

Rigid scale for feedback applications

- No interface required.
- Resolutions: 0.1, 0.5, and 1 μm
- Measuring length: 120 to 2270 mm (4.7" to 89.4") (22 models)
- A/B quadrature output and zero point signal by differential line driver.
- Built-in error detection circuit.
- Air injection available, increasing resistance to harsh workshop conditions such as coolant.
- Perfect for positioning all types of NC machine tools.

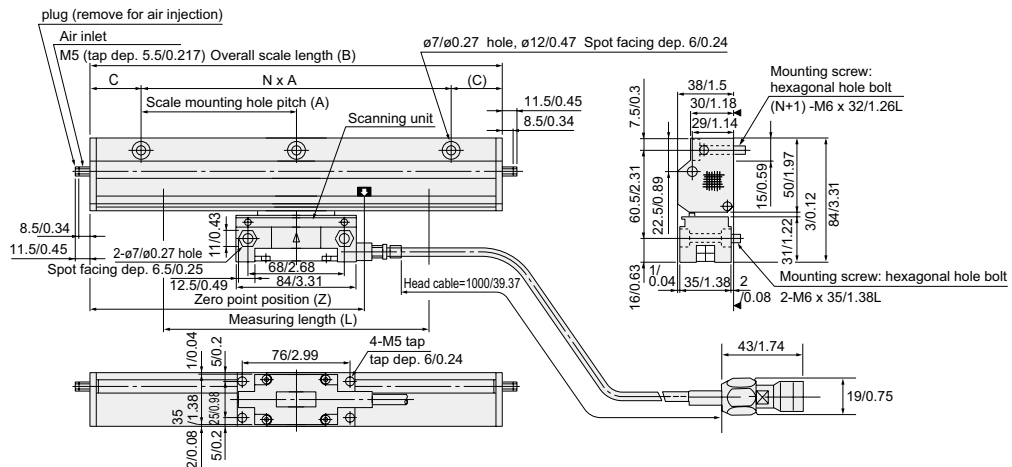


Specifications

Model	SH50- 012~227											
	C4A3	C4B3	D4B3	D4C3	E4B3	E4C3	E4D3	D4B5	D4C5	E4B5	E4C5	E4D5
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 (4.7,6.6,8.6,10.6,12.6,14.5,16.5,18.5,22.4,26.3,29.1,31.1,33,35,38.9,42.9,48.8,56.6,64.5,73.6,81.4,89.4)											
Resolution	0.1 μm		0.5 μm			1.0 μm			0.5 μm		1.0 μm	
Engraving pitch	20 μm											
Minimum phase difference	0.16 μs	0.3 μs	0.3 μs	0.6 μs	0.3 μs	0.6 μs	1.2 μs	0.3 μs	0.6 μs	0.3 μs	0.6 μs	1.2 μs
Accuracy (at 20 °C / 68 °F)	± 3 μm											
Max. response speed	20 m/min	10 m/min	50 m/min	24 m/min	60 m/min	39.6 m/min	24 m/min	50 m/min	24 m/min	60 m/min	39.6 m/min	24 m/min
Max. Zero point response speed	15 m/min	10 m/min	15 m/min									
Zero point	1 point within the measuring length (standard:at the center)											
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	49 m/s ² (according to our vibration test data, 30 to 1000 Hz for 30 min)											
Shock resistance	98 m/s ² (according to our vibration test data, 11 ms, in each of the X, Y, Z directions)											
Sliding resistance of detector head	3.9 N (average)											
Power supply	5V DC ± 5 %											
Power consumption	Approx. 250 mA											

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

Dimensions



SH50-	012	017	022	027	032	037	042	047	057	067	074	079	084	089	099	109	124	144	164	187	207	227	
Measuring length	L (mm)	120	170	220	270	320	370	420	470	570	670	740	790	840	890	990	1090	1240	1440	1640	1870	2070	2270
Overall length	B (mm)	202	252	302	352	402	452	502	552	652	752	822	872	922	972	1072	1172	1322	1522	1722	1952	2152	2352
Mounting hole pitch	A (mm)	130	180	230	280	165	190	215	240	290	230	250	270	280	300	250	275	250	290	275	270	300	285
	N	1	1	1	1	2	2	2	2	2	3	3	3	3	3	4	4	5	5	6	7	7	8
Zero point position	Z (mm)	101	126	151	176	201	226	251	276	326	376	411	436	461	486	536	586	661	761	961	976	1076	1176

Unit : mm/inch