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Linear Gages



Laser Scan Micrometers

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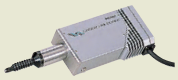
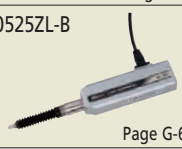


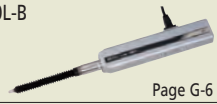
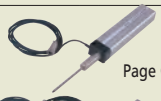
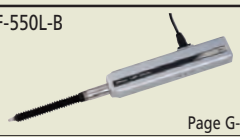
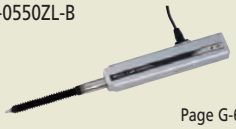
Linear Gage LGK



Laser Scan Micrometer LSM-500S

Linear Gage / Display Selection Guide

Resolution	Liner Gage			
		5mm	10mm	25mm
0.00001mm	LGH 0.01μm Laser Hologage Page G-11		LGH-110 LGH-110C Page G-10 	
0.0001mm	LGB®2 Page G-4 LGK Page G-5 LGF® 0.1μm Page G-6	LGB2-0105L Page G-4	LGK-0110 Page G-5 LGF-0110L-B Page G-6 	LGF-0125L-B Page G-6 
	LGH 0.1μm Laser Hologage Page G-10		LGH-1010 LGH-1010C Page G-10 	
	Motor Drive Page G-12			
0.0005mm	LGK Page G-5 LGF® 0.5μm Page G-6		LGF-0510L-B Page G-6 LGK-0510 Page G-5 	LGF-0525L-B Page G-6 
0.001mm	LGK Page G-5 LGF® 1μm Page G-6		LGK-110 Page G-5 LGF-110L-B Page G-6 	LGF-125L-B Page G-6 
	LGB® ϕ8mm P399 Page G-4	LGB-105L Page G-4	LGB-110 LGB-110S LGB-110HLGB-110A LGB-110-1LGB-110AR Page G-4	
	Motor Drive Page G-12			
	LGB No/Nut Page G-4	LGB2-105L Page G-4	LGB2-110 LGB2-110H LGB2-110-1 LGB2-110S LGB2-110AR Page G-4	
0.005mm	LGF® 5μm No/Nut Page G-6			LGF-525L-B Page G-6 
0.0005mm	LGF® 0.5μm Origin Mark Page G-6		LGF-0510ZL-B Page G-6 	LGF-0525ZL-B Page G-6 
0.001mm	LGF® 1μm Origin Mark Page G-6		LGF-110ZL-B Page G-6 	LGF-125ZL-B Page G-6 
0.01mm	LGD® Digimatic Page G-8		LGD-1010L-B Page G-8 	LGD-1025L-B Page G-8 
	LGS Digimatic Page G-9		LGS-1012P Page G-9 	

Linear Gage		Display		
50mm	100mm	Single Display	Double Display	Multigage System
		EH-120S  Page G-11		
	LG-01100 LG-01100C  LGM-01100 LGM-01100C Page G-12  Page G-12	EG-101P  Page G-15 EH-101P  Page G-16	EH-102P  Page G-16	
LGF-0550L-B  Page G-6 LGF-150L-B  Page G-6		EG-101P  Page G-15 EB-11P  Page G-14 EH-101P  Page G-16	EH-102P  Page G-16	EV-16P  Page G-17
	LG-1100N LG-1100C  Page G-12 LGM-1100N  Page G-12			
LGF-550L-B  Page G-6 LGF-0550ZL-B  Page G-6 LGF-150ZL-B  Page G-6		EG-101Z  Page G-15 EB-11Z  Page G-14	EH-11ZR  Page G-16	EV-16Z  Page G-17
LGD-1050L-B  Page G-8		EC-101D  Page G-13 EG-101D  Page G-15 EB-11D  Page G-14	EH-102D  Page G-16	EV-16D  Page G-17

Linear Gage LGB

SERIES 542 — 0.001mm Reading

FEATURES

- Extremely compact design. Available with an outside diameter as small as 8mm.
- The small photoelectric linear encoder assures high precision over the entire stroke range.
- The ball bearings used in the spindle unit ensure superb durability.



542-204, 542-204H

IP54



542-222, 542-222H, 542-224, 542-401

IP54



542-230, 542-223

IP54



542-244

IP54



542-262, 542-262H, 542-264, 542-421

IP54



542-270

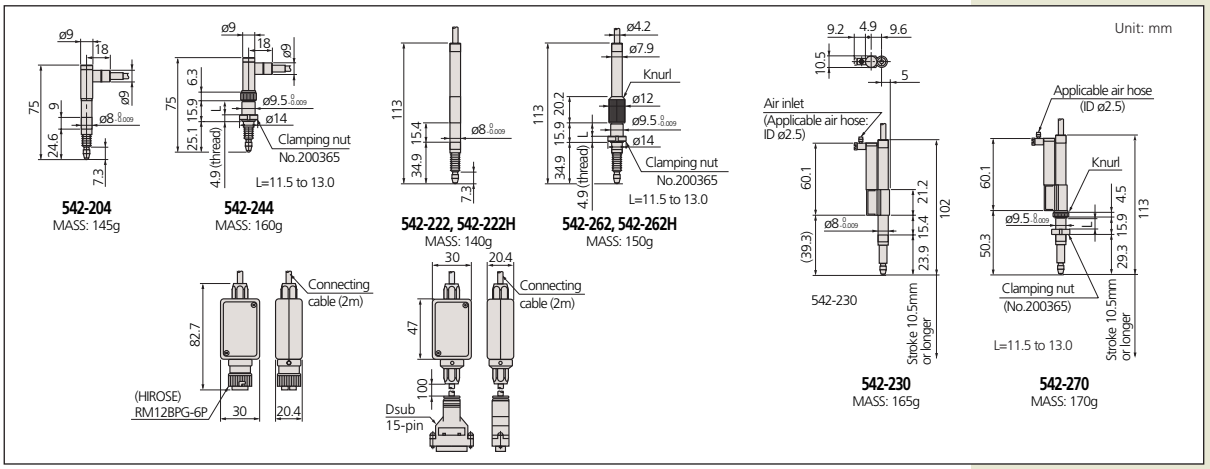
IP54

SPECIFICATIONS

Range	Order No.	Resolution	Accuracy	Measuring force*	Stem dia.	Remarks
5mm (.2")	**542-204**	0.001mm	2µm	0.65N / 0.6N / 0.55N	8mm	—
5mm (.2")	**542-204H**	0.001mm	1µm	0.65N / 0.6N / 0.55N	8mm	—
10mm (.4")	**542-222**	0.001mm	2µm	0.8N / 0.75N / 0.7N	8mm	—
10mm (.4")	**542-222H**	0.001mm	1µm	0.8N / 0.75N / 0.7N	8mm	—
10mm (.4")	**542-401**	0.001mm	2µm	0.8N / 0.75N / 0.7N	8mm	Sine-wave output
10mm (.4")	**542-224**	0.001mm	2µm	0.6N / 0.55N / 0.5N	8mm	—
10mm (.4")	**542-230**	0.001mm	2µm	0.8N / 0.75N / 0.7N	8mm	w/ pneumatic cylinder
10mm (.4")	**542-223**	0.001mm	2µm	0.8N / 0.75N / 0.7N	8mm	w/ pneumatic cylinder
5mm (.2")	**542-244**	0.001mm	2µm	0.65N / 0.6N / 0.55N	9.5mm	Low measuring force
10mm (.4")	**542-262**	0.001mm	2µm	0.8N / 0.75N / 0.7N	9.5mm	—
10mm (.4")	**542-262H**	0.001mm	1µm	0.8N / 0.75N / 0.7N	9.5mm	—
10mm (.4")	**542-421**	0.001mm	2µm	0.8N / 0.75N / 0.7N	9.5mm	Sine-wave output
10mm (.4")	**542-264**	0.001mm	2µm	0.6N / 0.55N / 0.5N	9.5mm	Low measuring force
10mm (.4")	**542-270**	0.001mm	2µm	0.8N / 0.75N / 0.7N	9.5mm	w/ pneumatic cylinder

*Posture of gage: Upward (♀) / Horizontal (←○, ○→) / Downward (♁)

DIMENSIONS AND MASS



Technical Data

Accuracy: Refer to the list of specifications
Resolution: 1µm
Inch Resolution: Refer to the applicable counters
Length standard: Photoelectric linear encoder
Max. response speed: 900mm/s
Contact point: ø3mm carbide
Stem: ø8mm or ø9.5mm
Bearing type: Stroke ball bearing
Measuring force: Refer to the list of specifications
Output signal: 90° phase difference, differential square wave (RS-422A equivalent)
(Sign-wave output: **542-401**, **542-424**)
Signal pitch: 4µm
Cable length: 80"/2m
Dust/Water protection level: IP54

Applicable Counters

EH counter (**542-060A, 542-062A**)
EB counter (**542-092-2**)
EG counter (**542-015**)
EV counter (**542-063**)

Optional Accessories

238773: Rubber boot for 5mm LGB (spare)
238772: Rubber boot for 10mm LGB (spare)
902434: Extension cable (5m)
902433: Extension cable (10m)
902432: Extension cable (20m)

Linear Gage LGK

SERIES 542 — 0.1µm, 0.5µm or 1µm Reading

Technical Data

Accuracy: Refer to the list of specifications (excluding quantizing error)
Resolution: 1µm, 0.5µm or 0.1µm
Inch Resolution: Refer to the applicable counters
Length standard: Photoelectric linear encoder
Max. response speed: 1500mm/s, 400mm/s (**542-158**)
Contact point: ø3mm carbide
Stem: ø8mm
Bearing type: Stroke ball bearing
Measuring force: Refer to the list of specifications
Output signal: 90° phase difference, differential square wave (RS-422A equivalent)
Signal pitch: 0.4µm (**542-158**), 2µm (**542-157**), 4µm (**542-156**)
Cable length: 80"/2m
Dust/Water protection level: IP66

Applicable Counters

EH counter (**542-060A, 542-062A**)
EG counter (**542-015**)
EB counter (**542-092-2**)*
EV counter (**542-063**)*
* Only applicable for resolution 0.0005mm and 0.001mm LGK

Optional Accessories

238772: Rubber boot (10mm)
902434: Extension cable (5m)
902433: Extension cable (10m)
902432: Extension cable (20m)
02ADE230: Air drive unit
02ADB680: Thrust stem set
02ADB682: Clamping nut
02ADB683: Wrench

FEATURES

- Compact design with a 8mm stem diameter
- Excellent protection against dust and water splash (IP-66) in harsh shop-floor environments.
- Maximum permissible acceleration values for shock and impact, 11ms (IEC68-2-27)
- Output differential square wave signals for a wide range of applications.
- Employs linear stroke bearings on the spindle movement for durability
- Thrust Stem with a clamping nut is optional.
- Interchangeable contact points for dial indicators can be used.



