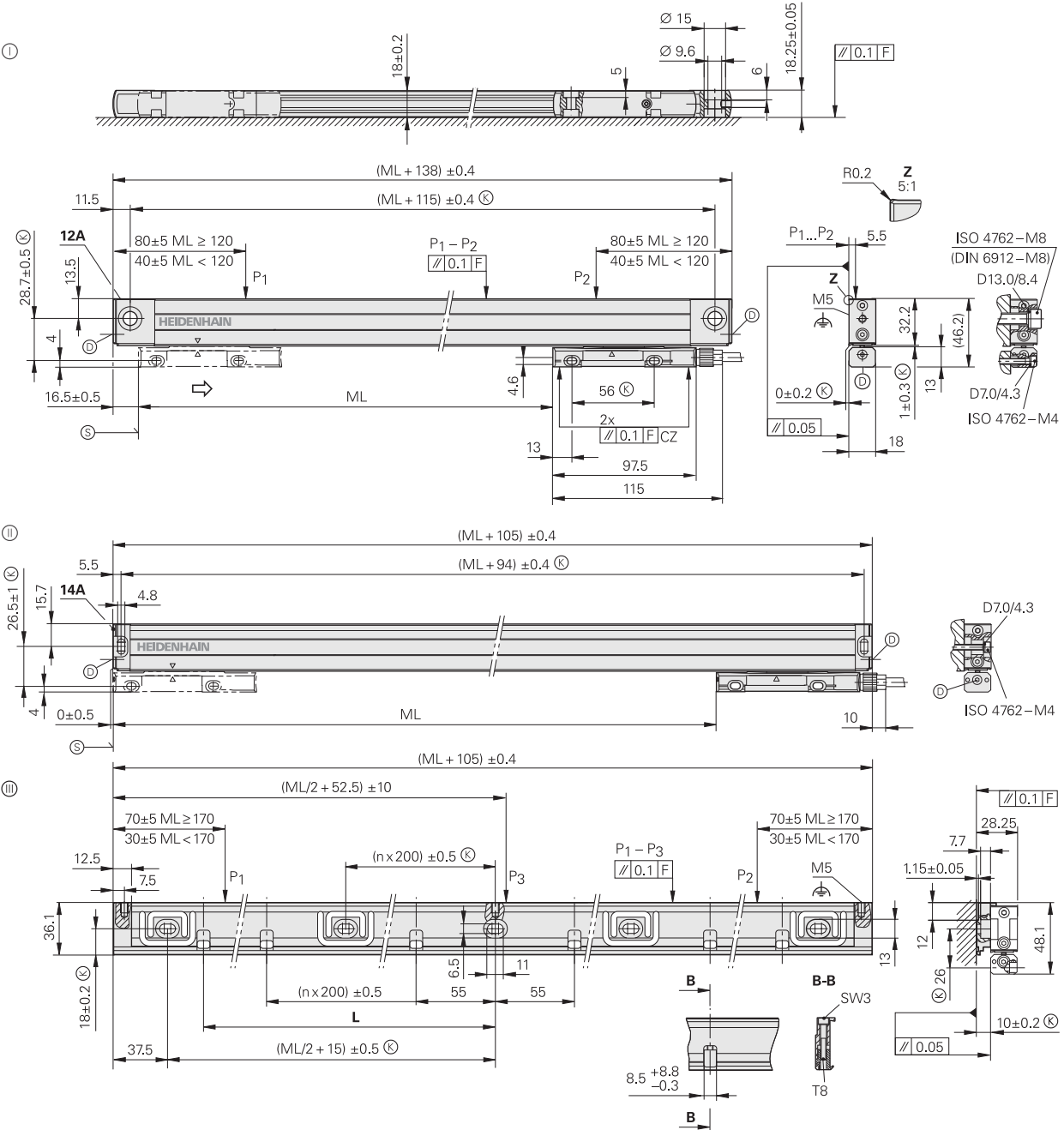


LC 400 series

Absolute linear encoders with slimline scale housing

- For limited installation space



ML	70	120	170	220	270	320	370	420	470	520	570	620	670	720	770	820	920	1020	1140	1240	1340	1440	1540	1640	1740	1840	2040
L	37.5	55	75	100	115	140	175	200	225	250	275	300	325	350	375	400	450	500	555	610	655	710	760	810	855	910	1010

