

Linear Encoders LS 101, LS 101 C – especially for high resolution

Incremental, sealed linear encoders

2 mounting attitudes

Measuring lengths up to 1240 mm (48.8 in.)

Grating period 10 μm

Accuracy grades $\pm 5 \mu\text{m}/\pm 3 \mu\text{m}/\pm 2 \mu\text{m}$ ($\pm 0.00020 \text{ in.}/\pm 0.00012 \text{ in.}/\pm 0.00008 \text{ in.}$)

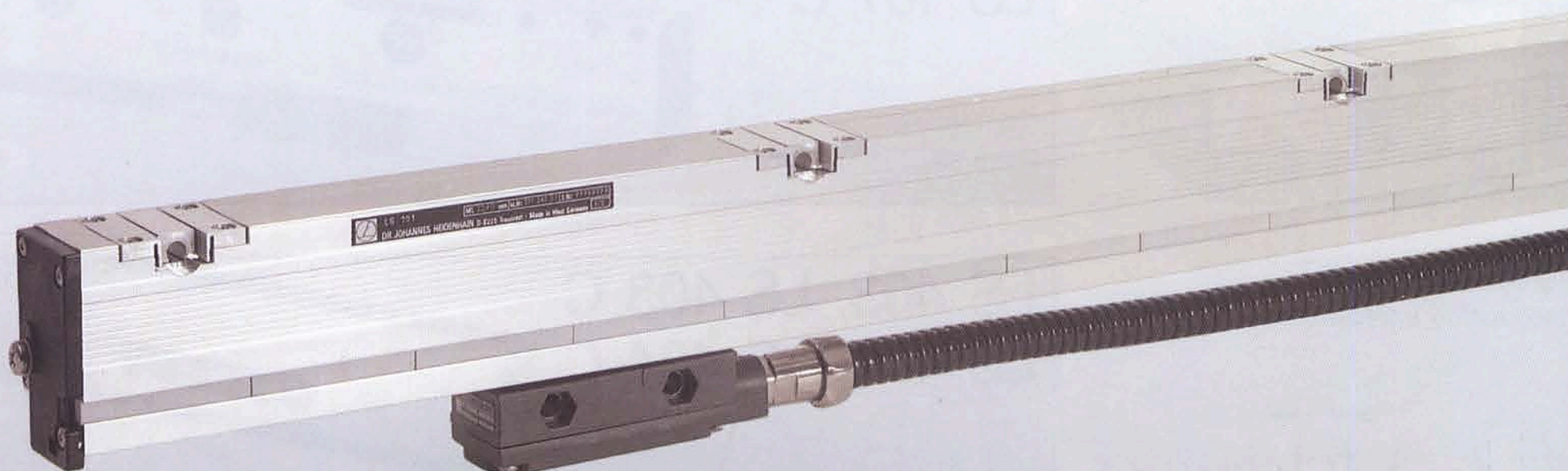
Recommended measuring steps

1 $\mu\text{m}/0.5 \mu\text{m}/0.2 \mu\text{m}/0.1 \mu\text{m}$

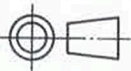
(0.00005 in./0.00002 in./0.00001 in./0.000005 in.)