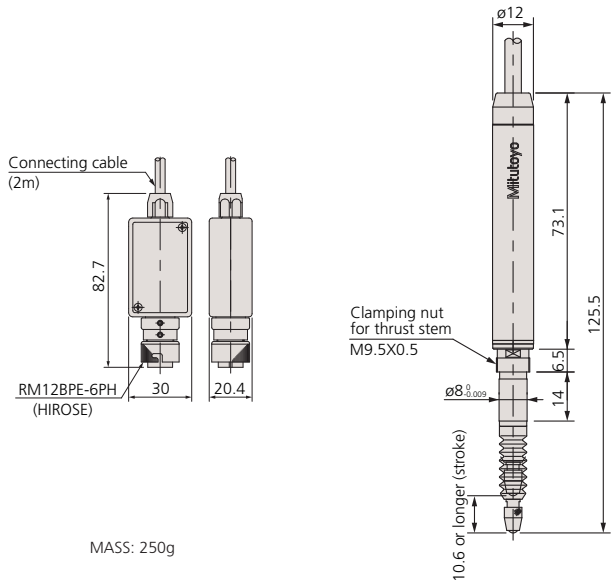
SPECIFICATIONS

Range	Order No.	Resolution	Accuracy*	Measuring force**	Stem dia.	Remarks
10mm (.4")	**542-156**	0.001mm	(1.5+L/50)µm	0.65N / 0.6N / 0.55N	8mm	—
10mm (.4")	**542-157**	0.0005mm	(1.5+L/50)µm	0.65N / 0.6N / 0.55N	8mm	—
10mm (.4")	**542-158**	0.0001mm	(0.8+L/50)µm	0.65N / 0.6N / 0.55N	8mm	—

*L = Measured length (mm) **Posture of gage: Upward ( ) / Horizontal ( ) / Downward ( )

DIMENSIONS AND MASS

Unit: mm



Linear Gage LGF

SERIES 542 — 0.1µm, 0.5µm or 1µm Reading















Technical Data

Accuracy: Refer to the list of specifications
Resolution: 1µm, 0.5µm or 0.1µm
Inch Resolution: Refer to the applicable counters
Length standard: Photoelectric linear encoder
Max. response speed: 1500mm/s, (400mm/s: **542-181**, **542-182**)
Contact point: ø3mm carbide
Stem: ø8mm or ø15mm
Bearing type: Stroke ball bearing
Measuring force: Refer to the list of specifications
Output signal: 90° phase difference, differential square wave (RS-422A equivalent)
Signal pitch: 4µm (**542-161**, **542-162**, **542-163**), 2µm (**542-171**, **542-172**, **542-173**) or 0.4µm (**542-181**, **542-182**)
Cable length: 80"/2m
Dust/Water protection level: IP66

Applicable Counters

EH counter (**542-075A, 542-071A**)
EG counter (**542-015**)
EB counter (**542-092-2**)
EV counter (**542-063**)

SPECIFICATIONS

Range	Order No.	Resolution	Accuracy*	Measuring force**	Stem dia.	Remarks
10mm (.4")	**542-181**	0.0001mm	(0.8+L/50)µm	1.2N / 1.1N / 1.0N	8mm	—
10mm (.4")	**542-171**	0.0005mm	(1.5+L/50)µm	1.2N / 1.1N / 1.0N	8mm	—
10mm (.4")	**542-161**	0.001mm	(1.5+L/50)µm	1.2N / 1.1N / 1.0N	8mm	—
25mm (1")	**542-182**	0.0001mm	(0.8+L/50)µm	4.6N / 4.3N / 4.0N	15mm	—
25mm (1")	**542-172**	0.0005mm	(1.5+L/50)µm	4.6N / 4.3N / 4.0N	15mm	—
25mm (1")	**542-162**	0.001mm	(1.5+L/50)µm	4.6N / 4.3N / 4.0N	15mm	—
25mm (1")	**542-612**	0.005mm	(7.5+L/50)µm	4.6N / 4.3N / 4.0N	15mm	
50mm (2")	**542-173**	0.0005mm	(1.5+L/50)µm	5.7N / 5.3N / 4.9N	15mm	—
50mm (2")	**542-163**	0.001mm	(1.5+L/50)µm	5.7N / 5.3N / 4.9N	15mm	—
50mm (2")	**542-613**	0.005mm	(7.5+L/50)µm	5.7N / 5.3N / 4.9N	15mm	

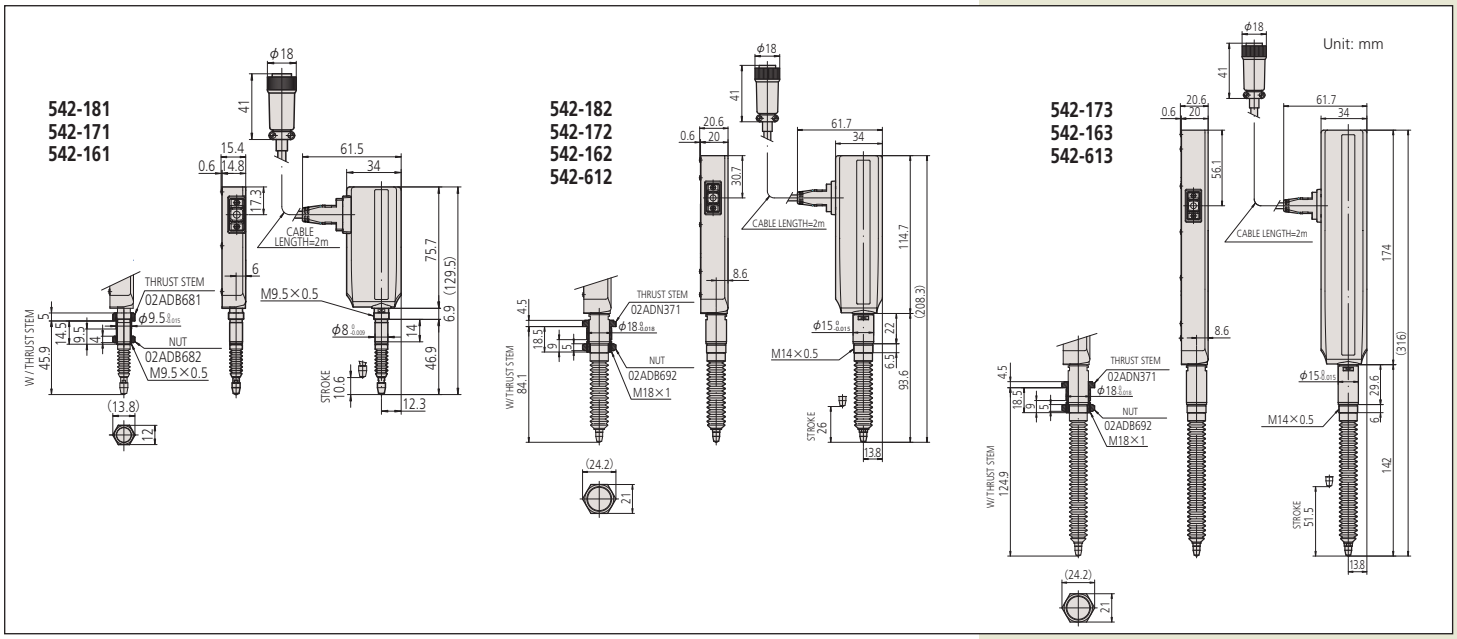
*L = Measured length (mm) **Posture of gage: Upward (♀) / Horizontal (←○, ○→) / Downward (♁)

Optional Accessories

238772: Rubber boot (10mm)
962504: Rubber boot (25mm)
962505: Rubber boot (50mm)
902434: Extension cable (5m*)
902433: Extension cable (10m*)
902432: Extension cable (20m*)
02ADB680: Thrust stem set (for 10mm range models)
02ADB690: Thrust stem set (for 25, 50mm range models)
02ADE230: Air lifting units (10mm range)
02ADE250: Air lifting units (25mm range)
02ADE270: Air lifting units (50mm range)
*not available for **542-181** and **542-182**

DIMENSIONS AND MASS

Unit: mm



Linear Gage LGF-Z with Origin Point Mark

SERIES 542 — 0.5µm or 1µm Reading

Technical Data

Accuracy: Refer to the list of specifications
Resolution: 1µm or 0.5µm
Inch Resolution: Refer to the applicable counters
Length standard: Photoelectric linear encoder
Max. response speed: 1500mm/s
Contact point: ø3mm carbide
Stem: ø8mm or ø15mm
Bearing type: Stroke ball bearing
Measuring force: Refer to the list of specifications
Output signal: 90° phase difference, differential square wave (RS-422A equivalent)
Signal pitch: 4µm (**542-164**, **542-165**, **542-166**) or 2µm (**542-174**, **542-175**, **542-176**)
Cable length: 80"/2m
Dust/Water protection level: IP66

Applicable Counters

EH counter (**542-073A**)
EB counter (**542-094-2**)
EG counter (**542-017**)
EV counter (**542-067**)

Optional Accessories

238772: Rubber boot (10mm)
962504: Rubber boot (25mm)
962505: Rubber boot (50mm)
02ADB680: Thrust stem set (for 10mm range models)
02ADB690: Thrust stem set (for 25, 50mm range models)
02ADE230: Air lifting units (10mm range)
02ADE250: Air lifting units (25mm range)
02ADE270: Air lifting units (50mm range)



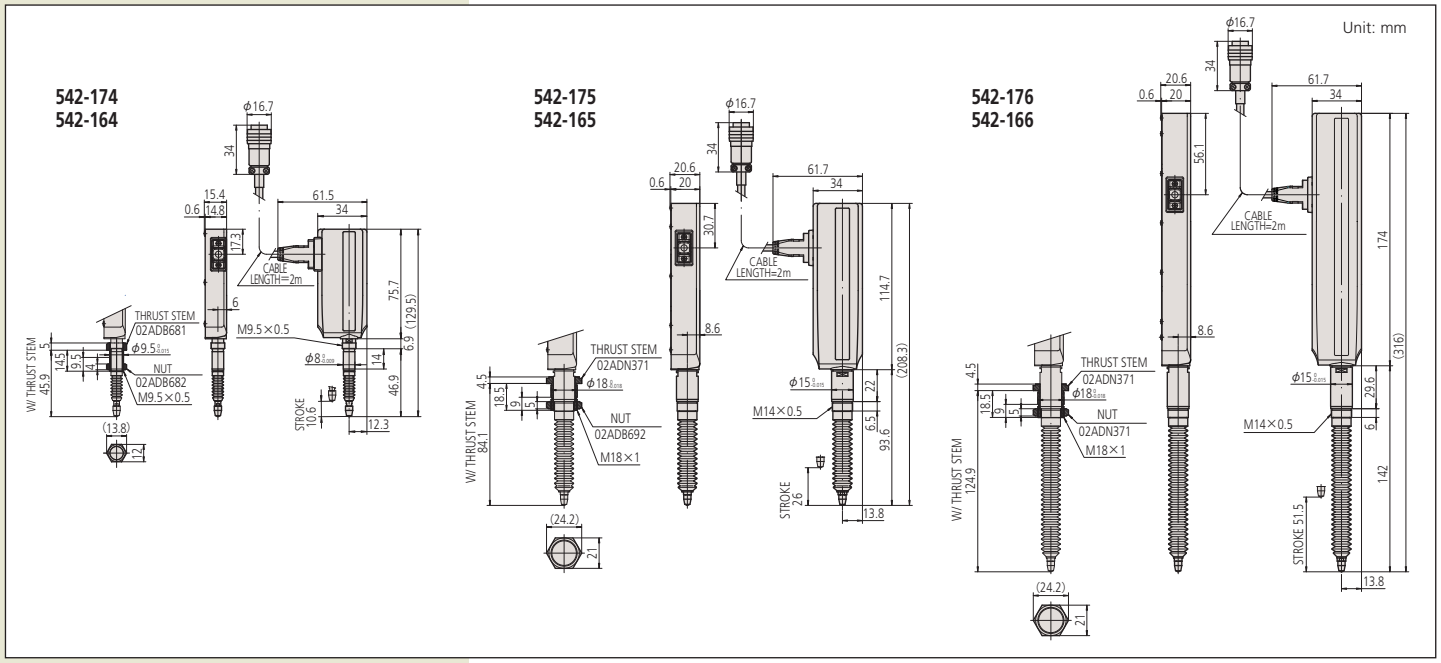
SPECIFICATIONS

Range	Order No.	Resolution	Accuracy*	Measuring force**	Stem dia.	Remarks
10mm (.4")	**542-174**	0.0005mm	(1.5+L/50)µm	1.2N / 1.1N / 1.0N	8mm	w/ origin point mark
10mm (.4")	**542-164**	0.001mm	(1.5+L/50)µm	1.2N / 1.1N / 1.0N	8mm	w/ origin point mark
25mm (1")	**542-175**	0.0005mm	(1.5+L/50)µm	4.6N / 4.3N / 4.0N	15mm	w/ origin point mark
25mm (1")	**542-165**	0.001mm	(1.5+L/50)µm	4.6N / 4.3N / 4.0N	15mm	w/ origin point mark
50mm (2")	**542-176**	0.0005mm	(1.5+L/50)µm	5.7N / 5.3N / 4.9N	15mm	w/ origin point mark
50mm (2")	**542-166**	0.001mm	(1.5+L/50)µm	5.7N / 5.3N / 4.9N	15mm	w/ origin point mark

*L = Measured length (mm) **Posture of gage: Upward (♀) / Horizontal (←○, ○→) / Downward (♁)

DIMENSIONS AND MASS

Unit: mm



Linear Gage LGD

SERIES 575 — .0005" / 0.01mm Reading

The LGD is an ultra-compact ABS Linear Gage designed to fit into very tight spaces. It keeps track of its origin point once set.

