

Completely Sealed Linear Encoders

ULS 300, ULS 300 C

Incremental, completely encapsulated
linear encoder with push-rod activation
2 mounting attitudes

Grating period 20 μm

Recommended measuring steps

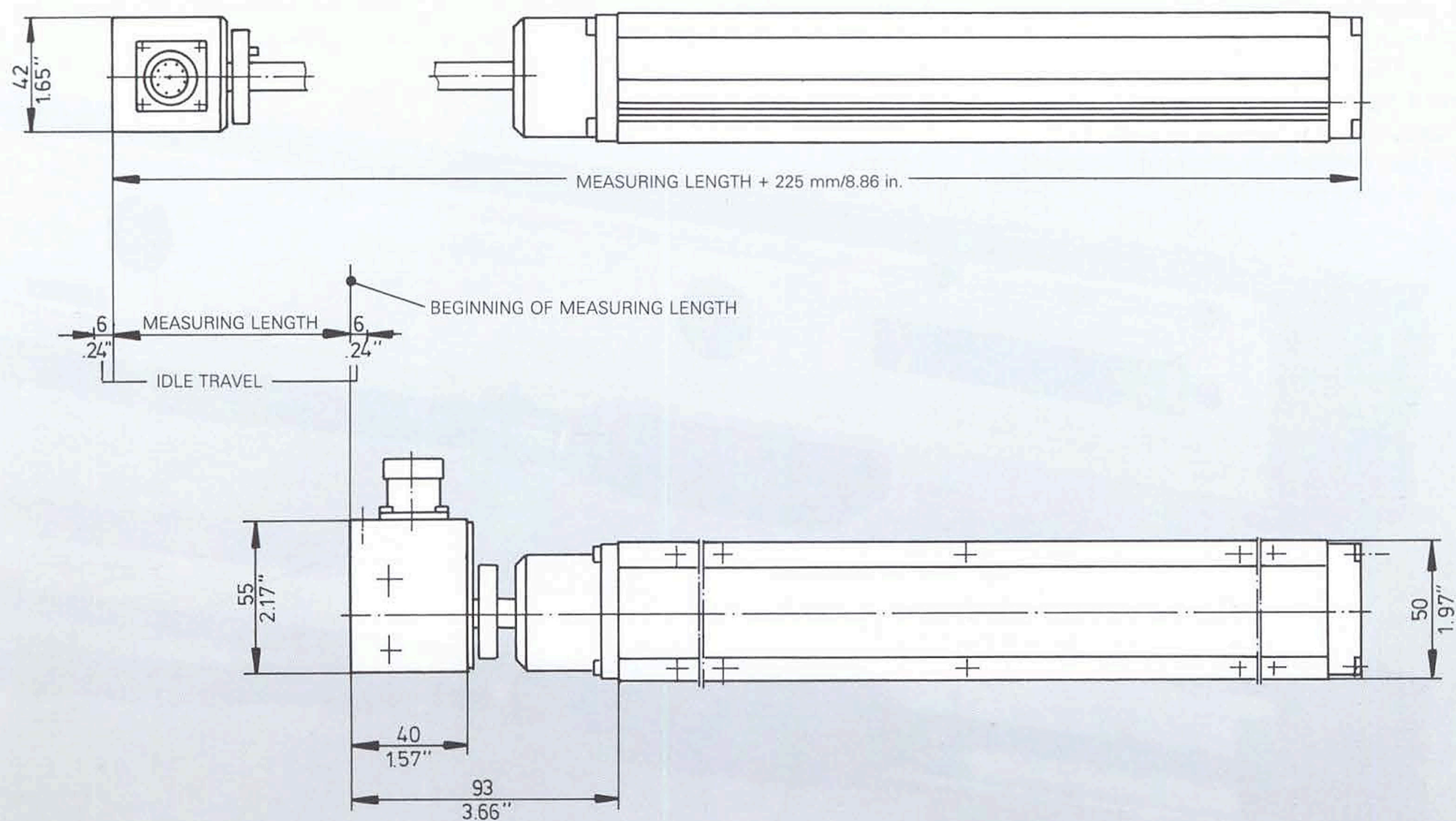
1 μm /0.5 μm /0.2 μm

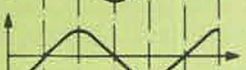
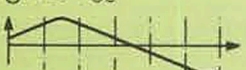
(0.000 05 in./0.000 02 in./0.000 01 in.)



Mechanical data		ULS 300, ULS 300 C
Measuring standard		Glass scale with DIADUR-grating Grating period 20 μm
Accuracy grades		$\pm 3 \mu\text{m}$ (± 0.00012 in.)/2 μm (± 0.00008 in.) measuring lengths 170 mm (6.7 in.) and 270 mm (10.6 in.) only
Reference mark	ULS 300	Standard: one reference mark at mid-point of traverse or several reference marks on 50 mm (2 in.) module from mid-point of measuring length Special type: one reference mark at any desired location
	ULS 300 C	distance-coded
Measuring lengths	mm	170/270/370/520
	inch	6.7/10.6/14.5/20.5
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		1 ... 3 N
Permissible guideway error of connected slide		± 0.5 mm (± 0.02 in.)
Operating temperature		0 ... 50°C (32 ... 122°F)
Storage temperature		-20 ... 70°C (-4 ... 158°F)
Weight		1.25 kg (2.75 lb) + 0.15 kg/100 mm (1.0 lb/ft) measuring length

Dimensions in mm/inch



Electrical data		ULS 300, ULS 300 C
Light source		LED
Operating voltage		5 V $\pm$ 5 %/120 mA
Output signals	Incremental signals	2 sinusoidal signal I_{e1} and I_{e2} I_{e1}  I_{e2} 
	Reference signal	1 signal I_{e0} 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)