

Feedback Scale

SH10A

Compact scale for feedback applications

- Slim, compact construction.
- Resolutions: 0.1 μm 0.5 μm and 1 μm
- Measuring length: 70 to 1240 mm (2.7" to 48.8") (20 models)
- Alarm output in case of scale failure.
- A/B phase output by differential line driver and zero point output signal.
- Perfect for positioning NC machine tools or measuring equipment in a restricted installation space.

Specifications

Model	C4A3	C4B3	D4B3	D4C3	D4B5	D4C5	E4B3	E4D3	E4B5	E4D5	
Measuring length L mm (inch)	70/120/170/220/270/320/370/420/470/520/570/620/670/720/770/820/920/1020/1140/1240 (2.7,4.7,6.6,8.6,10.6,12.6,14.5,16.5,18.5,20.4,22.4,24.4,26.3,28.3,30.3,32.3,36.2,40.1,44.8,48.8)										
Resolution	0.1 μm			0.5 μm				1.0 μm			
Minimum phase difference	0.16 μs	0.3 μs	0.3 μs	0.6 μs	0.3 μs	0.6 μs	0.3 μs	1.2 μs	0.3 μs	1.2 μs	
Engraving pitch	20 μm										
Zero point	2 points within the measuring length. (measuring length 70 mm/ 2.7": 1 point in the center)										
Accuracy (at 20 °C / 60 °F)	± 3 μm			± 5 μm				± 3 μm		± 5 μm	
Light source	Infrared LED										
Photo detector	Photo diode										
Expansion coefficient	(8.8 ± 1) × 10 ⁻⁶ /°C										
Operating temperature	0 °C to 45 °C / 32 °F to 113 °F										
Storage temperature	-10 °C to 60 °C / 14 °F to 140 °F										
Humidity range	Relative humidity 30 to 90% (no condensation)										
Protective design grade	(1) Equivalent to IP53* (2) Improvement of the protective design grade (see the instruction manual)										
Atmosphere	Corrosive gas should not be contained in the atmosphere										
Vibration resistance	68.6 m/s ² (according to our vibration test data, 30 to 1000 Hz for 30 min)										
Shock resistance	147 m/s ² (according to our vibration test, 11ms, 3 times each of the X, Y, Z directions)										
Max. reponse speed	Depends on the model (10 to 60 m/ min)										
Zero point detection speed	15 m/ min (10 m/ min when resolution =0.1 μm and t=0.3 μs)										
Power supply	5V DC ± 5%										
Power consumption	Approx. 250 mA										

* Air purge may be used to increase resistance to dust, humidity and condensation.

Dimensions