FEATURES

- The use of an absolute scale* in the sensor makes it possible to maintain the origin setting even when the power is switched off.
- Special linear ball bearings are used for the spindle guide to ensure a long service life.
- Optional thrust stem and tightening nut facilitate setup of the LGD linear gage in holes of a plate or fixture.

575-326



575-327



575-328



ABSOLUTE®
Absolute System Patented by MITUTOYO

Technical Data

Accuracy: Refer to the list of specifications
Resolution: 1µm or .0005"
Length standard: Capacitance-type ABSOLUTE linear encoder
Max. response speed: Unlimited
Contact point: ø3mm carbide
Stem: ø8mm or ø15mm
Bearing type: Stroke ball bearing
Measuring force: Refer to the list of specifications
Output signal: Digimatic output
External input: Origin-setting signal (Absolute origin position can be changed externally.)
Cable length: 80"/2mm

Applicable Counters

EC counter (**542-007A**)
EB counter (**542-093-2**)
EG counter (**542-016**)
EV counter (**542-064**)

Optional Accessories

238772: 10mm rubber boot (spare)
962504: 25mm rubber boot (spare)
962505: 50mm rubber boot (spare)
02ADC730: ø9.5mm Thrust stem set (for 10mm model)
02ADC740: ø18mm Thrust stem set (for 25mm/50mm model)
965275*: Digimatic Power Supply Unit
02ADE230: Air lifting units (10mm range)
02ADE250: Air lifting units (25mm range)
02ADE270: Air lifting units (50mm range)

* To denote your AC line voltage add the following suffixes to the order No. (e.g.: **965275A**):
A for UL/CSA, **D** for CEE, **E** for BS, **F** for SAA, **DC** for China, **K** for EK, **No suffix** is required for JIS/100V

SPECIFICATIONS

Metric LGD

Range	Order No.	Resolution	Accuracy	Measuring force*	Stem dia.	Remarks
10mm	**575-326**	0.01mm	20µm	1.2N / 1.1N / 1.0N	8mm	—
25mm	**575-327**	0.01mm	20µm	4.6N / 4.3N / 4.0N	15mm	—
50mm	**575-328**	0.01mm	30µm	5.7N / 5.3N / 4.9N	15mm	—

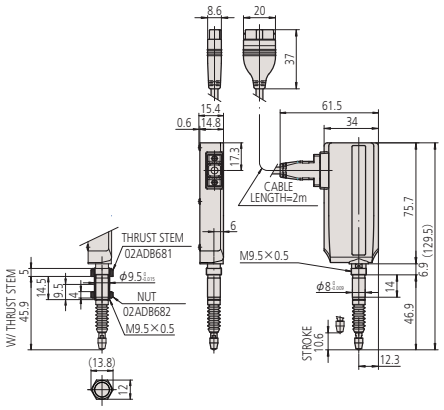
Inch LGD

Range	Order No.	Resolution	Accuracy	Measuring force*	Stem dia.	Remarks
.4"	**575-336**	.0005"	.001"	1.2N / 1.1N / 1.0N	8mm	—
1"	**575-337**	.0005"	.001"	4.6N / 4.3N / 4.0N	15mm	—
2"	**575-338**	.0005"	.0012"	5.7N / 5.3N / 4.9N	15mm	—

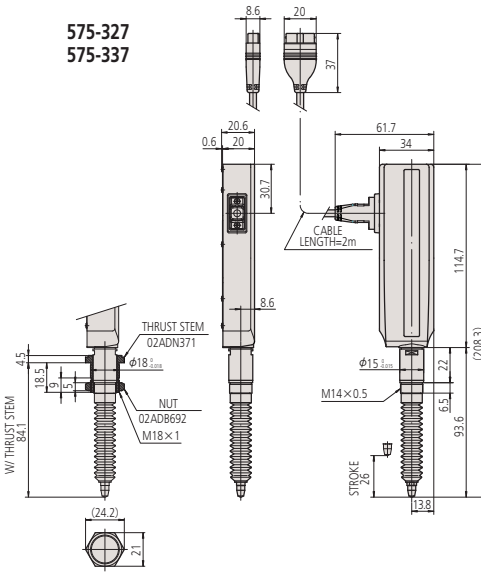
DIMENSIONS AND MASS

Unit: mm

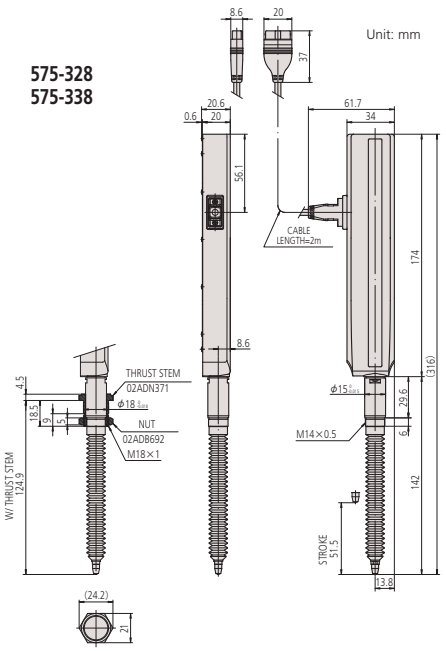
575-326
575-336



575-327
575-337



575-328
575-338



Linear Gage LGS

SERIES 575 — .0005" / 0.01mm Reading

ABSOLUTE®
Absolute System Patented by MITUTOYO

The LGS is compact Linear Gage designed to fit into tight spaces.



575-303

Technical Data

Accuracy: Refer to the list of specifications
Resolution: 0.01mm or .0005"
Length standard: Capacitance-type ABSOLUTE linear encoder
Max. response speed: Unlimited
Contact point: ø3mm carbide (ø3mm steel: **575-313**)
Stem: ø8mm or 3/8" DIA
Bearing type: Slide-bearing
Measuring force: Refer to the list of specifications
Output signal: Digimatic output
Cable length: 80"/2m
Dust/Water protection level: IP66

Applicable Counters

EC counter (**542-007A**)
EB counter (**542-093-2**)
EG counter (**542-016**)
EV counter (**542-064**)

Optional Accessories

238774: Spare rubber boot
903594: Air Drive Unit (metric)
903598 Air Drive Unit (inch)
02ADF640: SPC cable extension adapter
02ADD950: Extension cable (0.5m)
936937: Extension cable (1m)
965014: Extension cable (2m)
———: EC Counter

SPECIFICATIONS

Metric

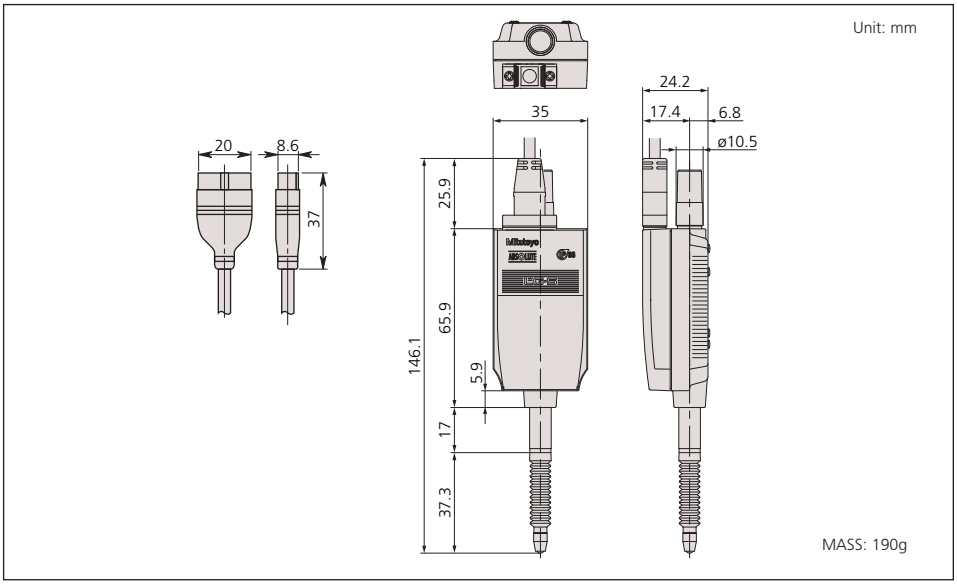
Range	Order No.	Resolution	Accuracy	Measuring force*	Stem dia.	Remarks
12.7mm	**575-303**	0.01mm	0.015mm	2.0N / 1.8N / 1.6N	8mm	—

Inch

Range	Order No.	Resolution	Accuracy	Measuring force*	Stem dia.	Remarks
.5"	**575-313**	.0005"	.0006"	2.0N / 1.8N / 1.6N	3/8 DIA	—

*Posture of gage: Upward (♀) / Horizontal (←O, O→) / Downward (♁)

DIMENSIONS AND MASS



Laser Hologage LGH

SERIES 542 — 0.1µm Reading

These are extra-high accuracy gaging heads provided with resolution up to 0.0001mm. The compact dimensions allow easy installation to very tight spaces. The Laser Hologage employs a unique holography scale as the length standard, ensuring excellent measuring accuracy and repeatability. The dedicated display unit (EH Counter) is optional.

FEATURES

- A linear ball bearing in the spindle guide provides excellent durability for an extended service life.
- The 0.0001mm reading type LGB linear gage (542-246) comes with a clamping nut on the stem.



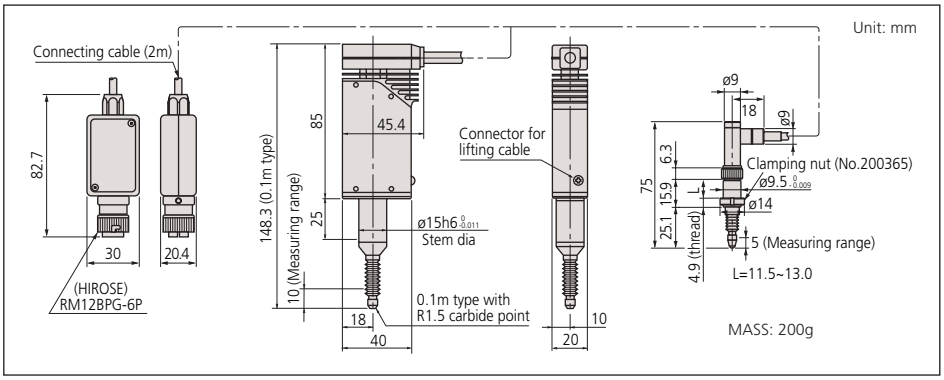
542-711-1

SPECIFICATIONS

Range	Order No.	Resolution	Accuracy	Measuring force*	Stem dia.	Remarks
10mm (.4")	**542-711-1**	0.1µm	0.2µm	0.55N / 0.45N / 0.35N	15mm	—
10mm (.4")	**542-712-1**	0.1µm	0.2µm	0.1N / — / —	15mm	Low measuring force

*Posture of gage: Upward ( ) / Horizontal ( ) / Downward ( )

DIMENSIONS AND MASS



Technical Data

Accuracy: Refer to the list of specifications
Resolution: 0.1µm
Inch Resolution: Refer to the applicable counters
Length standard: Laser-hologram measurement sensor
Max. response speed: 250mm/s
Contact point: R1.5mm carbide
Stem: ø15mm
Bearing type: High precision linear ball bearing
Measuring force: Refer to the list of specifications
Output signal: 90° phase difference, differential square wave (RS-422A equivalent)
Signal pitch: 0.25µm
Cable length: 80"/2m

Applicable Counters

EH counter (**542-075A, 542-071A**)
EG counter (**542-015**)

Optional Accessories

238773: Rubber boot
971751: Stem fixture for fixing to top surface
971752: Stem fixture for fixing to bottom surface
971753: Spindle lifting cable
971750: Laser Hologage stand

