

# Linear Scale SA55

## Battery backup absolute type scale for feedback applications

- Machine homing not required.
- Generates "low on battery" alarm, preventing data loss.
- A/B phase absolute pulse coder interface signal and zero point output by differential line driver.
- Other alarm outputs in case of scale failure.
- Backup battery: 4 x size D alkaline battery cells (lasts approx. 1 year when used 12 hours a day for 3 axes.)
- Recommended measuring pitch: 0.1, 0.5 and 1  $\mu\text{m}$
- Measuring lengths: 120 to 2270 mm / 4.7" to 89.4" (22 models)
- Perfect for positioning NC machine tools.

## Specifications

Model	SA55-		
	C2B3	D2B3	E2C3
Measuring length L mm (inch)	120/170/220/270/320/370/420/470/570/670/740/790/840/890/990/1090/1240/1440/1640/1870/2070/2270 (4.7,6.6,8.6,10.6,12.5,14.5,16.5,18.5,22.4,26.3,29.1,31.1,33.35,38.9,42.9,48.8,56.6,64.5,73.6,81.4,89.4)		
Resolution	0.1 $\mu\text{m}$	0.5 $\mu\text{m}$	1 $\mu\text{m}$
Engraving pitch	40 $\mu\text{m}$		
Minimum phase difference	0.3 $\mu\text{s}$		
Accuracy (at 20 °C 68 °F)	$\pm 3 \mu\text{m}$		
Max. response speed	12 m/min		60 m/min
Max. Zero point response speed	0.01 ~ 0.1 m/min	0.01 ~ 0.5 m/min	0.01 ~ 1.0 m/min
Zero point	1 point at the center (standard) ; 1 in any one position can be selected in 50 mm steps from a measuring length end (by special order)		
Zero point detection speed	Depends on the model (0.01 m/ min to 1.0 m/ min)		
Expansion coefficient	$(8.8 \pm 1) \times 10^{-6} / ^\circ\text{C}$		
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	49 m/s <sup>2</sup> (according to our vibration test data, 50 to 1000 Hz for 30 min)		
Shock resistance	98 m/s <sup>2</sup> (according to our vibration test, 11 ms, in each of the X, Y, Z directions)		
Sliding resistance of detector head	3.9N (average)		
Battery backup duration	Approx. 1 year when used 12 hours a day for 3 axes.		
Power supply	5V DC $\pm 5 \%$		
Power consumption	Approx. 250 mA		

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

## Dimensions

