

# LS 303

# LS 323

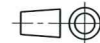
Incremental linear encoder

- For measuring steps of 10 µm and 5 µm (0.0005 in. and 0.0002 in.)
- For limited installation space

Specifications		LS 303 LS 323
<b>Measuring standard</b> Grating period		Glass scale with DIADUR graduation 20 µm
<b>Accuracy grade</b>		± 10 µm (± 0.0004 in.)
<b>Measuring length ML</b> in mm inches		70, 120, 170, 220, 270, 320, 2.7, 4.7, 6.7, 8.6, 10.6, 12.6, 370, 420, 470, 520, 570, 14.5, 16.5, 18.5, 20.5, 22.4, Mounting spar recommended 620, 720, 770, 820, 920, 1020, 24.4, 28, 30, 32, 36, 40, 1140, 1240 44, 48 LS 303 only with mounting spar 1340, 1440, 1540, 1640, 1740, 1840, 52, 56, 60, 64, 68, 72, 2040 80
<b>Reference marks</b>	<b>LS 3x3</b>	Every 50 mm (2 in.) via selector magnets Standard setting: ML 70 mm: 1 reference mark at midpoint; up to 1020 mm: 2, each 35 mm from start/end of ML; from 1140 mm: 2, each 45 mm from start/end of ML
	<b>LS 3x3C</b>	Distance-coded, absolute position value available after max. 20 mm
<b>Max. traversing speed</b>		120 m/min (4720 ipm)
<b>Vibration</b> (55 to 2000 Hz)	without mounting spar with mounting spar	≤ 100 m/s <sup>2</sup> (IEC 68-2-6) ≤ 200 m/s <sup>2</sup> (IEC 68-2-6)
<b>Shock</b> (11 ms)		≤ 300 m/s <sup>2</sup> (IEC 68-2-27)
<b>Required moving force</b>		≤ 5 N
<b>Protection</b> (EN 60529 or IEC 529)		IP 53 when installed as per instructions IP 64 with compressed air
<b>Operating temperature</b>		0 to 50 °C (32 to 122 °F)
<b>Weight</b>		0.4 kg + 0.5 kg/m measuring length
<b>Power supply</b>	<b>LS 303</b> <b>LS 323</b>	5 V ± 5 % / < 100 mA 5 V ± 5 % / < 170 mA (with no load)
<b>Output signals/ Signal period</b>	<b>LS 303</b> <b>LS 323</b>	~ 11 µA <sub>PP</sub> /20 µm □ TTL (reference pulse non-gated) 20 µm
<b>Electrical connection</b> Cable length to subsequent electronics	<b>LS 303</b> <b>LS 323</b>	Cable 3 m (9.9 ft) without connector 30 m (98.5 ft) max. 50 m (164 ft) max.

## Dimensions

in mm/inches



DIN ISO 8015  
ISO 2768 - m H

### Mounting spar

ML	m
70 ... 520 (2.7 ... 20.5')	0
570 ... 920 (22.4 ... 36')	1
1020 ... 1240 (40 ... 48')	2

- ⊖ = Without mounting spar
- ⊕ = With mounting spar
- F = Machine guideway
- P = Gauging points for alignment
- ⊗ = Required mating dimensions
- ⊙ = Compressed air inlet
- ⊕ = Reference mark position LS 3x3

Two reference marks for measuring lengths

70 ... 1020 (2.7 ... 40')	1140 ... 2040 (44 ... 80')
z = 35 mm (1.38") z <sub>1</sub> = ML - 70 mm (2.76")	z = 45 mm (1.77") z <sub>1</sub> = ML - 90 mm (3.54")

- ⊖ = Reference mark position LS 3x3C
- ⊕ = Beginning of measuring length