Linear Gage LGB

SERIES 542 — 0.1µm Reading



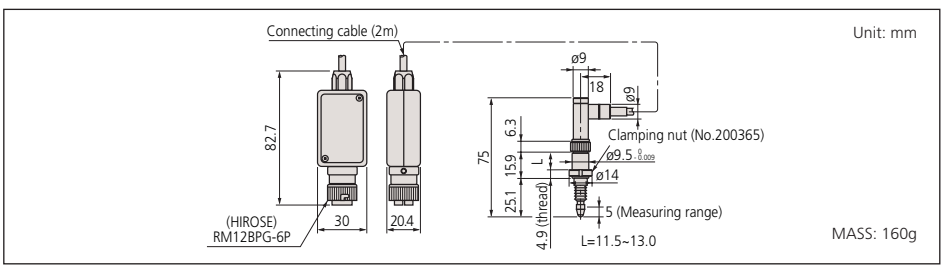
542-246

SPECIFICATIONS

Range	Order No.	Resolution	Accuracy	Measuring force*	Stem dia.	Remarks
5mm (.2")	**542-246**	0.1µm	0.8µm	0.65N / 0.60N / 0.55N	9.5mm	—

*Posture of gage: Upward ( ) / Horizontal ( ) / Downward ( )

DIMENSIONS AND MASS



Technical Data

Accuracy: Refer to the list of specifications
Resolution: 0.1µm
Inch Resolution: Refer to the applicable counters
Length standard: Photoelectric linear encoder
Max. response speed: 380mm/s
Contact point: R1.5mm carbide
Stem: ø9.5mm
Bearing type: Linear ball bearing
Measuring force: Refer to the list of specifications
Output signal: 90° phase difference, differential square wave (RS-422A equivalent)
Signal pitch: 0.4µm
Cable length: 80"/2m
Dust/Water protection level: IP54

Applicable Counters

EH counter (**542-075A, 542-071A**)
EG counter (**542-015**)

Optional Accessories

902434: Extension cable (5m)
902433: Extension cable (10m)
902432: Extension cable (20m)
238773: Rubber boot

Laser Hologage

SERIES 542 — 0.01µm / 1µin Reading

Technical Data

Accuracy: Refer to the list of specifications
Resolution: 0.01µm
Length standard: Laser-hologram measurement sensor
Max. response speed: 250mm/s
Contact point: R5mm carbide
Stem: ø15mm
Bearing type: High precision linear ball bearing
Measuring force: Refer to the list of specifications
Output signal: 90° phase difference, two-phase sine wave
Signal pitch: 0.25µm
Cable Length: 80"/2m

Optional Accessories

971751: Stem fixture for fixing to top surface
971752: Stem fixture for fixing to bottom surface
971753: Spindle lifting cable
971750: Laser Hologage stand

The Mitutoyo Laser Hologage is a high-end digital gaging system that employs diffracted laser beam interference to make highly accurate and repeatable measurements. It features ultra-fine diffraction gratings which are holographically recorded on the scale. The Laser Hologage is suitable for measuring ultra-high precision parts, especially those in semiconductor and related industries.



Gage head

FEATURES

- Highly accurate measurement due to an ultra-high resolution of 0.00001mm (0.01µm), which is close to the performance of laser interferometers.
- Excellent measuring stability — the design is also highly resistant to unfavorable environmental conditions such as air movement and atmospheric pressure changes.
- High-precision linear ball bearings are used in the guide for extremely smooth movement and exceptional durability.
- A display unit is provided.

EH-120S



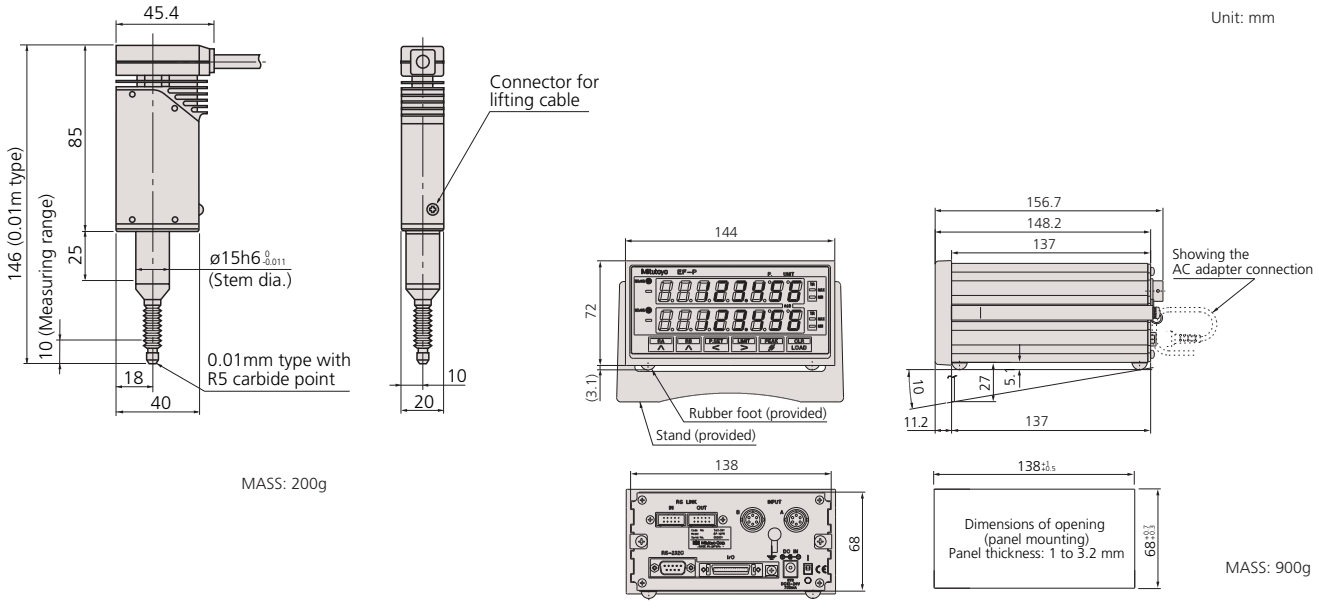
SPECIFICATIONS

Range	Order No.	Resolution	Accuracy	Measuring force*	Stem dia.	Remarks
10mm (.4")	**542-925A**	0.01µm / 1µinch	0.1µm	0.55N / 0.45N / 0.35N	15mm	—
10mm (.4")	**542-926A**	0.01µm / 1µinch	0.1µm	0.1N / — / —	15mm	Low measuring force

*Posture of gage: Upward ( ) / Horizontal ( ) / Downward ( )

DIMENSIONS AND MASS

Unit: mm



MASS: 200g

MASS: 900g

Long Stroke Linear Gage LG/LGM

SERIES 542 — 0.1 / 1µm Reading

FEATURES

- There are three types including the standard model, low measuring force model, and rubber boot model (made-to-order) available.



Motor drive unit



542-312



542-313

Technical Data

Accuracy: Refer to the list of specifications
Resolution: 1µm or 0.1µm
Inch Resolution: Refer to the applicable counters
Length standard: Photoelectric linear encoder
Max. response speed: 400mm/s (800mm/s: motor-driven type)
Contact point: ø3mm carbide
Stem: ø20mm
Bearing type: Bearing guide
Measuring force: Refer to the list of specifications
Output signal: 90° phase difference, differential square wave (RS-422A equivalent)
Cable length: 80"/2m
Dust/Water protection level: IP54

Applicable Counters

EH counter (**542-075A, 542-071A**)
EG counter (**542-015**)
EB counter (**542-092-2**)*
EV counter (**542-063**)*
* Resolution 1µm LGM only

SPECIFICATIONS

Range	Order No.	Resolution	Accuracy*	Measuring force**	Stem dia.	Remarks
100mm (4")	**542-312**	0.1µm	(2+L/100)µm ≤ 2.5µm	8.0N / 6.5N / 5.0N	20mm	Standard
100mm (4")	**542-316**	0.1µm	(2+L/100)µm ≤ 2.5µm	3.0N / — / —	20mm	Low measuring force
100mm (4")	**542-314**	0.1µm	(2+L/100)µm ≤ 2.5µm	8.0N / 6.5N / 5.0N	20mm	w/ rubber boot
100mm (4")	**542-332**	1µm	(2.5+L/100)µm ≤ 3µm	8.0N / 6.5N / 5.0N	20mm	Standard
100mm (4")	**542-336**	1µm	(2.5+L/100)µm ≤ 3µm	3.0N / — / —	20mm	Low measuring force
100mm (4")	**542-334**	1µm	(2.5+L/100)µm ≤ 3µm	8.0N / 6.5N / 5.0N	20mm	w/ rubber boot

*L = Measured length (mm) **Posture of gage: Upward / Horizontal / Downward

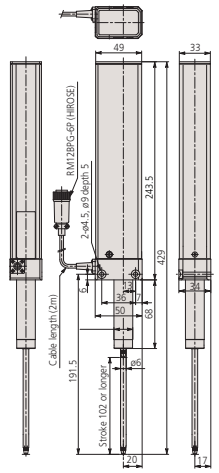
Range	Order No.	Resolution	Accuracy*	Measuring force**	Stem dia.	Remarks
100mm (4")	**542-313**	0.1µm	(2+L/100)µm ≤ 2.5µm	3.0N / 6.5N / 9.5N	20mm	Motor-driven Type
100mm (4")	**542-315**	0.1µm	(2+L/100)µm ≤ 2.5µm	4.5N / — /6.0N	20mm	Motor-driven Type
100mm (4")	**542-333**	1µm	(2.5+L/100)µm ≤ 3µm	3.0N / 6.5N / 9.5N	20mm	Motor-driven Type
100mm (4")	**542-335**	1µm	(2.5+L/100)µm ≤ 3µm	4.5N / — /6.0N	20mm	Motor-driven Type

*L = Measured length (mm) **Posture of gage: Upward (♀) / Horizontal (↤O, O↦) / Downward (♁) With rubber boot: **542-315**, **542-335**

DIMENSIONS AND MASS

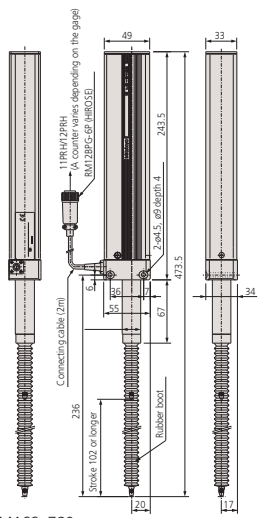
Unit: mm

Standard/Low measuring force type



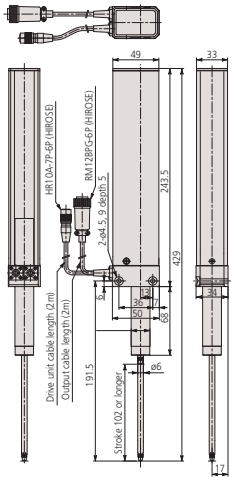
MASS: 750g

Rubber boot type



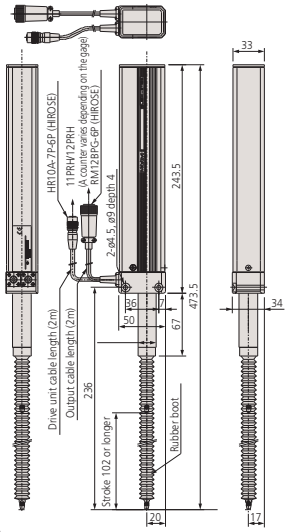
MASS: 780g

Standard type (motor-driven type)



MASS: 940g

Rubber boot type (motor-driven type)



MASS: 970g

EC Counter

SERIES 542 — Assembly Type Display Unit for LGD and LGS

Function
Zero set
Preset, GO/±NG judgment

Output (selectable)
Tolerance judgment: -NG, OK, +NG (open-collector)
Data: Digimatic code (SPC)

External control signal input
Preset, data hold

Power supply
Via AC adaptor 06AEG302JA (Standard accessory)

Optional Accessories
936937: SPC cable (40"/1m)
965014: SPC cable (80"/1m)
214938: PJ-2 (DC Plug)
C162-155: GO/±NG judgement cable

FEATURES

- Employed the DIN size (96X48mm) and mount-on-panel configuration, which greatly facilitates the incorporation into a system.
- Possible to produce either tolerance judgment output or Digimatic output (SPC).