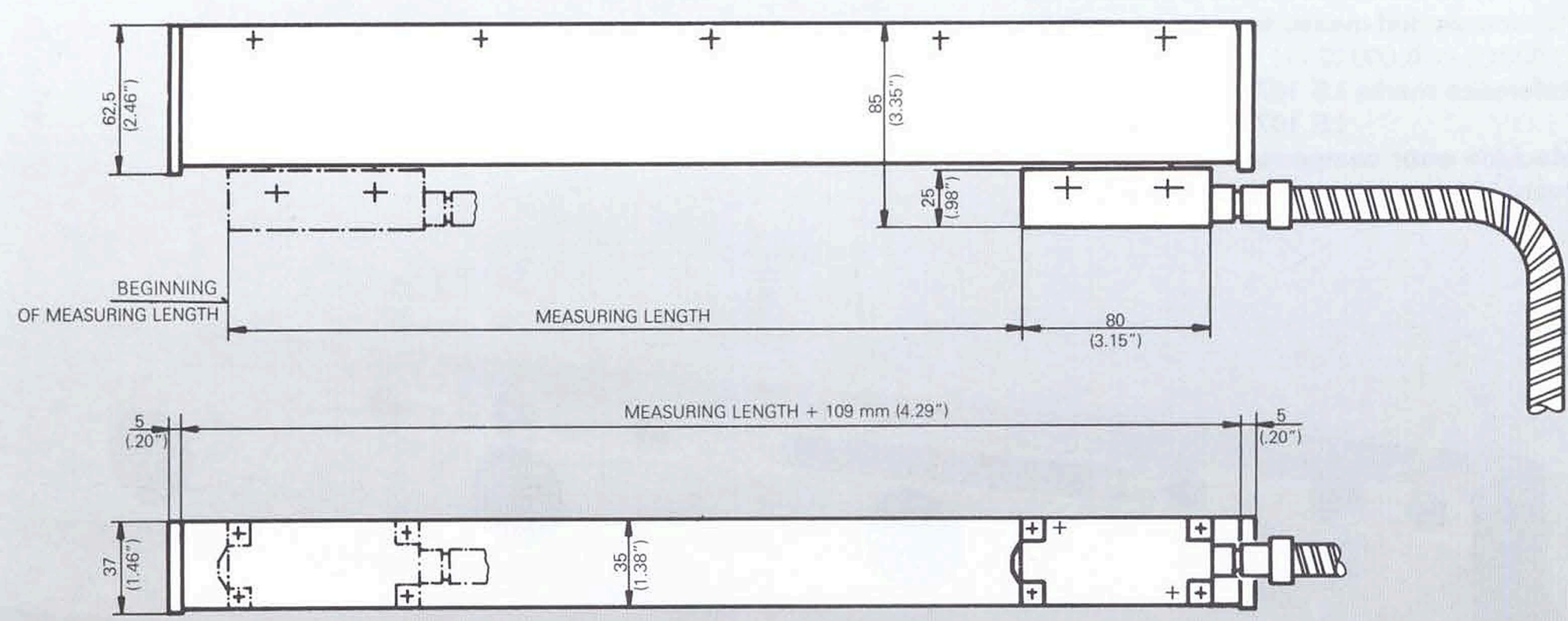
Reference marks LS 101: every 50 mm (2 in.), via selector magnets

LS 101 C: distance-coded



Mechanical data		LS 101, LS 101 C
Measuring standard		Glass scale with DIADUR-grating Grating period 10 μm
Accuracy grades		$\pm 5 \mu\text{m}/\pm 3 \mu\text{m}/\pm 2 \mu\text{m}$ ($\pm 0.0002 \text{ in.}/\pm 0.00012 \text{ in.}/\pm 0.00008 \text{ in.}$)
Reference marks	LS 101 LS 101 C	every 50 mm (2 in.) possible (activated via selector magnets) distance-coded reference marks
Measuring lengths	mm inch	140/190/240/340/440/540/640/740/840/940/1040/1140/1240 5.5/7.5/9.5/13.4/17.3/21.3/25.2/29.0/33.0/37.0/41.0/44.9/48.8
Max. traversing speed		30 m/min (100 ft/min)
Permissible acceleration		
Max. vibration (50 ... 2000 Hz)		30 m/s^2
Max. shock (11 ms)		200 m/s^2
Required moving force		$\leq 4 \text{ N}$
Operating temperature		0 ... 40°C (32 ... 104°F)
Storage temperature		-20 ... 70°C (-4 ... 158°F)
Weight		1 kg + 2,6 kg/m measuring length (2.2 lb + 1.74 lb/ft)
Connecting cable		• 3 m (10 ft), with connector and armored sheathing (standard)

Dimensions in mm (inch) 



Electrical data		LS 101, LS 101 C
Light source		LED
Operating voltage		5 V $\pm$ 5 %/120 mA
Output signals	Incremental signals	2 sinusoidal signals I_{e1} and I_{e2}  
	Reference signal	1 signal I_{e0} 
	Signal levels with 1 k Ω load	I_{e1} approx. 7 ... 16 μ A _{pp} I_{e2} approx. 7 ... 16 μ A _{pp} I_{e0} approx. 2 ... 8 μ A (usable portion)
	Total permissible cable length	20 m (65.6 ft)