

BS

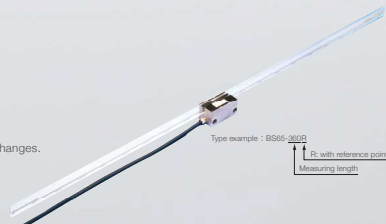
BS65-R
(with reference point)

High accuracy Laserscale with built-in optical reference point



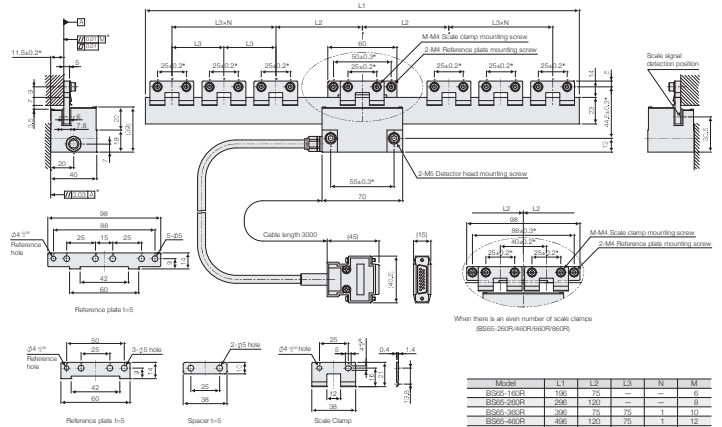
Actual size

- Signal pitch of 138nm
- High accuracy, high resolution
Scale accuracy : $L < 460 : (0.1+0.4L / 100) \mu\text{m-p}$
(L=measuring length in mm)
- High accuracy optical reference point : $\pm 0.1 \mu\text{m}$
- Measuring length : 160 mm to 960 mm
- Easy installation
- Minimal effect from disrupted air current and atmospheric changes.



External Dimensions

● BS65-xxxR (Measuring length : 160/260/360/460/560/660/760/860/960 mm)



Model	L1	L2	L3	N	M
BS65-160R	160	75	—	—	6
BS65-260R	260	120	—	—	8
BS65-360R	360	75	75	1	10
BS65-460R	460	120	75	1	12
BS65-560R	560	75	75	2	14
BS65-660R	660	120	75	2	16
BS65-760R	760	75	75	3	18
BS65-860R	860	120	75	3	20
BS65-960R	960	75	75	4	22

Note 1: The items marked by an asterisk indicate the machining dimensions on the mounting surface.
 Note 2: The surface properties of the scale mounting surface is $R_{\text{max}} = 6.3\text{S}$.
 Note 3: The surface properties of the detector head mounting surface is $R_{\text{max}} = 12.5\text{S}$.
 Note 4: "M" refers to the machine guide.
 Note 5: Mount and adjust the paired reference plates so that their reference surfaces have a parallelism of 0.01 or less with respect to the machine guide.

Unit: mm

Main Specifications

Model	BS65-R
Measuring length	160/260/360/460/560/660/760/860/960 mm
Overall length	Measuring length + 30mm
Max. travel	Measuring length + 10mm (5mm on each side)
Scale accuracy (at 20°C)	$L < 460 : (0.1 + 0.4L/100) \mu\text{m p-p}$, $L \geq 460 : 3 \mu\text{m p-p}$ L: Measuring length [mm]
Grating pitch	Approx. 0.55μm
Signal pitch	Approx. 0.138μm (Approx. 138nm)
Reference point accuracy	$\pm 0.1 \mu\text{m}$
Reference point position	At the center, and every 50mm from the center to the left and to the right
Reference point detection direction	Single direction
Return error	This is virtually eliminated. It should be considered to be less than two resolution limits of the detector that is used.
Repeatability	This is virtually eliminated. It should be considered to be less than one resolution limit of the detector that is used.
Thermal expansion coefficient	$8 \times 10^{-7}/^\circ\text{C}$
Light source	Semiconductor laser : Wavelength 790nm, Output 6mW
Radiation power	DHHS class 1
Detection principle	Diffraction grating scanning system
Operating temperature	10 to 30°C (No condensation)
Storage temperature	-10 to 50°C (Humidity less than 60%)
Max. response speed	400mm/s (When connected with B096)

Magposcience reserves the right to change product specifications without prior notice.