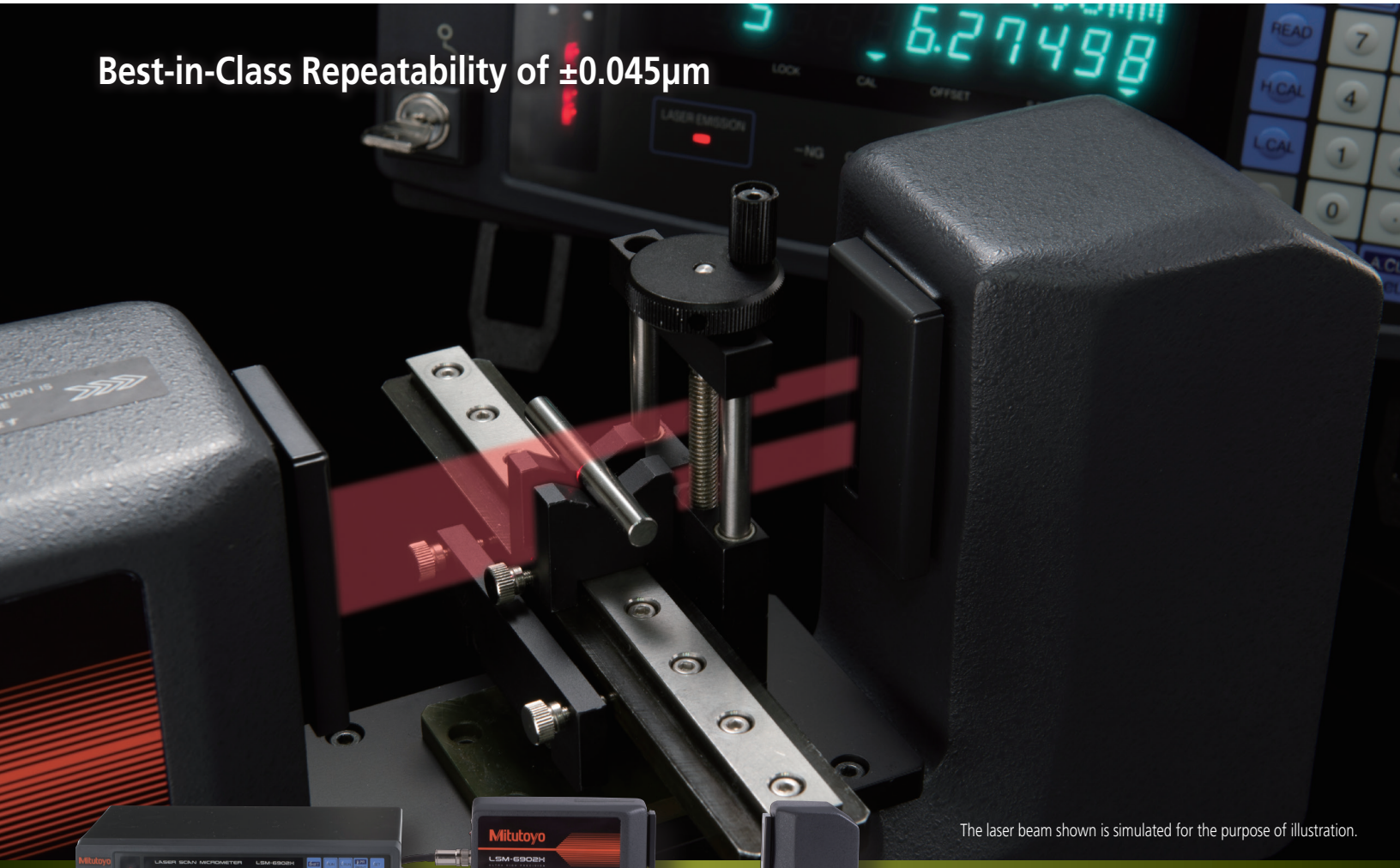
Bulletin No. 2267

Mitutoyo

Non-contact, high-accuracy measurement system

Laser Scan Micrometer
LSM-6902H

Mitutoyo Quality



The laser beam shown is simulated for the purpose of illustration.

