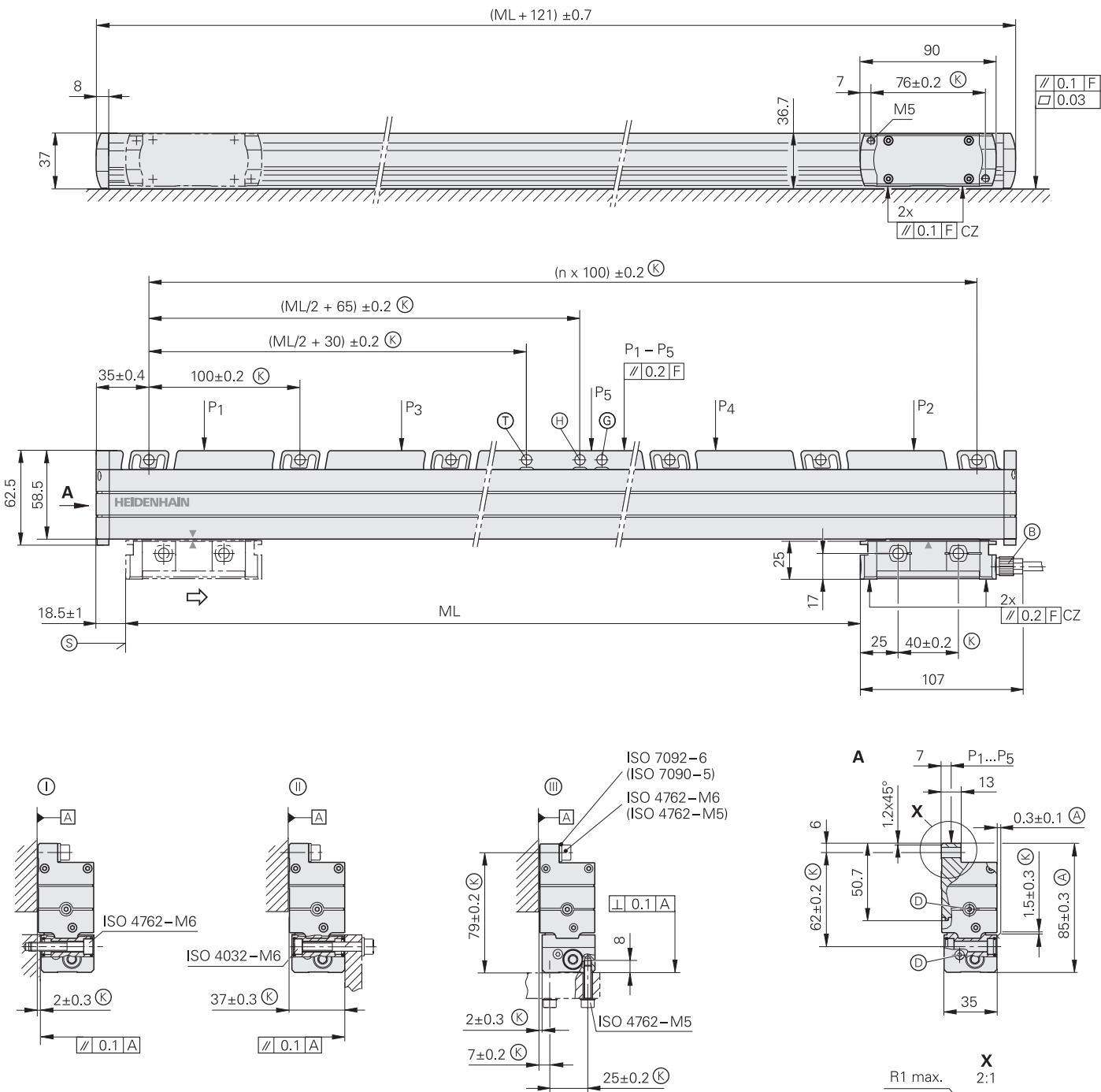


LC 100 series

Absolute linear encoders with full-size scale housing

- High vibration tolerance
- Flat-lying installation possible
- High reliability through double sealing lips



mm
Tolerancing ISO 8015
ISO 2768:1989-mH
≤ 6 mm: ±0.2 mm

- ①, ②, ③ = Mounting options
- F = Machine guideway
- P = Measuring points for alignment
- ⊗ = Required mating dimensions
- ⓐ = Alternative mating dimensions
- ⓑ = Cable connection, usable on either side
- ⓒ = Compressed air inlet usable on either side
- ⓓ = Mechanical fixed point (to be preferred)
- ⓔ = Mechanical fixed point, compatible to predecessor model
- ⓕ = Mechanical fixed point, with spacing interval of 100 mm
- ⓖ = Beginning of measuring length (ML) (= 20 mm absolute)
- ⓗ = Mating surfaces
- ⇒ = Direction of motion of the scanning unit for ascending position values

