



Laser Scan Micrometer LSM-503S

SERIES 544 — High Accuracy Non-contact Measuring System



SPECIFICATIONS

Model	LSM-503S	
Order No.	544-536	
Applicable display unit	LSM-6200	
Laser Scanning Range	inch(mm)	Up to 1.3" (34mm)
Measuring range	inch(mm)	.012 to 1.18" (0.3 to 30mm)
Resolution	inch(mm)	.000001 to .005" (0.00002 to 0.1mm) [Selectable]
Repeatability [*1]	inch(μm)	±.0000044" (±0.11μm) [*2]
Linearity [*1]	Whole range	inch(μm) ±.00004" (±1.0μm) [*3]
	Narrow measuring range	μm
inch		±(.000024" + .000004" ΔD) [*3][*4]
Positional error [*1][*5]	inch(μm)	±.00006" (±1.5μm)
Measuring region	inch(mm)	.08 × .4" (2 × 10mm) (Measuring region: .002 to .004" (0.05 to 0.1mm))
		.16 × .4" (4 × 10mm) (Measuring region: .004 to .4" (0.1 to 10mm)) [Optical axis direction × Scanning direction]
Number of scans for averaging	scan	1 to 2048
Laser classification	Class 2 (Max. Output: 1.3mW with a scanning laser, semiconductor laser: wavelength 650nm)	
Number of laser scans	/sec	3200
Laser scanning rate	inch (m/sec)	4449"/sec (113m/sec)
Protection level	IP64	
Distance between the laser emission unit and reception unit	inch(mm)	Standard 5.12" (130mm)
		Max. 13" (350mm) [*6]
Operation environment	Temperature	0°C to 40°C
	Humidity	35%RH to 85%RH [without condensation]
	Altitude	2000m or less
Storage environment	Temperature	-15°C to 55°C
	Humidity	35%RH to 85%RH [without condensation]

Optional Accessories for LSM-503S

- 02AGD130: Calibration gage set (ø1mm, ø30mm)
- 02AGD490: Adjustable workstage
- 02AGD440: Center support*
- 02AGD450: Adjustable V-block*
- 02AGD240: Air blow cover
- 957608: Air cleaner for air blow cover
- 02AGC150A: Extension relay cable 1m
- 02AGC150B: Extension relay cable 3m
- 02AGC150C: Extension relay cable 5m
- 02AGN780A: Extension signal cable 5m
- 02AGN780B: Extension signal cable 10m
- 02AGN780C: Extension signal cable 15m
- 02AGN780D: Extension signal cable 20m

*Use with an adjustable workstage.

- [*1] Environment for accuracy validation: 20°C ± 1°C temperature; 50% ± 10% humidity.
- [*2] A value of ±2 with a 10mm-diameter gage has been measured for two minutes with a measurement interval of 0.32 seconds, where σ is the standard deviation.
- [*3] The value of measurements in the center of the measurement region.
- [*4] ΔD is the difference in diameter of the workpiece and the master gage.
- [*5] Error due to the positional shift of workpiece in optical axis direction or scanning direction.
- [*6] The distance between the laser emission unit and reception unit other than the standard, may affect the accuracy.

DIMENSIONS AND MASS

