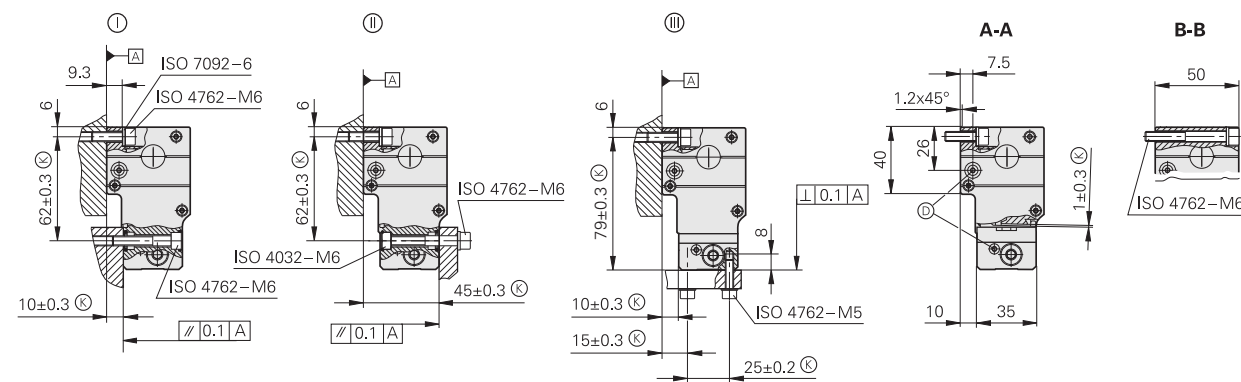
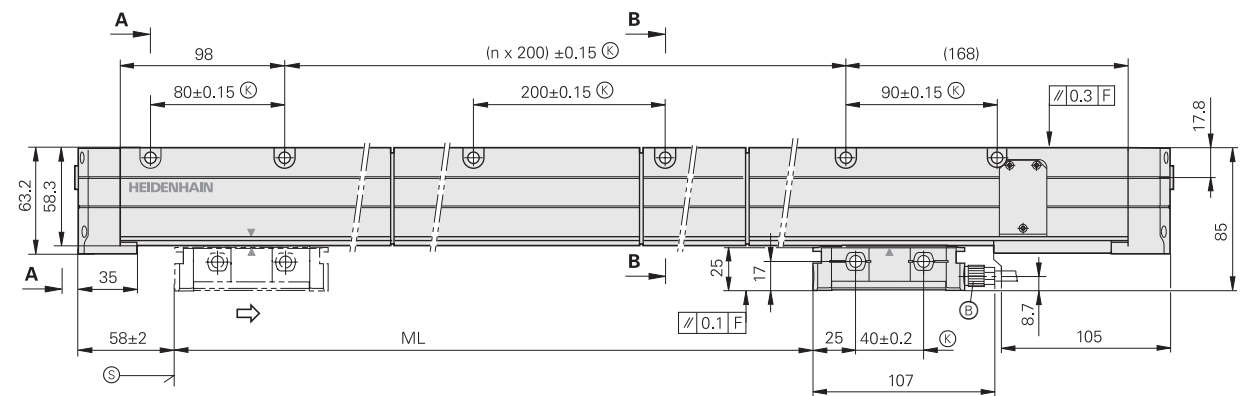
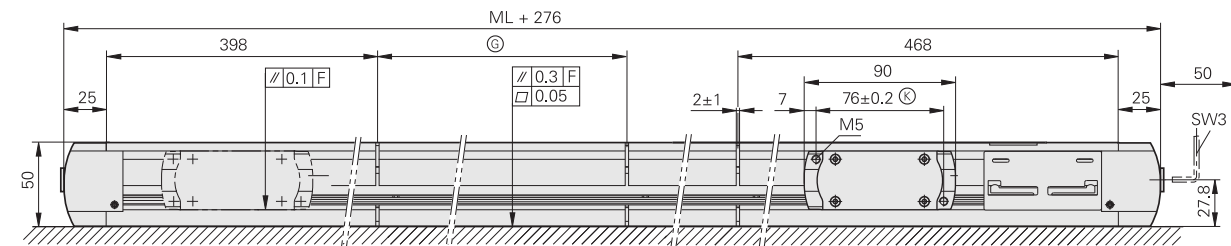


# LC 200 series

Absolute linear encoders with full-size scale housing

- Measuring lengths up to 28 m
- Simplified mounting (upright or reclining)
- Also available in mirrored version



mm  
  
 Tolerancing ISO 8015  
 ISO 2768 - m H  
 <math>< 6 \text{ mm}: \pm 0.2 \text{ mm}</math>

- ⓪, Ⓛ, Ⓜ = Mounting options
- F = Machine guideway
- Ⓢ = Required mating dimensions
- Ⓣ = Cable connection usable at either end
- Ⓤ = Compressed-air connection usable at either end
- Ⓟ = Beginning of measuring length ML (= 100 mm absolute)
- Ⓠ = Housing section length
- = Direction of scanning unit motion for output signals in accordance with interface description



Specifications	LC 211	LC 281
<b>Measuring standard</b>	METALLUR steel scale tape with absolute track and incremental track, grating period 40 μm	
Coefficient of linear expansion	Same as machine base (e.g. $\alpha_{\text{therm}} \approx 10 \times 10^{-6} \text{ K}^{-1}$ for cast iron)	
<b>Accuracy grade</b>	± 5 μm	
<b>Measuring length ML*</b> in mm	4 240 mm to 28 040 mm in 200 mm steps Kit with single-section METALLUR steel scale tape and housing section lengths	
<b>Absolute position values</b>	EnDat 2.2 <sup>1)</sup>	
Ordering designation	EnDat 22	EnDat 02
Resolution	0.010 μm	
Clock frequency	≤ 16 MHz	≤ 2 MHz
Calculation time $t_{\text{cal}}$	≤ 5 μs	
<b>Incremental signals</b>	-	~ 1 V <sub>PP</sub>
Signal period	-	40 μm
Cutoff frequency -3 dB	-	≥ 250 kHz
<b>Electrical connection</b>	Separate adapter cable (1 m/3 m/6 m/9 m) connectable on both sides to mounting block	
Cable length (with HEIDENHAIN cable)	≤ 100 m (at clock frequency ≤ 8 MHz)	≤ 150 m
Power supply	3.6 to 14 V DC	
Power consumption (max.)	At 14 V: ≤ 1.5 W At 3.6 V: ≤ 1.1 W	
Current consumption (typical)	At 5 V: 225 mA (without load)	
<b>Traversing speed</b>	≤ 120 m/min (≤ 180 m/min upon request)	
<b>Required moving force</b>	≤ 15 N	
<b>Vibration</b> 55 to 2000 Hz affecting the	Housing: 200 m/s <sup>2</sup> (EN 60068-2-6) Scanning unit: 300 m/s <sup>2</sup> (EN 60068-2-6)	
<b>Shock</b> 11 ms <b>Acceleration</b>	≤ 300 m/s <sup>2</sup> (EN 60068-2-27) ≤ 100 m/s <sup>2</sup> in measuring direction	
<b>Operating temperature</b>	0 °C to 50 °C	
<b>Protection</b> EN 60529	IP 53 when installed according to mounting instructions, IP 64 with sealing air from DA 400	
<b>Weight</b>	1.3 kg + 3.6 kg/m measuring length	

\* Please select when ordering  
 1) Fanuc, Mitsubishi in preparation