542-007

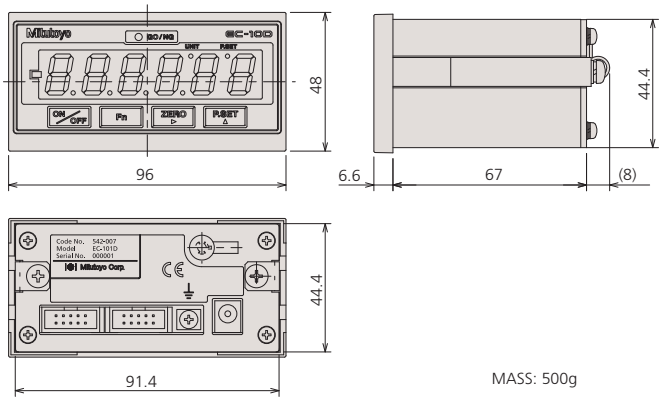


SPECIFICATIONS

Model	EC-101D
Order No.	**542-007A**
Applicable input	Digimatic code (SPC)
Applicable gage	LGD, LGD-L, LGD-ML, LGS and SPC output gages.
Number of gage input	1
Resolution	.001", .0005", .0001", .00005" / 0.01mm, 0.001mm (Automatically set depending on the gage.)
Display	6-digit and a negative [-] sign LED (Amber, Green, Red)

DIMENSIONS AND MASS

Unit: mm



MASS: 500g

EB Counter

SERIES 542 — Assembly Type Display Unit with Multiple Limit Setting

FEATURES

- Possible to produce 3-step/5-step X 7 kinds of tolerance output and limit value output independently for each of 7 channels.
- Provided with serial BCD output capability, which makes the connection to a programmable controller or personal computer, etc. possible with the minimum cabling requirement.
- Possible to perform dynamic measurement with the simplified analog output.
- Employed the DIN size (96X48mm) and mount-on-panel configuration, which greatly facilitates the incorporation into a system.



542-092



542-093

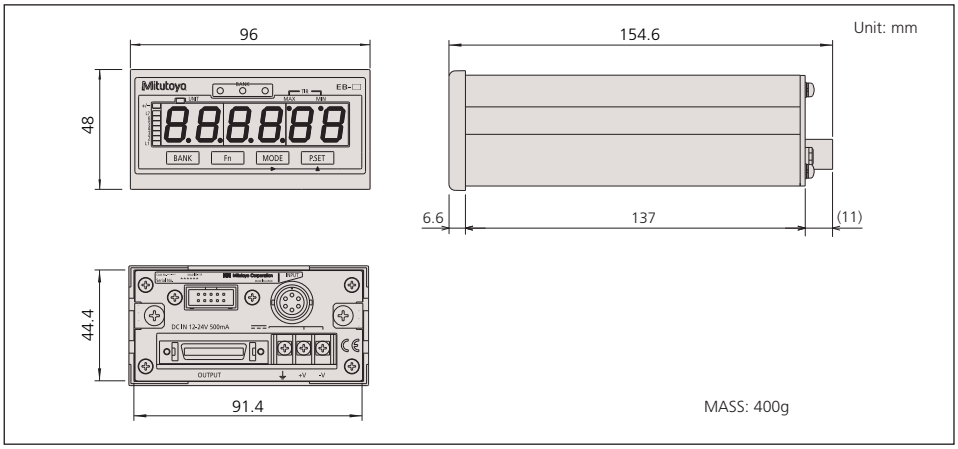


542-094

SPECIFICATIONS

Model	EB-11P	EB-11Z	EB-11D
Order No.	542-092-2	542-094-2	542-093-2
Applicable input	Differential square-wave	Differential square-wave w/origin point mark	Digimatic code (SPC)
Applicable gage	LGK, LGF, LGB, LGE	LGF with origin point mark	LGD, LGS
Number of gage input	1		
Resolution	.0005", .0001", .00005", .000005" / 0.01mm, 0.005mm, 0.001mm, 0.0005mm		.0005", .0001", .00005" / 0.01mm, 0.001mm
Tolerance judgment display	LED display (3 steps: Amber, Green, Red/5 steps: Amber, Amber flash, Green, Red flash, Red)		

DIMENSIONS AND MASS



Function

Preset, tolerance judgment output (3/5-step X 7 kinds), limit value output (2 kinds independently for each of the 7 channels), peak (maximum, minimum, runout) measurement, diverse data output (serial BCD, simplified analog)

Output

Tolerance judgment: L1 to L5, open-collector
Control: Normal operation signal (NORMAL), open-collector

External control signal input

Preset, display hold, peak value clear, tolerance judgment BANK switch, open-collector or no-voltage contact signal (with/without contact point)

Interface

Serial BCD: Bit-serial format, open-collector
Analog output: 2.5V + Counting value X voltage resolution (25mV/2.5mV): Full-scale 0 to 5V
Digimatic input/output:

- Connecting to the external switch box (No. 02ADF180) makes it easy to enter tolerance limits and preset values. Note) This can not be used when the gage is connected to a Mitutoyo DP-1VR Digimatic Mini-Processor
- Possible to connect with a Mitutoyo DP-1VR Digimatic Mini-Processor.
- Number of tolerance steps can be expanded by making a set of EB-D counters.

Quantization error

±1 count

Maximum input frequency

1.25MHz (The response speed depends on the gage being used.)
The response speed depends on the gage being used. (542-093)

Power supply voltage

DC+12 to 24V

Power consumption

6W (500mA) or less (Secure power supply more than 1A for each unit.)

Optional Accessories

02ADB440: I/O output connector
02ADF180: 10-key unit
936937: SPC cable (40"/1m)
965014: SPC cable (80"/2m)
02ADD930: Terminal block connecting cable
02ADN460: AC adapter
02ZAA010: Power cable



02ADB440 02ADN460 02ZAA010

EG Counter

SERIES 542 — Assembly Type Display Unit

Function
Preset, direction switch, tolerance judgment (3/5-step, 3 kinds). peak (max., min., runout) measurement, constant number, smoothing, error display/output, protection over keys

Output
Tolerance judgment: L1 to L5 (Switchover between open-collector output and BCD output by means of the parameter)
Control: NOM (normal signal) open-collector
BCD: 6-digit (positive/negative-true logic) open-collector (Switchover between tolerance judgment output by means of the parameter)

External control signal input
Preset, display hold, peak value clear, tolerance judgment BANK switch

Quantization error
±1 count

Maximum input frequency
1.25MHz (The response speed depends on the gage being used.)

Power supply voltage
DC+12 to 24V

Power consumption
6W (500mA) or less (Secure power supply more than 1A for each unit.)

Optional Accessories
02ADD930: Terminal connecting cable
02ADB440: I/O output connector
02ADN460: AC adapter
02ZAA010: Power cable



02ADB440 02ADN460 02ZAA010

FEATURES

- Possible to produce 3-step/5-step X 3 kinds of tolerance output and BCD output.
- The smoothing function can reduce the fluctuation of display digits.
- Employed the DIN size (96X48mm) and mount-on-panel configuration, which greatly facilitates the incorporation into a system.



542-015



542-016

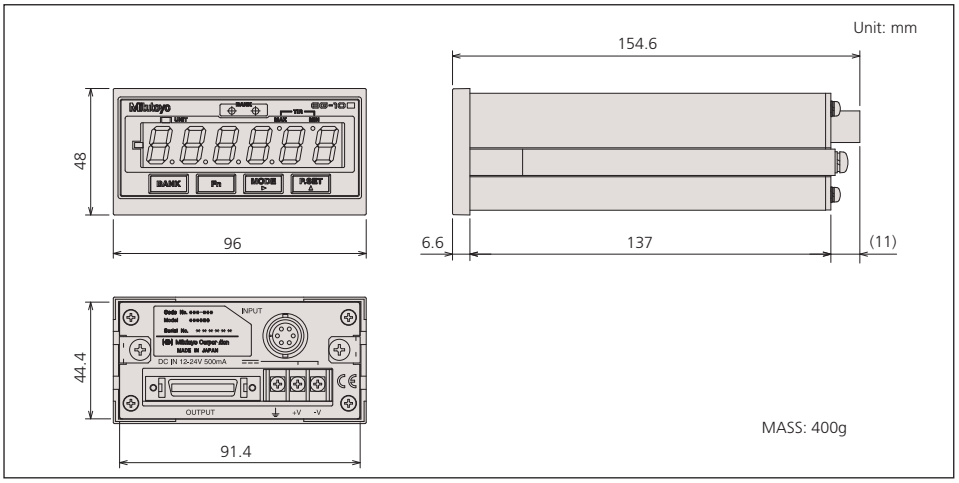


542-017

SPECIFICATIONS

Model	EG-101P	EG-101Z	EG-101D
Order No.	542-015	542-017	542-016
Applicable input	Differential square-wave	Differential square-wave w/origin point mark	Digimatic code (SPC)
Applicable gage	LGK, LGF, LGB, LGE, LGM, LGH (excluding with origin point and sign wave types)	LGF with origin point mark	LGD, LGS
Number of gage input	1		
Resolution (Depending on the linear gage type connected)	.001", .0005", .0001", .00005", .00001", .000005" / 0.01mm, 0.005mm, 0.001mm, 0.0005mm, 0.0001mm		.001", .0005", .0001", .00005" / 0.01mm, 0.001mm
Tolerance judgment display	LED display (3 steps: Amber, Green, Red/5 steps: Amber, Amber flash, Green, Red flash, Red)		

DIMENSIONS AND MASS



EH Counter

SERIES 542 — Multi-function Display Unit

FEATURES

- DIN compatible Panel-mounting type and DIN size (144 x 72mm). It can be easily incorporated into each system instrument.
- This counter can be used on a desktop by mounting it on the supplied stand leg.
- The standard RS-232C interface allows easy communication with an external PC.
- The RS Link function permits multiple EH counters (6 units maximum) to be connected with daisy chain and data to be input/output from one channel of the terminal RS-232C interface.
- The maximum value, minimum value, and TIR (runout) measurements are possible.
- The 2-gage input type can perform 2-axis display and make addition or subtraction calculations between 2 gages.



542-075A
EH-101P



542-071A
EH-102P



542-073A
EH-102Z



542-074A
EH-102S

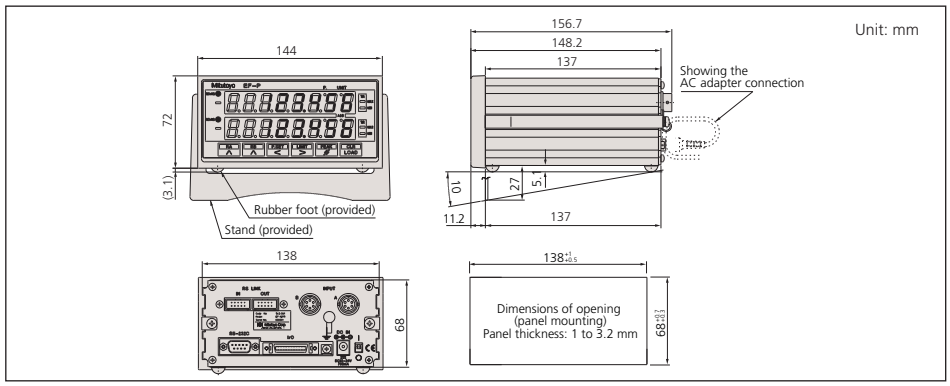


542-072A
EH-102D

SPECIFICATIONS

Model	EH-101P	EH-102P	EH-102Z	EH-102S	EH-102D
Order No.	542-075A	542-071A	542-073A	542-074A	542-072A
Applicable input	2.5MHz (Differential square-wave)			1MHz Differential sine-wave	Digimatic code SPC
Applicable gage	LGK, LGF with scale origin point mark, LGB, LGH (0.1um)		LGF with scale origin point mark, LGF 5um	LGH (0.01um)	LGD, LGS, ID
Number of gage input	1 (Single-display)	2 (Double-display)			
Resolution (Depending on the linear gage type connected)	.000005", .00005", .0005"/ 0.0001mm, 0.0005mm, 0.001mm, 0.005mm, 0.01mm			.000001"/0.1um, 0.01um	.0005" / 0.01mm
Mass	760g	800g	800g	900g	800g
Tolerance judgment display	LED display (3 step: Amber, Green, Red / 5 step: Amber, Amber flash, Green, Red flash, Red)				

