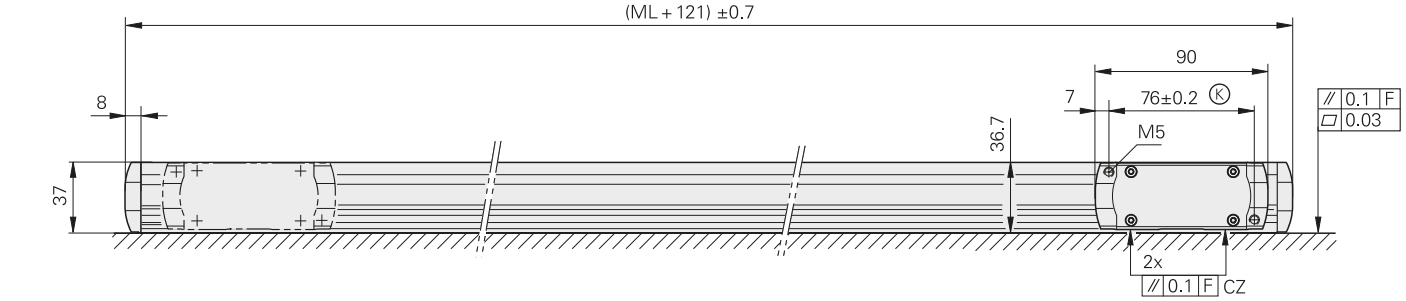
Specifications	LC 115 (Functional Safety)	LC 115	LC 185
Measuring standard Coefficient of linear expansion	DIADUR glass scale with absolute track and incremental track, grating period 20 µm $\alpha_{therm} \approx 8 \times 10^{-6}\ K^{-1}$		
Accuracy grade*	±3 µm up to 3040 mm measuring length; ±5 µm		
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		
Functional safety for applications up to	• SIL-2 according to EN 61 508 • Category 3, PL "d" according to EN ISO 13 849-1:2008	–	
PFH	15×10^{-9}; *ML > 3040 mm:* 25×10^{-9} (up to 6000 m above sea level)	–	
Safe position[1]	*Encoder:* ±550 µm; *ML > 3040 mm:* ±2050 µm (safety-related meas. step SM = 220 µm)	–	
	Mechanical connection: fault exclusions for loosening of the housing and scanning unit (page 21)		
Interface	EnDat 2.2		
Ordering designation	EnDat22		EnDat02
Measuring step *At ±3 µm* *At ±5 µm*	0.001 µm 0.010 µm		0.005 µm 0.010 µm
Clock freq. (calc. time t_{cal})	≤ 16 MHz (≤ 5 µs)		≤ 2 MHz (≤ 5 µs)
Incremental signals	–		~ 1 V_{PP} (20 µm)
Cutoff frequency –3 dB	–		≥ 150 kHz
Electrical connection	Separate adapter cable (1 m/3 m/6 m/9 m) connectable on both sides to mounting block		
Cable length	≤ 100 m[2]		≤ 150 m[2]
Voltage supply	DC 3.6 V to 14 V		
Power consumption (max.)	*3.6 V:* ≤ 1.1 W; *14 V:* ≤ 1.3 W		
Traversing speed	≤ 180 m/min (max. acceleration in measuring direction ≤ 100 m/s^2)		
Required moving force	≤ 4 N		
Vibration 55 Hz to 2000 Hz *effecting the* **Shock** 11 ms	*Housing:* ≤ 200 m/s^2 (EN 60068-2-6) *Scanning unit:* ≤ 200 m/s^2 (EN 60068-2-6) ≤ 300 m/s^2 (EN 60068-2-27)		
Operating temperature	0 °C to 50 °C		
Protection EN 60529[3]	IP53 when installed according to instructions in the brochure, IP64 with sealing air from DA 400		
Mass	0.55 kg + 2.9 kg/m measuring length		

