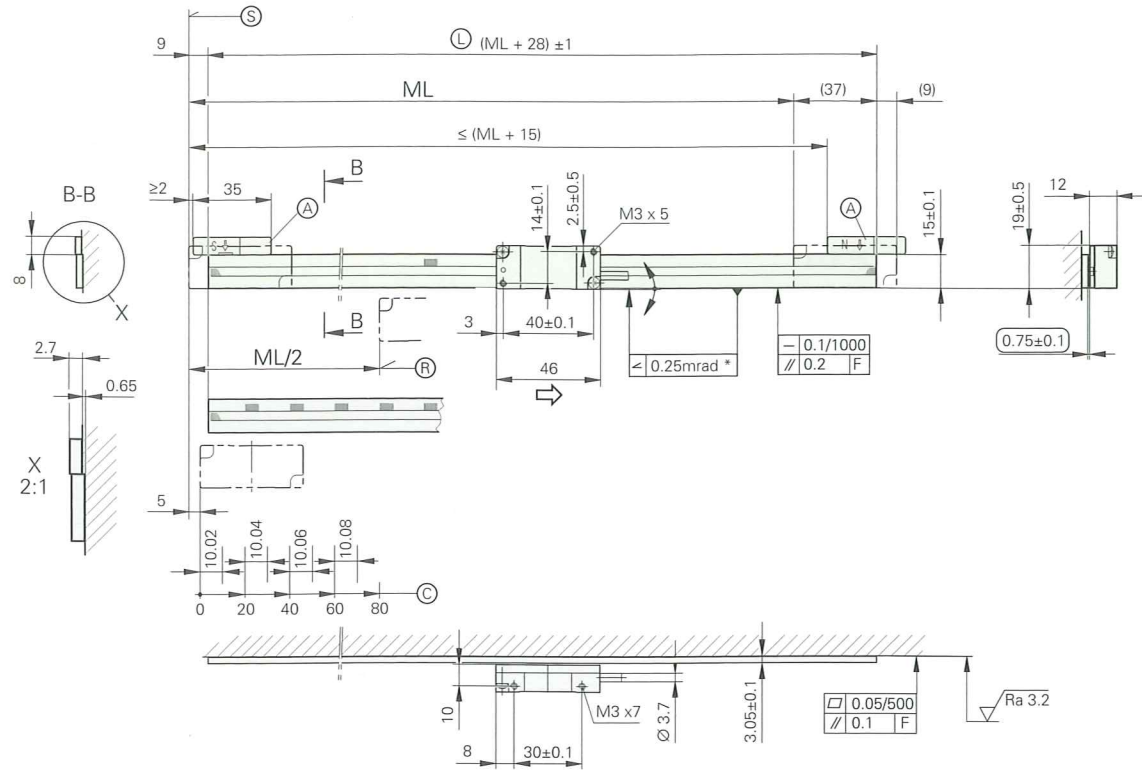


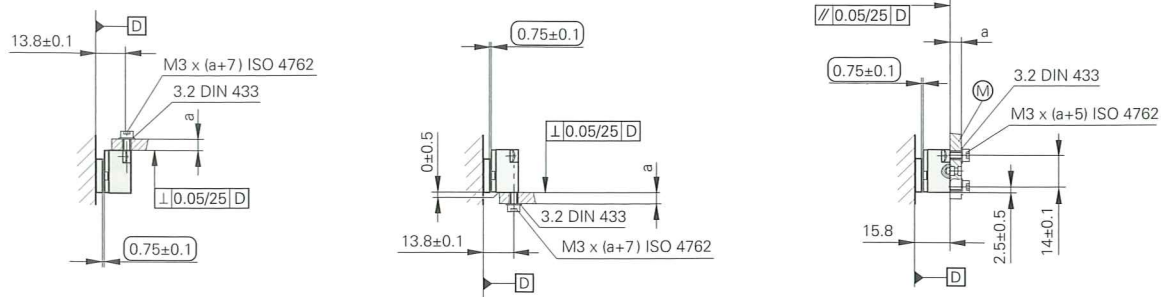
LIDA 4x3 Series

Incremental linear encoders with measuring standard of glass ceramic or glass

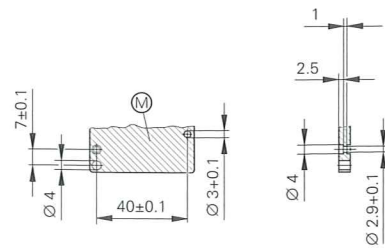
- For measuring steps of 1 µm to 0.1 µm
- Measuring standard is fastened with adhesive to the mounting surface
- Limit switches



