

"Exposed" Linear Encoder LIP 101 for very high resolutions with high accuracy

Incremental "exposed" linear encoder
with GALVADUR steel scale and evaluation electronics unit APE 101

Measuring lengths up to 1020 mm (40.1 in.)

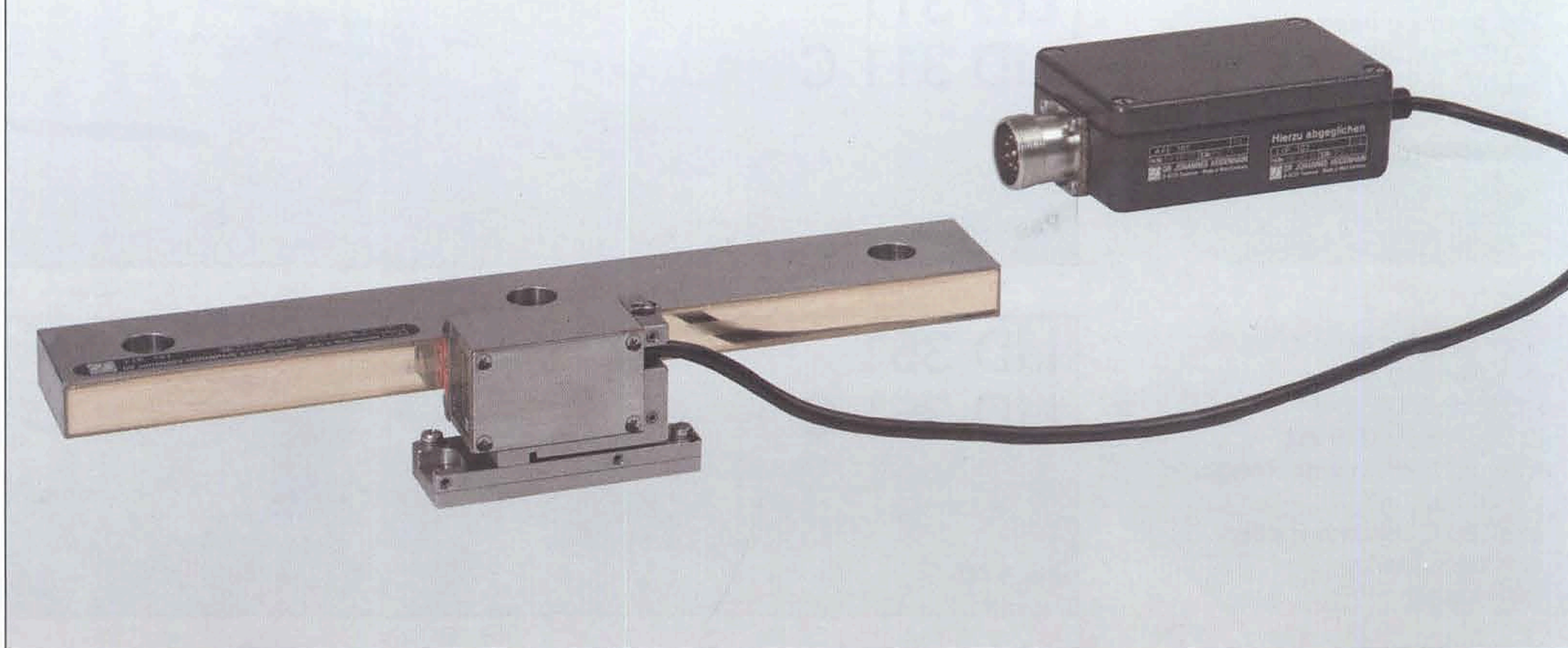
Grating period 8 μm

Signal period 4 μm

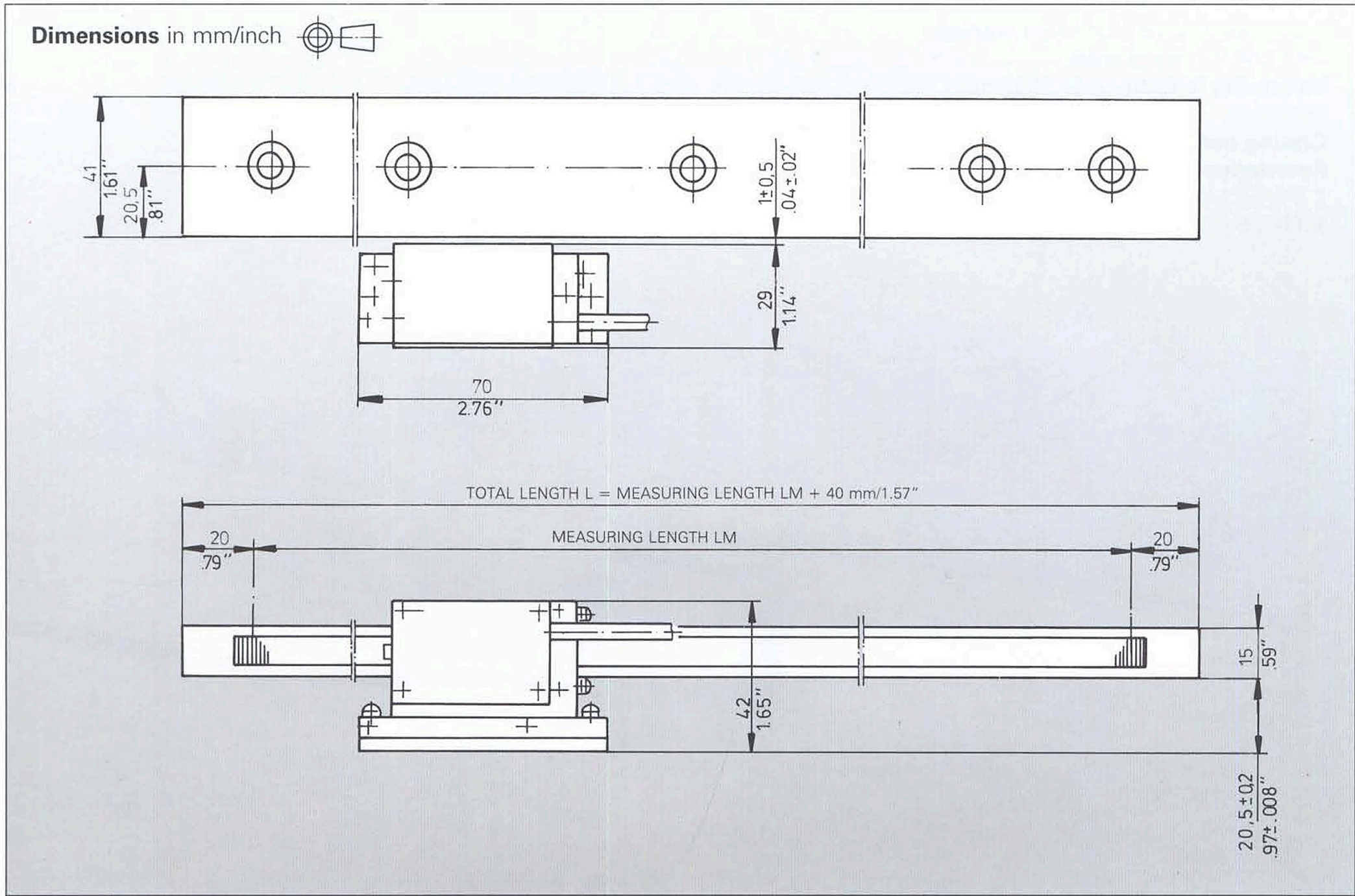
Recommended measuring steps

1 μm /0.2 μm /0.1 μm /0.02 μm

(0.00005 in./0.00001 in./0.000005 in./0.000001 in.)



Mechanical data		LIP 101
Measuring standard		Steel scale with GALVADUR-grating Grating period 8 μm Signal period 4 μm
Accuracy grades		$\pm 2 \mu\text{m}$ ($\pm 0.00008 \text{ in.}$)/ $\pm 1 \mu\text{m}$ ($\pm 0.00004 \text{ in.}$)/ $\pm 0.5 \mu\text{m}$ ($\pm 0.00002 \text{ in.}$) up to 520 mm (20.5 in.) only/ $\pm 0.2 \mu\text{m}$ ($\pm 0.00001 \text{ in.}$) up to 220 mm (8.6 in.) only
Measuring lengths	mm inch	120/170/220/320/420/520/620/720/820/920/1020 4.7/6.7/8.6/12.6/16.5/20.5/24.4/28.3/32.3/36.2/40.1
Max. traversing speed		depends on subsequent electronics
Permissible acceleration		
Max. vibration (50 ... 2000 Hz)		8 m/s^2
Max. shock (11 ms)		100 m/s^2
Operating temperature		0 ... 45°C (32 ... 113°F)
Storage temperature		-20 ... 70°C (-4 ... 158°F)
Weight		Scanning head: 0.3 kg (0.66 lb) Scale: 4.5 kg/m (3.0 lb/ft) APE 101: 0.3 kg (0.66 lb)
Connecting cable		0.5 m (1.7 ft) cable between scanning head and APE 101 Flange socket (9 pole) on APE 101



Electrical data		LIP 101
Light source		LED
Operating voltage		5 V $\pm$ 5 %/120 mA
Output signals	Incremental signals	2 sinusoidal signal I_{e1} und I_{e2}
	Signal level with 1 k Ω load	I_{e1} approx. 7 ... 16 μA_{pp} I_{e2} approx. 7 ... 16 μA_{pp}
Total permissible cable length		20 m (65.6 ft)