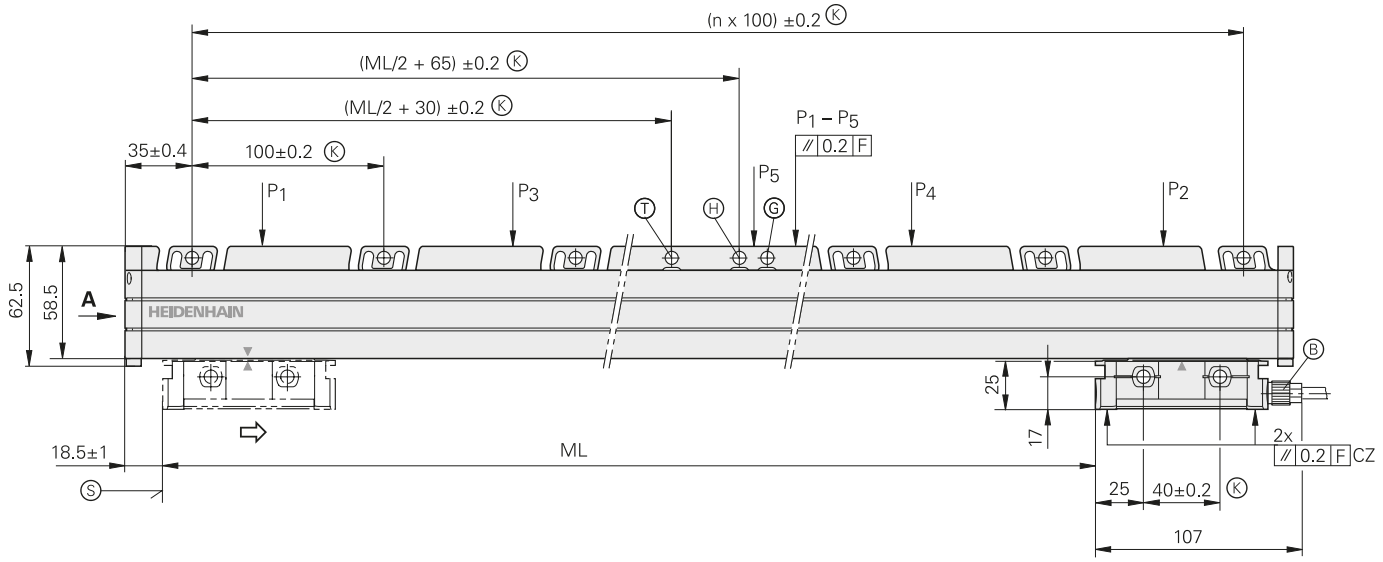
***** Please select when ordering
[1] Further tolerances may occur in subsequent electronics after position value comparison (contact manufacturer of subsequent electronics)
[2] With HEIDENHAIN cable; cock frequency ≤ 8 MHz
[3] In the application the LC must be protected from the intrusion of particles and liquids

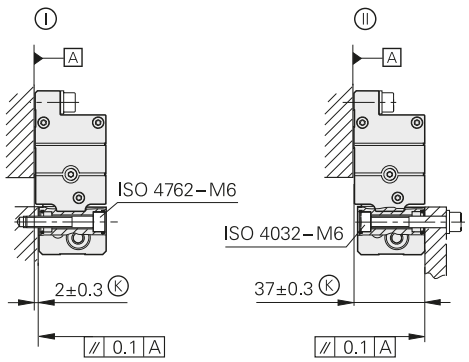
LC 100 series

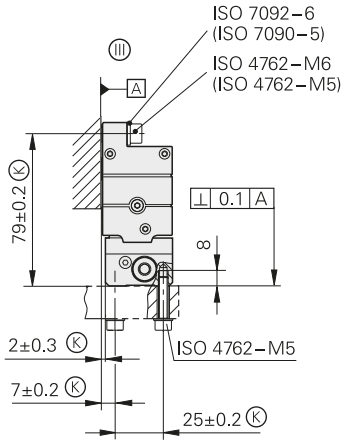
Absolute linear encoders with full-size scale housing

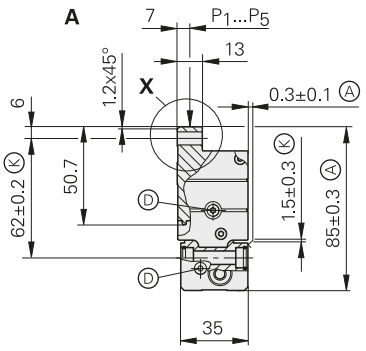
- **High vibration resistance**
- **Reclining mounting possible**
- **High reliability through double sealing lips**

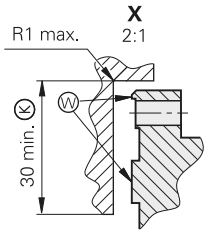












mm

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

Ⅰ, Ⅱ,
Ⅲ = Mounting options
F = Machine guideway
P = Gauging points for alignment
Ⓚ = Required mating dimensions
Ⓐ = Alternative mating dimensions
Ⓑ = Cable connection usable at either end
Ⓓ = Compressed-air connection usable at either end
Ⓣ = 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 scanning unit motion for output signals in accordance with interface description