DIMENSIONS



Function

Zeroset, preset, limit setting (3 or 5-step), GO/±NG judgement, GO/±NG signal output, MAX/MIN/TIR (runout) measurement, counting direction switching, double reading, mm/inch switching, sum/difference calculation of 2 gages (542-071A, 542-073A, 542-074A, 542-072A only), output mode selection

Output

I/O: Tolerance judgment output (3/5 stages), normal operation output RS-232C or Digimatic code (selectable): Various measurement data

External Control

I/O: Preset, Data hold and Error clear RS-232C: Displayed value output, MAX/MIN/TIR switching,Zero set, peak value clear, preset value input, tolerance value input and error clear

RS Link

Up to six EH counters may be connected via one RS-232C port.(daisy chain)

Error display/output

Power-supply voltage error, overspeed error, overflow error, gage error, communication error, and tolerance setting error

Power supply: Standard accessory

Via AC adaptor (12 - 24V DC, 700mA (max)

Optional Accessories

02ADB440: I/O output connector
02ADF180: 10-key unit
936937: SPC cable (40"/1m)
965014: SPC cable (80"/2m)
02ADD930: Terminal block connecting cable
02ADN460: AC adapter
02ZAA010: Power cable



02ADB440



02ADN460



02ZAA010

EV Counter

SERIES 542 — For Multi-gage System

Function
GO/±NG judgment, GO/±NG signal output, MAX/MIN/TIR (runout) measurement, counting direction switching, mm/inch switching, calculation of sum, average, maximum, minimum and maximum difference between specified axes, and output-mode selection

Output
I/O: Normal operation output and GO/±NG signal (three steps), measurement data (BCD code), or 21-stage segment output (selectable) RS-232C: Various measurement data

External Control
I/O: Axis designation, preset, data hold, and error clear RS-232: Displayed value output command, MAX/MIN/TIR switching and peak value clear, zero set, preset value input, tolerance value input, error clear, and command to output calculated value between specified axes

RS Link
Up to 10 EV counters may be connected via a single RS-232 port. (daisy chain) EV and EH counters can be mixed (in which case a total of six counters can be connected).

Error display/output
Power-supply voltage error, overspeed error, overflow error, gage error, communication error, and tolerance setting error

Maximum input frequency
1.25MHz (differential square-wave): Max counting Speed : 5MHz

Power supply
Terminal block (M3 screws), DC +12 to +24V, 700mA (max.)

Optional Accessories
02ADB440: I/O output connector
02ADD400: D-EV (external display unit)
936937: RS link connector cable (40"/1m)
965014: RS link connector cable (80"/2m)
357651: AC adapter (must order 02ADD930 and 02AAA010)
02ADD930: Terminal connecting cable
02ADN460: AC adapter
02ZAA010: Power cable

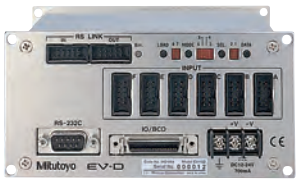

02ADB440


02ADN460


02ZAA010

FEATURES
- Up to six gages can be connected to one unit.
- Able to connect up to 10 EV counters to one personal computer using the RS link function to facilitate the configuration of a multi-point measurement system comprising a maximum of 60 gages.
- A range of output modes to choose from; I/O output for tolerance judgment and segment output, BCD data output and RS-232 output are available.
- Peak-hold measurements are possible for maximum value, minimum value, runout (TIR), etc.
- Able to calculate a sum, average, maximum, minimum, maximum difference, etc., between gages connected to the same unit.


542-063


542-064

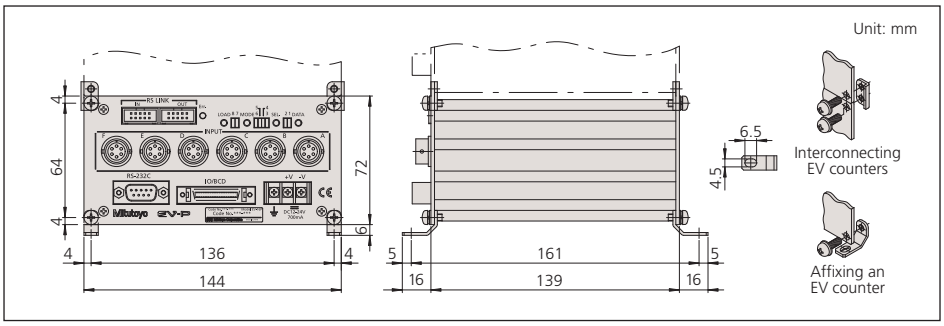

542-067

SPECIFICATIONS

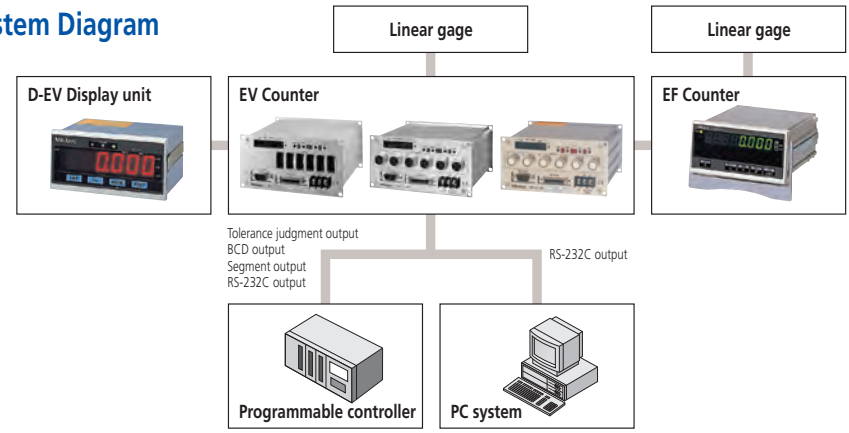
Model	EV-16P	EV-16Z	EV-16D
Order No.	542-063	542-067	542-064
Applicable input	Differential square-wave		Digimatic code (SPC)
Applicable gage	LGB (ex. 0.0001mm resolution), LGF, LGE, LG	LGF with origin point mark	LGD, LGD-M, LGS
Number of gage input	6		
Resolution (internal) - no display capability	.000005", .00005", .0005" / 0.0005mm, 0.001mm, 0.005mm, 0.01mm		.00005"*, .0005" / 0.001mm*, 0.01mm
Mass	910g	910g	830g

*: Will not be indicated when combined with a LG gage.

DIMENSIONS



System Diagram



D-EV Display Unit

FEATURES

- Display unit for the EV counter.
- Using this display allows various settings for the EV counter without a personal computer or other equipment.
- Able to display each axis measurement value and GO/NG judgment result, total GO/NG judgment result for all axes, setting details, and errors.
- DIN compatible compact panel-mounting - cutout dimensions $45^{+0.8}_{0}$ x $92^{+0.8}_{0}$
- The required power supply is DC +12 to +24V, 200mA (357651+02AAA010) at the terminal block (02ADD930).



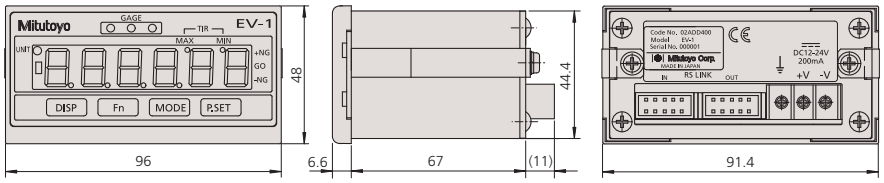
02ADD400

SPECIFICATIONS

Model	D-EV
Order No.	**02ADD400**

DIMENSIONS AND MASS

Unit: mm



MASS: 150g

Technical Data

Number of connectable units: One display unit allows external display and setting for one EV counter.
Displayed digits: It uses a single sign plus six digits (EV counter operates on eight-digit data internally but displays only the last six digits).
LED display: Channel display (also for display of judgment result): 3 (three-color LED) Measurement mode display (current, maximum, minimum, runout): 2 Status display: 1 (two-color)
Operating switches: 4
Switches and their functions: Channel switching, measurement mode switching (current value, maximum value, minimum value and runout), parameter setting, preset, and tolerance setting
Input/output: RS Link connectors: 1 in and 1 out.
Error display: Overspeed, gage error and others.
Power supply: Terminal block (M3 screws), DC +12 to +24V, 200mA

Optional Accessories

527428A: AC adapter (must order 02ADD930)
357651: AC adapter (must order 02ADD930 and 02AAA010)
02ADD930: Terminal connecting cable
02ADN460: AC adapter
02ZAA010: Power cable



02ADB440 02ADN460 02ZAA010

SENSORPAK

This software facilitates the loading of measurement data from a linear gage counter with the RS-232C interface into user's personal computer.

MiCAT
Mitutoyo Intelligent Computer Aided Technology
the standard in world metrology software
SENSOR

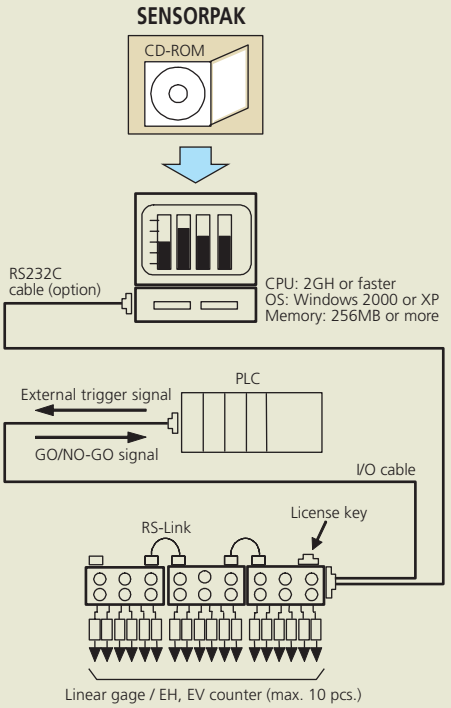


FEATURES

- Maximum 60 channels of measuring points can be processed.
- Possible to perform arithmetical calculation and maximum width calculation using the measurement data.
- Possible to export the measurement data into MS-Excel.
- Diverse graphic functions (numeric value display, meter display, bar-graph display, overall judgment display)
- Frequency of data loading: Max. 9999 times (60ch) to 60000 times (6CH)

SPECIFICATIONS

Order No.	Description
54SAA622	Sensorpak



Litematic and Litematic Head

SERIES 318 — High-resolution Measuring Unit

Technical Data

Accuracy: Refer to the list of specifications. (excluding quantizing error)
Resolution: Refer to the list of specifications.
Repeatability: σ=0.05µm
Display unit: 8 digits and 14mm character height
Stroke: 51.2mm (using standard contact point)
Measuring force: 0.01N: **318-221A**
0.15N: **318-222A**
1N: **318-223A**
0.01N: **318-226A**
0.15N: **318-227A**
1N: **318-228A**
Spindle feed speed: 2mm/s, 4mm/s, 8mm/s
Length standard: Photoelectric linear encoder
Contact point: ø3mm carbide ball
Power supply: 85 - 264V AC

Optional Accessories

936937: SPC cable (1mm)
965014: SPC cable (2mm)
957460: 300x250mm granite stand with bracket for Litematic Head
101118: Contact point, Shell
120066: Contact point, ø0.45mm needle (carbide)
120059: Contact point, ø7.0mm spherical (carbide)
120060: Contact point, ø10.5mm spherical (carbide)
937179T: Foot switch
264-504-5A: Digimatic Mini-processor DP-1VR
264-012-10: Input tool (for USB port)
02ADM260-2: SENSORPAK (data capture software w/ I/O cable)

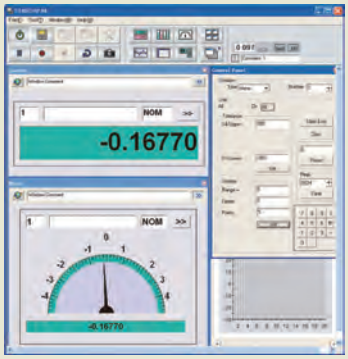


DP-1VR

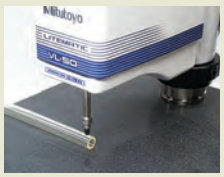


Input tool

* Digimatic output is to six significant figures.