Sensor Systems

NEW Products

Non-contact, high-accuracy measurement system

Laser Scan Micrometer
LSM-6902H

Features

- The best repeatability available in the 25mm/1" class.
- The ultra-precise scanning motor enables the highest measurement accuracy.
- Thanks to excellent linearity, an accuracy of ±0.5μm over the entire measuring range and a higher accuracy of ±(0.3+0.1ΔD)μm over a narrow range are guaranteed.
- An excellent option for measuring pin gages or plug gages.

Specifications

Set Order No.		544-499A(mm/inch)
Applicable standards		IEC · FDA

Measuring unit

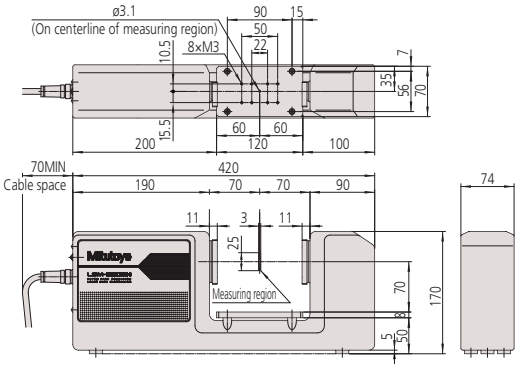
Measuring range		0.1 to 25mm (0.004 - 1.0 in)
Resolution		0.01 to 10μm (selectable) (0.000001 - 0.0005 in)
Repeatability*1	Whole range	±0.045μm (±0.0000018 in) (ø25mm)
	Narrow range	±0.03μm (±0.0000012 in) (ø10mm)
Accuracy*2 (20°C)	Whole range	±0.5μm (±0.000020 in)
	Narrow range	±(0.3+0.1 ΔD) [D:mm]μm ±(.000012+.0001 ΔD) [D:inch]*5
Movement error*3		±0.5μm (±.000020")
Measuring region*4		±1.5mm×25mm (±0.006×1.0 in)
Scanning rate		1600 scans/s
Laser wavelength		650nm (visible)
Laser scanning speed		112m/s
Operating environment	Temperature	0 to 40°C
	Humidity	RH 35 to 85% (non-condensing)

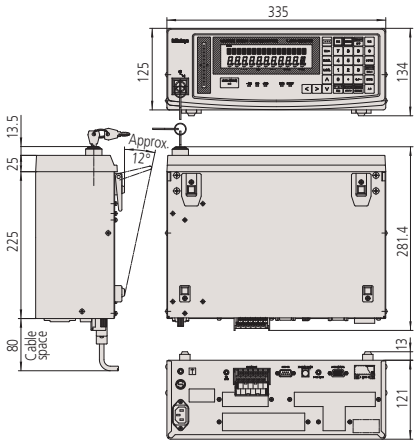
Display unit

Display	16-digit plus 11-digit fluorescent display, and guide message LED
Segment	1 to 7 (1 to 3, transparent) or 1 to 255 edges
Averaging times	Arithmetic average: 1 to 2048 scans. Moving average: 32 to 2048 scans.
Judgment	Selection from "target value + tolerance", "lower tolerance + upper tolerance", or "7 classes multilimit tolerance zone".
Measurement mode	Standby, Single measurement, Continuous measurement
Statistical analysis	Maximum, Minimum, Max–Min, Average, Dispersion, (S.D)
External dimensions	335(W)×134(H)×250(D)mm
Power supply	100 to 240VAC ±10% 35W 50/60Hz
Standard output	RS-232C, Analog I/O
Optional output	Digimatic code output unit (2-ch), 2nd I/O analog I/F, BCD I/F
Operating environment	0 to 40°C, RH 35 to 85% (non-condensing)
Others	Nominal setting, sample setting, suppression of unnecessary digits, transparent object measurement, automatic measurement in edge mode, output timer, abnormal data elimination, SHL change, group judgment, simultaneous measurement, statistical processing, mastering, buzzer function, automatic workpiece detection (dimension/position), zero-set/offset Note: In the case of dual measuring-unit connection, extra-fine line measurement and some of the communication commands are not available.

*1: At the 2σ level in the case where ø25mm and ø10mm diameters are measured using a measurement time of 1.28 seconds (2048 scans on average) *2: The value at the center of the measuring range
*3: The additional error (in outside diameter) caused by workpiece movement within the measuring envelope during the measuring cycle *4: Length along optical axis × Scanning length (Measuring range)
*5: ΔD is the difference in outside diameter between the master gage and workpiece.

Dimensions





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