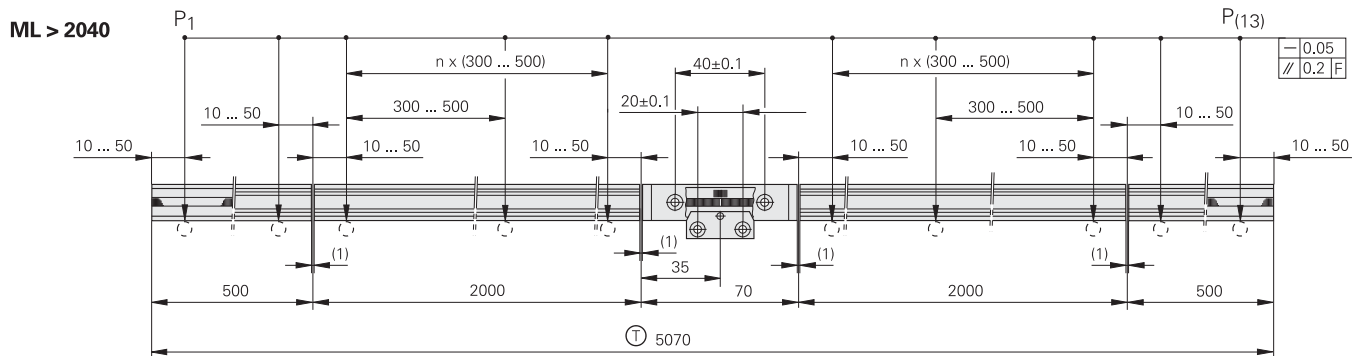
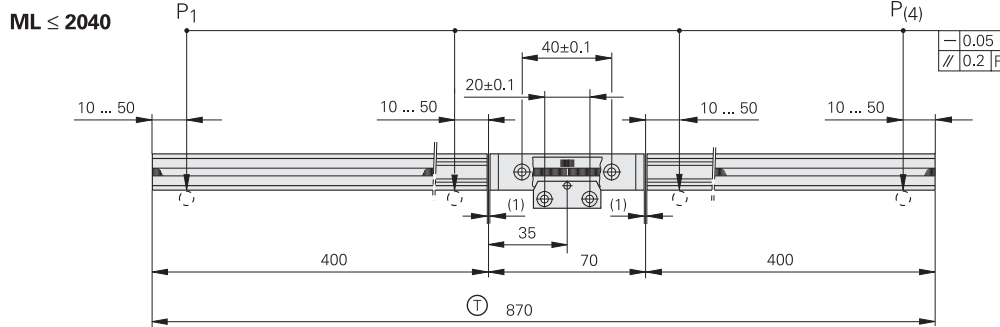
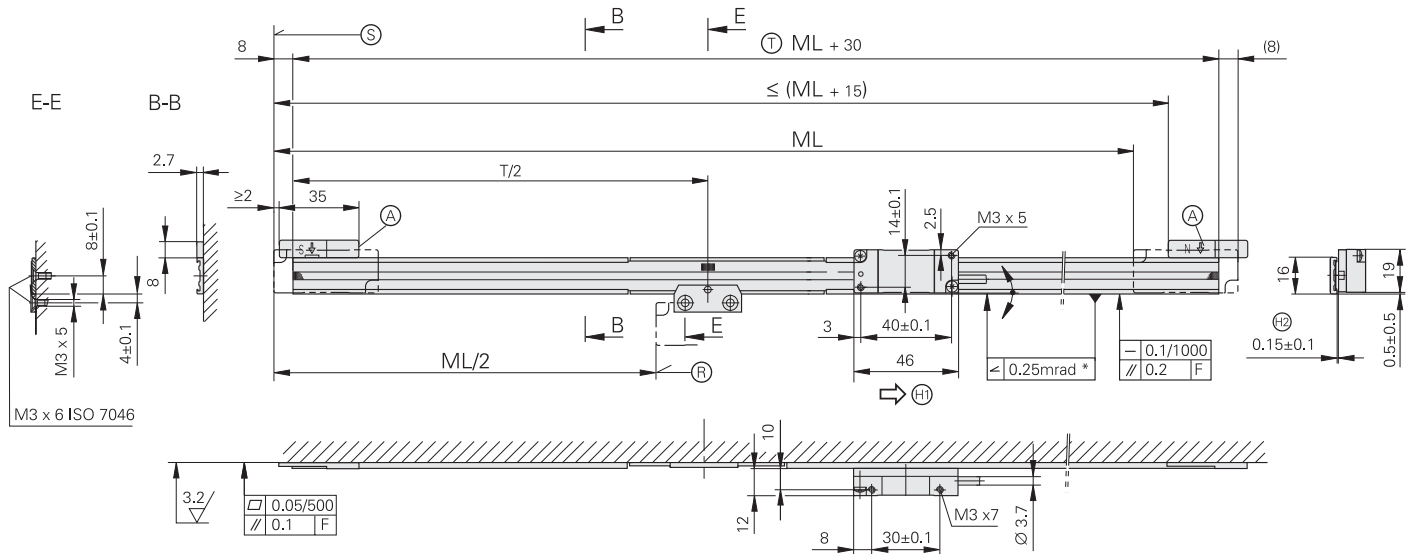