Applications





FEATURES

- The Litematic is designed for measuring easily-deformed workpieces and high-precision parts such as pin gages, thin-wall bearings, plastic parts, and springs.
- Extra-low measuring force of 0.01N (1gf).
- Super Litematic employs a unique Laser Holoscale as the length standard, ensuring excellent measuring accuracy and repeatability.
- Ceramic anvil is free from corrosion and easy to maintain (Litematic).
- The measuring unit can be mounted onto fixtures or an optional stand to allow great flexibility of use (Litematic Head).
- Includes SPC output.



318-221A
Litematic



318-226A
Litematic Head

Shown with optional granite stand

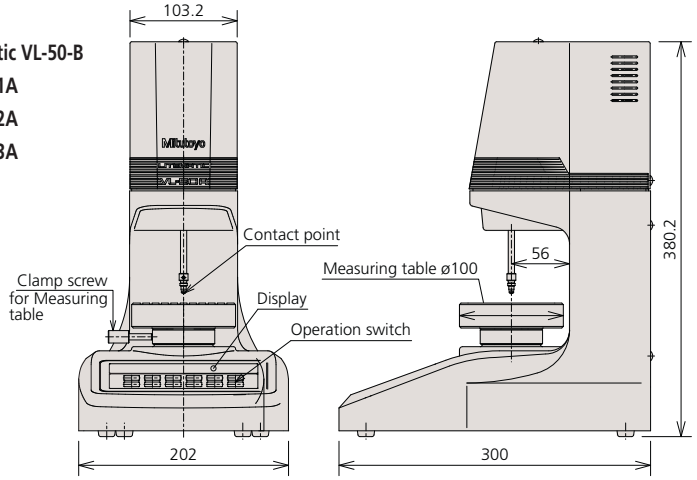
SPECIFICATIONS

Range	Order No.	Resolution	Accuracy (at 20°C±1°C)**	Remarks
0 - 50mm	**318-221A**	0.01µm, 0.1µm, 1µm, 0.5µinch, 5µinch, 50µinch switchable	(0.5+L/100)µm L=Measured length (mm)	1 piece unit w/ ø100mm grooved ceramic anvil
	318-222A			
	318-223A			
	318-226A			Seperate Type
	318-227A			
	318-228A			

DIMENSIONS

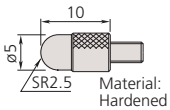
Unit: mm

Litematic VL-50-B
318-221A
318-222A
318-223A



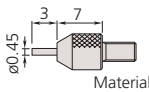
Interchangeable contact points

Unit: mm



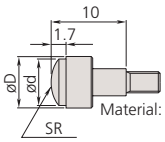
Material: Hardened steel

Order No.	Measuring force
101118	0.02N



Material: Carbide
Flatness: 3µm

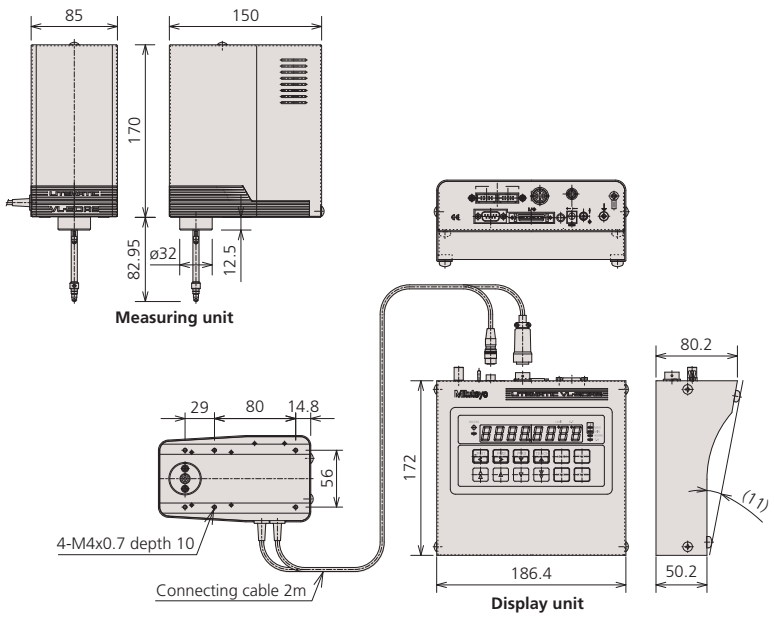
Order No.	Measuring force
120066	0.01N



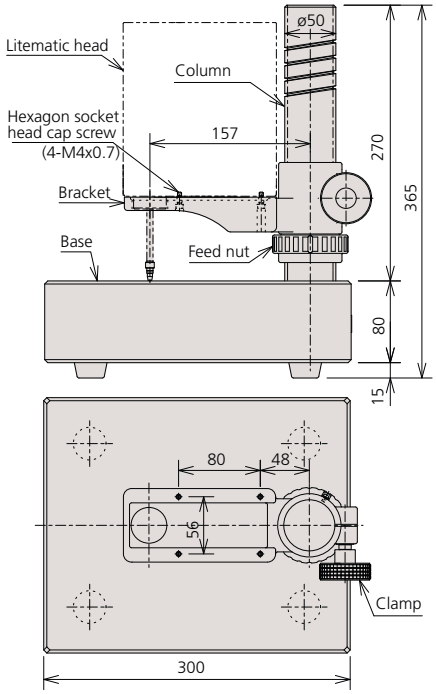
Material: Carbide

Order.No.	Measuring force	D	d	SR
120059	0.03N	ø7.5	ø6.5	7
120060	0.06N	ø10.5	ø9.5	10

Litematic Head VL-50S-B
318-2226A
318-2227A
318-2228A

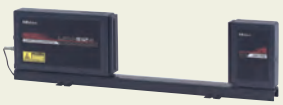


Optional stand for VL-50S-B: 957460



Laser Scan Micrometer Selection Guide

MEASURING UNITS

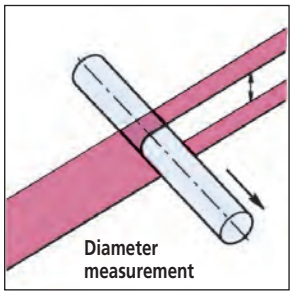
Appearance	Model	Laser Classification	Measuring range	Resolution (Selectable)
	**LSM-902***	**Visible** (650nm), IEC Class 2/ FDA Class II	0.1 - 25mm (.004" - 1.0")	0.01µm - 10µm (.000001" - .0005")
	**LSM-500S**	**Visible** (650nm), IEC Class 2/ FDA Class II	0.005 - 2mm (.0002" - .08")	0.01µm - 10µm (.000001" - .0005")
	**LSM-501S**	**Visible** (650nm), IEC Class 2/ FDA Class II	0.05 - 10mm (.002" - .4")	0.01µm - 10µm (.000001" - .0005")
	**LSM-503S**	**Visible** (650nm), IEC Class 2/ FDA Class II	0.3 - 30mm (.012" - 1.18")	0.02µm - 100µm (.000001" - .005")
	**LSM-506S**	**Visible** (650nm), IEC Class 2/ FDA Class II	1 - 60mm (.04" - 2.36")	0.05µm - 100µm (.000002" - .005")
	**LSM-512S**	**Visible** (650nm), IEC Class 2/ FDA Class II	1 - 120mm (.04" - 4.72")	0.1µm - 100µm (.000005" - .005")
	**LSM-516S**	**Visible** (650nm), IEC Class 2/ FDA Class II	1 - 160mm (.04" - 6.30")	0.1µm - 100µm (.000005" - .005")
 With display unit	**LSM-9506** Measuring unit - display unit one-piece structure for bench-top use only	**Visible** (650nm), IEC Class 2/ FDA Class II	0.5 - 60mm (.02" - 2.36")	0.05µm - 100µm (.000002" - .005")

DISPLAY UNITS

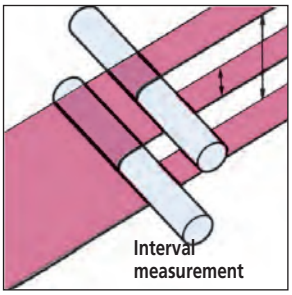
Appearance	Model	Type	Application	Interface units equipped
	**LSM-6200** **LSM-6900***	Multi-function type	Bench-top use	• RS-232C • I/O • Analog output
	**LSM-5100****	Compact type (Low cost)	Assembly/ bench-top use (DIN size)	• RS-232C • I/O • Analog output

*LSM-902 and LSM-6900 are factory-set package.
**When connecting with the LSM-500S series, the scanning speed becomes 1600 scans/sec.

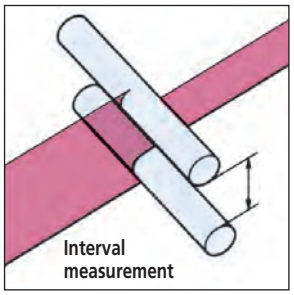
Laser Scan Micrometer



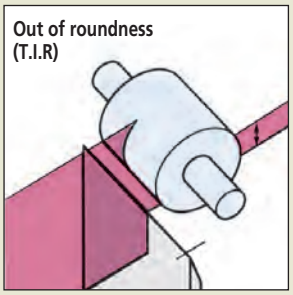
Enamel wire (Coated wire)
Cable
Spring wire
Tungsten wire
Pressure hose



Pins located in parallel

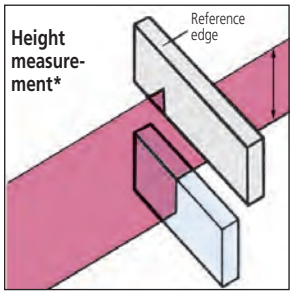


Gap of rollers

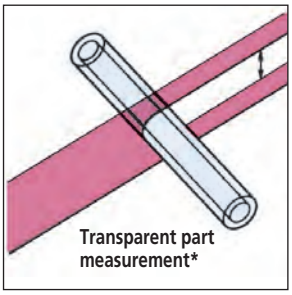


Rubber roller
Roller bearing
Motor shaft

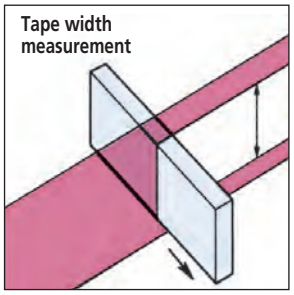
Reference edge



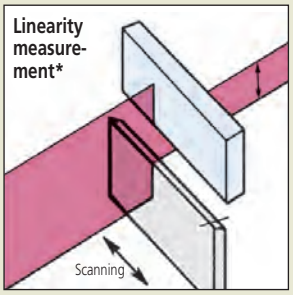
*Using offset function



Optical fiber
Glass tube
*Only segment Nos.
1 and 2 can be used.



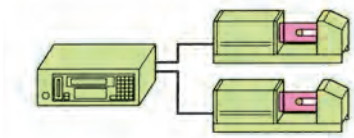
Tape
Belt
Bracket cable



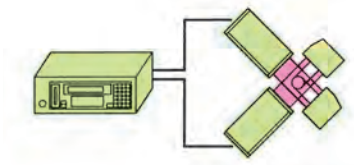
Blade
*Using offset function

Reference edge

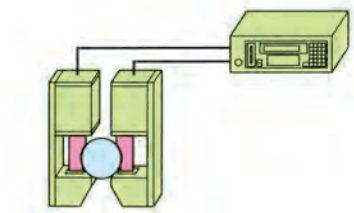
Dual-Unit Measurement:
By using an optional dual-type add on unit (02AGP150), one display unit can process the measurement data from two measuring units. e.g.) Two measurements with a single display unit



e.g.) XY measurement with a display unit [X–Y or (X + Y)/2]



e.g.) Two laser units used to measure large diameter workpieces



Dual-Program Measurement:
Two measurement programs with different conditions are set, and can be performed at the same time.
e.g.) Measurement of two dimensions



PROG. 0 (segment No. 2 is ON.) and PROG. 5 (segment No. 4 is ON.)



This LSM conforms to the US CDRH regulations in 21 CFR 1040.

