100 Series

- Absolute linear encoders for measuring steps to 0.1 μm (resolution to 0.005 μm)
- High vibration rating
- Horizontal mounting possible
- Up to two additional scanning units are possible



Dimensions in mm



Tolerancing ISO 8015
ISO 2768 - m H
< 6 mm: ±0.2 mm

- ⓪, ①, ② = Mounting options
- F = Machine guideway
- P = Gauging points for alignment
- Ⓐ = Cable connection usable at either end
- Ⓢ = Required mating dimensions
- Ⓣ = Compressed air inlet usable at either end
- Ⓤ = Beginning of measuring length (ML)
- Ⓦ = Alternative mating dimensions
- ⇒ = Direction of scanning unit motion for output signals in accordance with interface description



Specifications	LC 183	LC 193F	LC 193M
Measuring standard Expansion coefficient	DIADUR glass scale with absolute track and incremental track $\alpha_{\text{therm}} \approx 8 \times 10^{-6} \text{ K}^{-1}$		
Accuracy grade*	± 3 μm (up to measuring length 3040); ± 5 μm		
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 3240 3440 3640 3840 4040 4240		
Absolute position values*	EnDat 2.2 Ordering designation EnDat 02	Fanuc 02 serial interface	Mitsubishi high speed serial interface, Mit 02-4 or Mitsu 01
Resolution Accuracy ± 3 μm Accuracy ± 5 μm	0.005 μm 0.01 μm	0.01 μm 0.05 μm	
Calculation time t_{cal} EnDat 2.1 command set EnDat 2.2 command set	< 1 ms ≤ 5 μs	— —	
Incremental signals	~ 1 V _{PP} ¹⁾	—	
Grating period/signal period	20 μm	—	
Cutoff frequency	-3dB ≥ 150 kHz	—	
Power supply without load	3.6 to 5.25 V / < 300 mA		
Electrical connection	Separate adapter cable (1 m/3 m/6 m/9 m) connectable to either side of mounting block		
Cable length²⁾	≤ 150 m; depending on the interface and subsequent electronics	≤ 30 m	≤ 20 m
Traversing speed	≤ 180 m/min		
Required moving force	≤ 4 N		
Vibration 55 to 2000 Hz Shock 11 ms Acceleration	≤ 200 m/s ² (IEC 60068-2-6) ≤ 300 m/s ² (IEC 60068-2-27) ≤ 100 m/s ² in measuring direction		
Operating temperature	0 °C to 50 °C (starting from ML 3240 mm, the storage temperature is restricted to -10 °C to +50 °C)		
Protection IEC 60529	IP 53 when mounted according to the mounting instructions IP 64 if compressed air is connected via DA 300		
Weight	0.4 kg + 3.3 kg/m measuring length		

* Please indicate when ordering
1) Depending on the adapter cable
2) With HEIDENHAIN cable