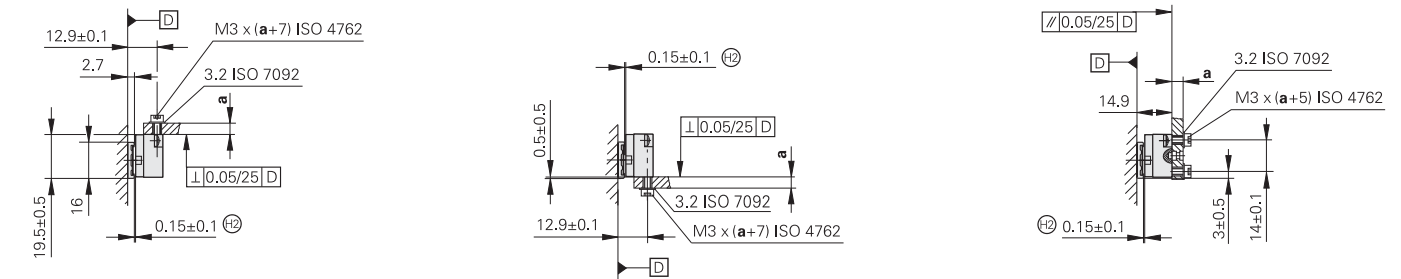
LIDA 477, LIDA 487

Incremental linear encoders for measuring ranges up to 6 m

- For measuring steps of 1 μm to 0.05 μm
- Limit switches
- Steel scale-tape is drawn into adhesive aluminum extrusions and fixed at center



Possibilities for mounting the scanning head



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

- * = Max. change during operation
- F = Machine guideway
- P = Gauging points for alignment
- ⊕ = Reference mark position
- ⊙ = Beginning of measuring length (ML)
- ⊗ = Selector magnet for limit switch
- ⊖ = Carrier length
- ⊕ = Direction of scanning unit motion for output signals in accordance with interface description
- ⊗ = Adjust or set



Specifications	LIDA 487	LIDA 477												
Measuring standard Coefficient of linear expansion	Steel scale-tape with METALLUR graduation $\alpha_{\text{therm}} \approx 10 \cdot 10^{-6} \text{ K}^{-1}$													
Accuracy grade	$\pm 15 \mu\text{m}$ or $\pm 5 \mu\text{m}$ after linear length-error compensation in the subsequent electronics													
Measuring length ML* in mm	240 3040 5840	440 3240 6040	640 3440	840 3640	1040 3840	1240 4040	1440 4240	1640 4440	1840 4640	2040 4840	2240 5040	2440 5240	2640 5440	2840 5640
Reference marks	One at midpoint of measuring length													
Incremental signals	$\sim 1 \text{ V}_{\text{pp}}$	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	$\geq 400 \text{ kHz}$	–												
Scanning frequency*	–	$\leq 400 \text{ kHz}$ $\leq 200 \text{ kHz}$ $\leq 100 \text{ kHz}$ $\leq 50 \text{ kHz}$	$\leq 200 \text{ kHz}$ $\leq 100 \text{ kHz}$ $\leq 50 \text{ kHz}$ $\leq 25 \text{ kHz}$	$\leq 50 \text{ kHz}$ $\leq 25 \text{ kHz}$ $\leq 12.5 \text{ kHz}$	$\leq 25 \text{ kHz}$ $\leq 12.5 \text{ kHz}$ $\leq 6.25 \text{ kHz}$									
Edge separation a ¹⁾	–	$\geq 0.100 \mu\text{s}$ $\geq 0.220 \mu\text{s}$ $\geq 0.465 \mu\text{s}$ $\geq 0.950 \mu\text{s}$	$\geq 0.100 \mu\text{s}$ $\geq 0.220 \mu\text{s}$ $\geq 0.465 \mu\text{s}$ $\geq 0.950 \mu\text{s}$	$\geq 0.080 \mu\text{s}$ $\geq 0.175 \mu\text{s}$ $\geq 0.370 \mu\text{s}$	$\geq 0.080 \mu\text{s}$ $\geq 0.175 \mu\text{s}$ $\geq 0.370 \mu\text{s}$									
Traversing speed ¹⁾	$\leq 480 \text{ m/min}$	$\leq 480 \text{ m/min}$ $\leq 240 \text{ m/min}$ $\leq 120 \text{ m/min}$ $\leq 60 \text{ m/min}$	$\leq 240 \text{ m/min}$ $\leq 120 \text{ m/min}$ $\leq 60 \text{ m/min}$ $\leq 30 \text{ m/min}$	$\leq 60 \text{ m/min}$ $\leq 30 \text{ m/min}$ $\leq 15 \text{ m/min}$	$\leq 30 \text{ m/min}$ $\leq 15 \text{ m/min}$ $\leq 7.5 \text{ m/min}$									
Limit switches	L1/L2 with two different magnets; <i>output signals</i> : TTL (without line driver)													
Power supply Current consumption	DC 5 V \pm 5% < 100 mA	DC 5 V \pm 5% < 170 mA (without load)		DC 5 V \pm 5% < 255 mA (without load)										
Electrical connection Cable length	Cable 3 m with D-sub connector (15-pin), interface electronics for LIDA 477 in the connector $\leq 20 \text{ m}$ (with HEIDENHAIN cable)													
Vibration 55 to 2000 Hz Shock 11 ms	$\leq 200 \text{ m/s}^2$ (EN 60068-2-6) $\leq 500 \text{ m/s}^2$ (EN 60068-2-27)													
Operating temperature	0 °C to 50 °C													
Weight Scanning head Scale Connecting cable Connector	20 g (without connecting cable) 25 g + 0.1 g/mm measuring length 22 g/m LIDA 487: 32 g, LIDA 477: 140 g													

* Please indicate when ordering

¹⁾ At the corresponding cutoff or scanning frequency

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