- mm
Tolerancing ISO 8015
ISO 2768 - m H
< 6 mm: ±0.2 mm
- ⊕ = End block 12A; for mounting with and without mounting spar
 - ⊙ = End block 14A; for mounting with mounting spar (if attached directly with M4 screws, specifications are restricted)
 - ⊖ = Mounting spar MSL 41
 - F = Machine guideway
 - P = Gauging points for alignment
 - ⊗ = Required mating dimensions
 - ⊕ = Inlet for compressed air
 - ⊙ = Beginning of measuring length ML (= 20 mm absolute)
 - = Direction of scanning unit motion for output signals in accordance with interface description

Specifications	LC 415	LC 495F	LC 495 M	LC 495S										
Measuring standard	DIADUR glass scale with absolute track and incremental track, grating period 20 µm													
Coefficient of linear expansion	$\alpha_{\text{therm}} \approx 8 \times 10^{-6} \text{ K}^{-1}$ (mounting type ⊖/Ⓢ); <i>with mounting spar</i> : $\alpha_{\text{therm}} \approx 9 \times 10^{-6} \text{ K}^{-1}$ (mounting type Ⓢ)													
Accuracy grade*	± 3 µm; ± 5 µm													
Measuring length ML* in mm	Mounting spar* or clamping elements* up to ML 1240 optional, necessary as of ML 1340													
	70	120	170	220	270	320	370	420	470	520	570	620	670	720
	770	820	920	1020	1140	1240	1340	1440	1540	1640	1740	1840	2040	
Absolute position values	EnDat 2.2	Fanuc serial interface αi interface		Mitsubishi high speed serial interface		DRIVE-CLiQ								
Ordering designation	EnDat 22	Fanuc 05		Mit 03-04		DQ 01								
Resolution <i>At ± 3 µm</i> <i>At ± 5 µm</i>	0.001 µm 0.010 µm	αi interface/α interface 0.00125 µm/0.010 µm 0.0125 µm/0.050 µm		0.001 µm 0.010 µm										
Clock frequency	≤ 16 MHz	–												
Calculation time t _{cal}	≤ 5 µs	–												
Electrical connection	Separate adapter cable (1 m/3 m/6 m/9 m) connectable to mounting block													
Cable length	≤ 100 m ¹⁾	≤ 30 m		≤ 30 m		≤ 30 m ²⁾								
Power supply	3.6 to 14 V DC											10 to 28.8 V DC		
Power consumption (maximum)	3.6 V: ≤ 1.1 W 14 V: ≤ 1.3 W											10 V: ≤ 1.5 W 28.8 V: ≤ 1.7 W		
Current consumption (typical)	5 V: 140 mA (without load)											24 V: 46 mA (without load)		
Traversing speed	≤ 180 m/min													
Required moving force	≤ 5 N													
Vibration 55 Hz to 2000 Hz affecting the	Scanning unit: ≤ 200 m/s ² (EN 60068-2-6) Housing without mounting spar: ≤ 100 m/s ² (EN 60068-2-6) Housing with mounting spar and cable outlet at right: ≤ 150 m/s ² , at left: ≤ 100 m/s ² (EN 60068-2-6)													
Shock 11 ms Acceleration	≤ 300 m/s ² (EN 60068-2-27) ≤ 100 m/s ² in measuring direction													
Operating temperature	0 °C to 50 °C													
Protection EN 60529	IP 53 when installed according to instructions in the brochure, IP 64 with sealing air from DA 400													
Weight	Encoder: 0.2 kg + 0.55 kg/m measuring length; mounting spar: 0.9 kg/m													

* Please select when ordering
1) With HEIDENHAIN cable, clock frequency ≤ 8 MHz
2) Larger cable lengths upon request
Functional safety : LC 415 see special Product Information sheet; LC 495S in preparation