LC 100 series

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Specifications	LC 195 S 	LC 195 S
Measuring standard Coefficient of linear expansion	DIADUR glass scale with absolute track and incremental track; grating period: 20 µm $\alpha_{\text{therm}} \approx 8 \cdot 10^{-6} \text{ K}^{-1}$	
Accuracy grade*	±3 µm up to a measuring length of 3040 mm; ±5 µm (typical interpolation error: ±20 nm)	
Measuring length ML* in mm	140 240 340 440 540 640 740 840 940 1040 1140 1240 1340	
Functional safety for applications with up to	• SIL 2 as per EN 61508 • Category 3, PL d as per EN ISO 13849-1:2015	–
PFH (per axis)	$\leq 25 \cdot 10^{-9}$; ML > 3040 mm: $\leq 40 \cdot 10^{-9}$ (up to 1000 m above sea level)	–
Safe position ¹⁾	Encoder: ±550 µm; ML > 3040 mm: ±2050 µm (safety-related measuring step SM = 220 µm)	–
	Mechanical connection: fault exclusions for loosening of the housing and scanning unit (page 21)	
Interface	DRIVE-CLiQ	
Ordering designation	DQ01	
Measuring step At ±3 µm At ±5 µm	0.001 µm 0.010 µm	
Clock frequency (calculation time t_{cal})	–	
Measurement of direct-drive motor temperature²⁾	–	
Electrical connection	Separate adapter cable (1 m / 3 m / 6 m / 9 m), connectable at either end of mounting block	
Cable length	$\leq 30 \text{ m}^{3)}$	
Supply voltage	DC 10 V to 28.8 V	
Power consumption (maximum)	10 V: $\leq 1.5 \text{ W}$; 28.8 V: $\leq 1.7 \text{ W}$	
Traversing speed	$\leq 180 \text{ m/min}$ (max. acceleration $\leq 100 \text{ m/s}^2$)	
Required moving force	$\leq 4 \text{ N}$	
Vibration 55 Hz to 2000 Hz acting on Shock 11 ms	Housing: $\leq 200 \text{ m/s}^2$ (EN 60068-2-6) Scanning unit: $\leq 200 \text{ m/s}^2$ (EN 60068-2-6) $\leq 300 \text{ m/s}^2$ (EN 60068-2-27)	
Operating temperature	0 °C to 50 °C	
Protection EN 60529 ⁴⁾	IP53 when installed as per the instructions in the brochure; IP64 with sealing air from DA 400	
Mass	0.55 kg + 2.9 kg/m of measuring length	

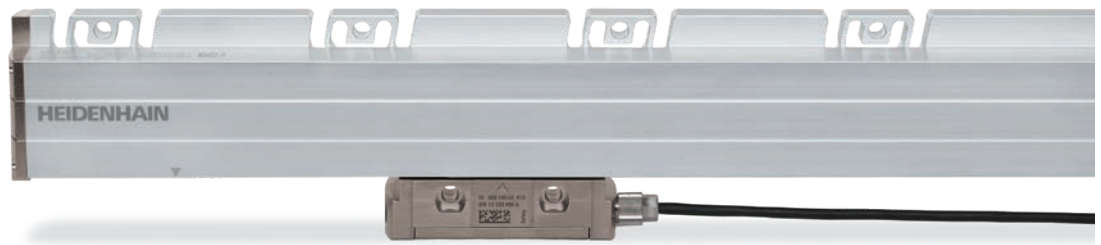
* Please select when ordering

¹⁾ Further tolerances may arise in the downstream electronics after position value comparison (contact mfr. of downstream electronics)

²⁾ Depending on the serial number index of the encoder; please consult HEIDENHAIN

³⁾ Greater cable lengths upon request

⁴⁾ In the application, protect the LC from the ingress of particles and liquids

[illegible]