




Specifications	LC 115 	LC 115	LC 185																																										
Measuring standard Coefficient of linear expansion	DIADUR glass scale with absolute track and incremental track, grating period 20 µm $\alpha_{\text{therm}} \approx 8 \times 10^{-6} \text{ K}^{-1}$																																												
Accuracy grade*	±3 µm up to 3040 mm measuring length; ±5 µm																																												
Measuring length ML* in mm	<table border="1"> <tr> <td>140</td><td>240</td><td>340</td><td>440</td><td>540</td><td>640</td><td>740</td><td>840</td><td>940</td><td>1040</td><td>1140</td><td>1240</td><td>1340</td><td>1440</td> </tr> <tr> <td>1540</td><td>1640</td><td>1740</td><td>1840</td><td>2040</td><td>2240</td><td>2440</td><td>2640</td><td>2840</td><td>3040</td><td>3240</td><td>3440</td><td>3640</td><td>3840</td> </tr> <tr> <td>4040</td><td>4240</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>			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												
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Functional safety for applications up to	<ul style="list-style-type: none"> SIL-2 according to EN 61 508 Category 3, PL "d" according to EN ISO 13 849-1:2008 	–																																											
PFH	15×10^{-9} ; <i>ML > 3040 mm:</i> 25×10^{-9} (up to 6000 m above sea level)	–																																											
Safe position ¹⁾	<i>Encoder:</i> ±550 µm; <i>ML > 3040 mm:</i> ±2050 µm (safety-related meas. step SM = 220 µm)	–																																											
	<i>Mechanical connection:</i> fault exclusions for loosening of the housing and scanning unit (page 21)																																												
Interface	EnDat 2.2																																												
Ordering designation	EnDat22		EnDat02																																										
Measuring step <i>At ±3 µm</i> <i>At ±5 µm</i>	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	–		$\sim 1 \text{ V}_{\text{PP}}$ (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 affecting the Shock 11 ms	<i>Housing:</i> ≤ 200 m/s ² (EN 60068-2-6) <i>Scanning unit:</i> ≤ 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)

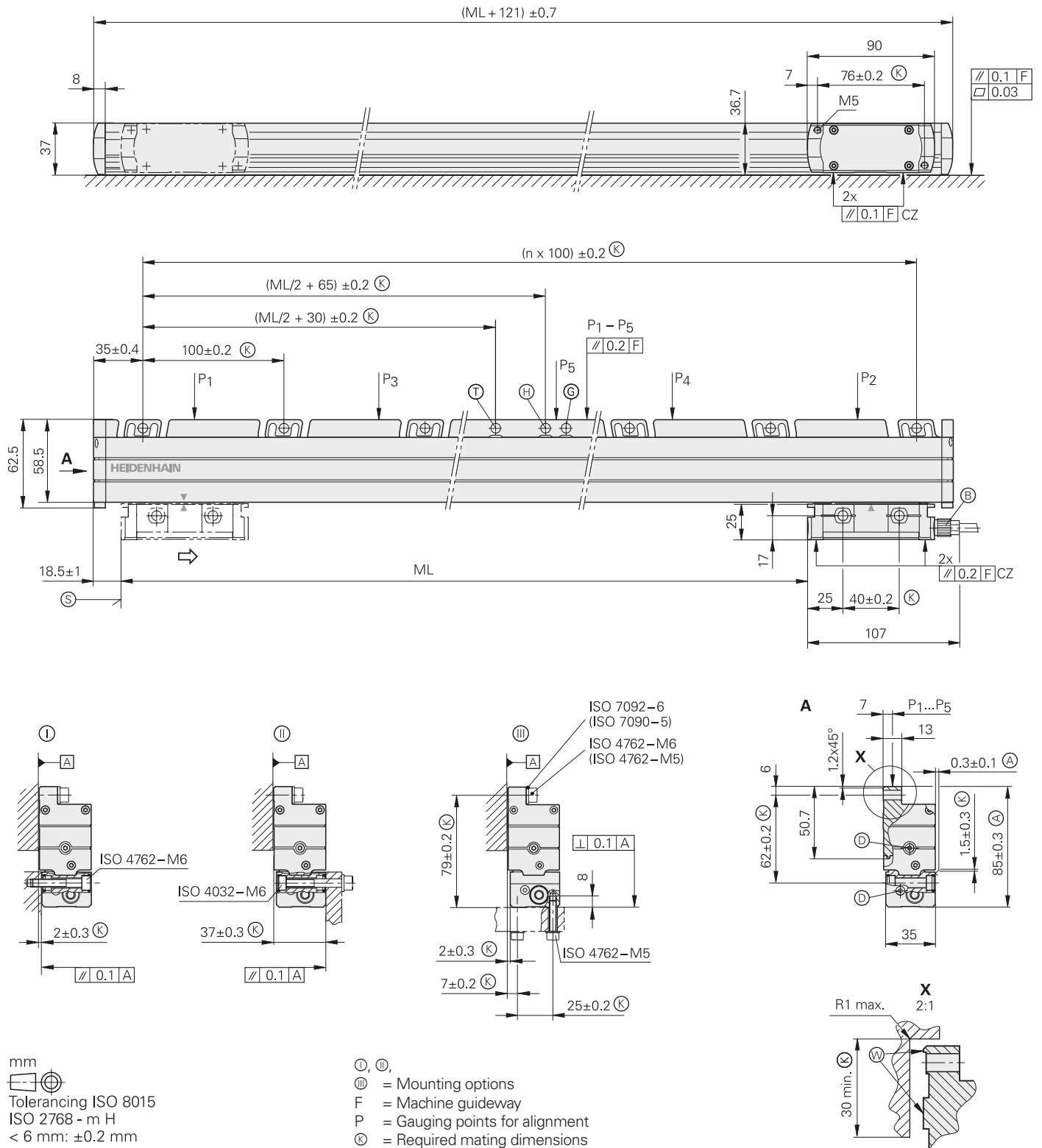
²⁾ With HEIDENHAIN cable; clock frequency ≤ 8 MHz

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

- Ⓛ, Ⓜ, Ⓝ = 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