Possibilities for mounting the scanning head



Mounting surface



Dimensions in mm

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

- F = Machine guideway
- ⊖ = Adjust or set
- * = Max. change during operation
- Ⓜ = Reference mark position
- Ⓢ = Beginning of measuring length (ML)
- ⓐ = Selector magnet for limit switch
- ⓐ = Scale length
- Ⓜ = Mounting surface for scanning head
- ↔ = Direction of scanning head motion for output signals in accordance with interface description

Specifications	LIDA 483	LIDA 473			
Measuring standard Coefficient of linear expansion*	METALLUR graduation on glass ceramic or glass $\alpha_{\text{therm}} \approx 8 \cdot 10^{-6} \text{ K}^{-1}$ (glass) $\alpha_{\text{therm}} \approx 0 \cdot 10^{-6} \text{ K}^{-1}$ (ROBAX glass ceramic) $\alpha_{\text{therm}} = (0 \pm 0.1) \cdot 10^{-6} \text{ K}^{-1}$ (Zerodur glass ceramic)				
Accuracy grade	± 5 µm (higher accuracy grades available on request)				
Measuring length ML* in mm	240 2640	340 2840	440 3040	640 (ROBAX glass ceramic up to ML 1640)	840 1040 1240 1440 1640 1840 2040 2240 2440
Reference marks* LIDA 4x3 LIDA 4x3C	One at midpoint of measuring length Distance-coded upon request				
Incremental signals	~ 1 V _{PP}	□ TTL			
Grating period	20 µm				
Integrated interpolation* Signal period	- 20 µm	5-fold 4 µm	10-fold 2 µm	50-fold 0.4 µm	100-fold 0.2 µm
Cutoff frequency -3dB	≥ 400 kHz	-			
Scanning frequency*	-	≤ 400 kHz ≤ 200 kHz ≤ 100 kHz ≤ 50 kHz	≤ 200 kHz ≤ 100 kHz ≤ 50 kHz ≤ 25 kHz	≤ 50 kHz ≤ 25 kHz ≤ 12.5 kHz	≤ 25 kHz ≤ 12.5 kHz ≤ 6.25 kHz
Edge separation a ¹⁾	-	≥ 0.100 µs ≥ 0.220 µs ≥ 0.465 µs ≥ 0.950 µs	≥ 0.100 µs ≥ 0.220 µs ≥ 0.465 µs ≥ 0.950 µs	≥ 0.080 µs ≥ 0.175 µs ≥ 0.370 µs	≥ 0.080 µs ≥ 0.175 µs ≥ 0.370 µs
Traversing speed ¹⁾	480 m/min	≤ 480 m/min ≤ 240 m/min ≤ 120 m/min ≤ 60 m/min	≤ 240 m/min ≤ 120 m/min ≤ 60 m/min ≤ 30 m/min	≤ 60 m/min ≤ 30 m/min ≤ 15 m/min	≤ 30 m/min ≤ 15 m/min ≤ 7.5 m/min
Limit switches	L1/L2 with two different magnets; <i>output signals</i> : TTL (without line driver)				
Power supply Current consumption	5 V ± 5 % < 100 mA	5 V ± 5 % < 170 mA (without load)	5 V ± 5 % < 255 mA (without load)		
Electrical connection Cable length	Cable 3 m with D-sub connector (15-pin), interface electronics for LIDA 473 in the connector ≤ 20 m (with HEIDENHAIN cable)				
Vibration 55 to 2000 Hz Shock 11 ms	≤ 200 m/s ² (EN 60068-2-6) ≤ 500 m/s ² (EN 60068-2-27)				
Operating temperature	0 °C to 50 °C				
Weight	Scanning head Connector Scale Connecting cable	20 g (without connecting cable) LIDA 483: 32 g, LIDA 473: 140 g 3 g + 0.1 g/mm measuring length 22 g/m			

* Please indicate when ordering

¹⁾ At the corresponding cutoff or scanning frequency