Laser Scan Micrometer LSM-9506

SERIES 544 — Bench Top Type Non-contact Measuring System



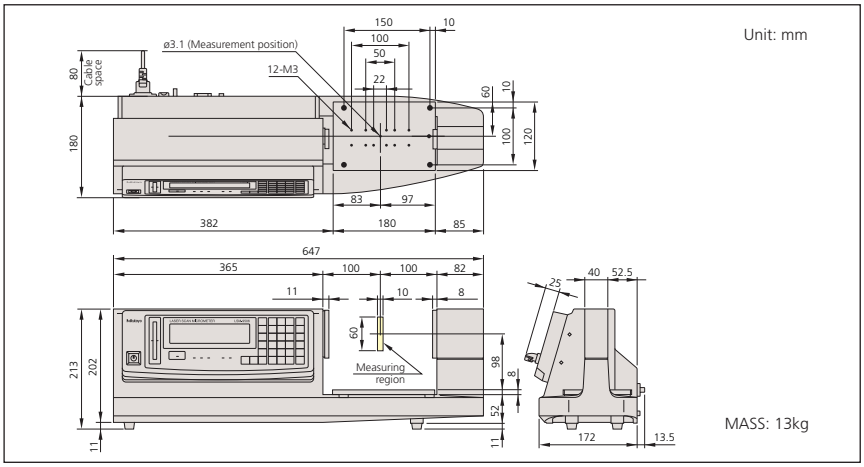
LSM-9506

SPECIFICATIONS

Model	LSM-9506	
Order No.	**544-116-1A**	
Measuring range	.02 - 2.36" (0.5 - 60mm)	
Measuring area	.02 x 2.36" (5 x 60mm) (*1)	
Scanning Rate	1600/sec	
Resolution	.000002 to .005" (0.00005 to 0.1mm) [Selectable]	
Repeatability	± .00003" (±0.6μm) (±2 σ measuring rate: 0.32s)	
Accuracy	Linearity (*2) ± .0001" (±2.5μm) The optical axis direction ± .0001" (±2.5μm) The scanning direction ±(.00008+L/10000)" [L:inch] (*3) ±(2.0+L/10)μm [L:mm] (*3)	
Laser type	Visible semiconductor laser Wavelengths: 670nm Scanning speed: 8900"/s (226m/s)	
Display Measuring function	Fluorescent display 16-digit+11-digit, guidance LEDs Segment designation: 1 to 7 (1 to 3 for Transparent) 10 Program storage (PROG. 0 to PROG. 9) 255 Edge Designations can be detected Multi Limit GO/±NG Tolerance Judgment (up to 7 intervals) Dual-Axis LED Display	Offset Setting and Mastering Reference Value Setting Automatic Workpiece Detection Dual-Gage Calibration Inch/mm Conversion Abnormal Data Elimination Dual Program Measurement Statistical Processing Workpiece Position display Foot-switch Connector
Data output standard	RS-232C, I/O Analog Interface, SPC	
Power Supply Power Cord Power Switch Operating Environment	AC100V - 240V ±10% 50/60Hz 40VA 930966 Key switch use 32~104°F(0~40°C), 35 - 85% RH (without condensation)	

(*1): The area given by [measuring range on the optical axis] x [Measuring range in the scanning direction].
(*2): Specified at the center of the measurement region.
(*3): L=Deviation between the center of workpiece and the optical axis. (See fig. 1)

DIMENSIONS AND MASS



Optional Accessories

02AGD170: Calibration gage set for LSM-9506
02AGD600B: Thermal printer (w/120V AC adapter)

Laser Scan Micrometer LSM-902 / 6900

SERIES 544 — Ultra-high Accuracy Non-contact Measuring System



LSM-6900 display unit

544-496A



LSM-902
measuring unit

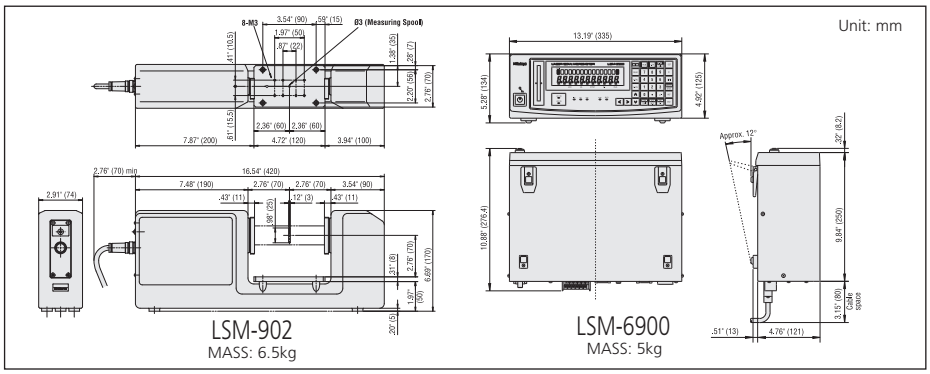
SPECIFICATIONS

LSM-902		
Measuring range		.004 - 1.0" (0.1 - 25mm)
Resolution		.000001 to .0005" (0.00001 to 0.01mm) [Selectable]
Repeatability*1		± .000002" (±0.05µm)*2
Linearity*1	Whole range	± .00002" (±0.5µm)*3
	Small range	± (.000012 + .0001 ΔD)" [ΔD:inch]*3 *4 ±(0.3 + 0.1 ΔD)µm [ΔD:mm]*3 *4
Positional error*1 *5		± .000020" (±0.5µm)
Measuring region		± .6 x 1.0" (±1.5 x 25mm)*6
Number of scans		800/sec
Laser wavelength		650nm [Visible LD], 1.5mW (peak)
Laser scanning speed		2240"/sec (56m/sec)
LSM-6900		
Display		Fluorescent display 16-digit + 11 digit, Guidance LEDs
Measuring function*7	Segment designation	1 to 7 (1 to 3 for Transparent material)
	Edge designation	1 to 255
	Averaging method	Simple averaging 1 to 2048 Moving averaging: 32 to 2048
		Tolerance judgement (GO,±NG); Multi-limit judgement (7 classes); Off-set/Zero-set; Abnormal data elimination; Automatic workpiece detection; Reference value setting; Data output condition; Laser power deterioration; Sample measurement; Statistical processing; Dual-program measurement; Automatic measurement using edge mode; Workpiece position display; Transparent object measuring; Key-lock function; mm/inch changeover; Dual-gage calibration; Selection of resolution; Judgement in ready state; Display of a comma to mark the thousandths position; Mastering; None-display unnecessary digits; Group judgement
Scanning signal monitor connector		Provided as standard (with the plug)
Remote interlock connector		Provided as standard (with the plug)
Powerswitch		Key switch used
Built-in interface		RS-232C; Foot switch connector; I/O analog interface
Optional interface	DCU slot	Digimatic code output unit (2-ch)
	Expansion slot (1-slot)	2nd I/O analog I/F; BCD I/F; GP-IB I/F;
Power supply		AC 100V - 240V±10%, 50/60Hz, 40VA

*1 Accuracy inspection environment/Temperature 20°C±1°C, Humidity: 50%±10%.
*2 The repeatability is determined by the value for ±2σ- at the measurement interval of 1.28 sec.
*3 Specified at the center of the measurement region.
*4 ΔD: Diameter difference to master gage.
*5 An error due to workpiece shift either in the optical axis direction or in the scanning direction.
*6 The area given by [measuring range on the optical axis] x [measuring range in the scanning direction.]
*7 The combination of functions is limited, details are described in the user's manual.

DIMENSIONS AND MASS

Unit: mm



Optional Accessories

02AGD180: Calibration gage set for LSM-902/6900
02AGD270: Workstage
02AGD280: Adjustable workstage
02AGD600B: Thermal printer (w/120VAC adapter)

Laser Scan Micrometer LSM-500S

SERIES 544 — High Accuracy Non-contact Measuring System



544-532

Optional Accessories for LSM-500S

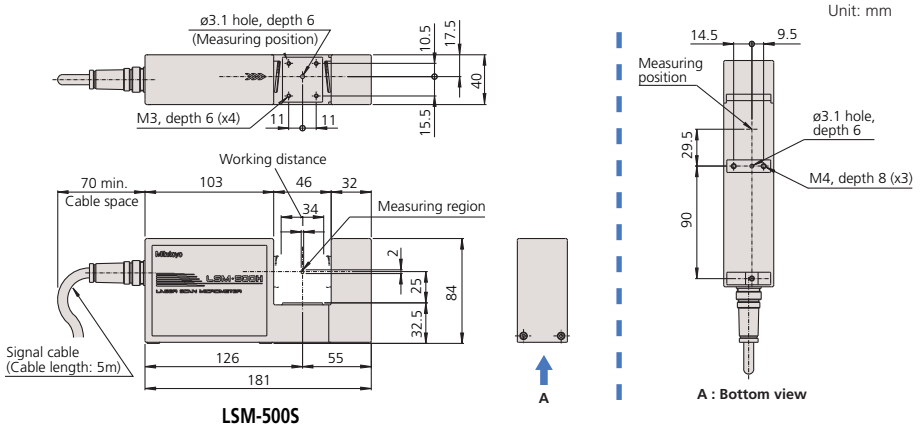
02AGD110: Calibration gage set (ø0.1mm, ø2.0mm)
02AGD200: Wire guiding pulley
02AGD220: Air blow cover
957608: Air cleaner for air blow cover
02AGN780A: Extension signal cable 5m
02AGN780B: Extension signal cable 10m
02AGN780C: Extension signal cable 15m

SPECIFICATIONS

Model		LSM-500S
Order No.		544-532
Applicable display unit		LSM-6200
Laser Scanning Range	inch(mm)	Up to .49" (12.5mm) (Detecting regions are limited to about .4" (10mm) approx.)
Measuring range	inch(mm)	.0002 to .08" (0.005 to 2mm) .004 to .08" (0.1 to 2mm) [*1]
Resolution	inch(mm)	.000001 to .0005" (0.00001 to 0.01mm) [Selectable]
Repeatability [*2]	inch(µm)	±.0000012" (±0.03µm) [*3]
Linearity [*2]	inch(µm)	±.000012" (±0.3µm) [*4]
Positional error [*2][*5]	inch(µm)	±.000016" (±0.4µm)
Measuring region	inch(mm)	.04 x .08" (1 x 2mm) [Optical axis direction x Scanning direction]
Number of scans for averaging	scan	16 to 2048 [*6]
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/sec (m/sec)	2992"/sec (76m/sec)
Protection level		IP64
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]

[*1]: Measuring range available when set to "No extra-fine wire measurement" or "Edge specification" in the basic setup mode.
[*2]: Environment for accuracy validation: 20°C ± 1°C temperature; 50% ± 10% humidity.
[*3]: The value of ±2 σ with a 2mm-diameter gage has been measured for two minutes with a measurement interval of 0.32 seconds, where σ is the standard deviation.
[*4]: The value of measurements in the center of the measurement region.
[*5]: Error due to the positional shift of the workpiece in the optical axis direction or scanning direction
[*6]: Averaging scans between 1 and 8 times can be made if "No extra-fine wire measurement" is specified in the basic setup mode. The measuring range, however, is limited to 0.1mm to 2mm in this case.

DIMENSIONS AND MASS



MASS: 1.5kg

Laser Scan Micrometer LSM-501S

SERIES 544 — High Accuracy Non-contact Measuring System



544-534

IP64

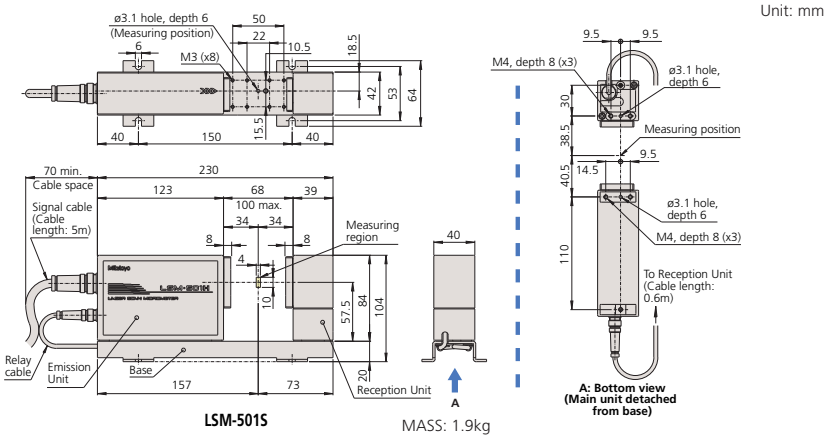
SPECIFICATIONS

Model			LSM-501S
Order No.			**544-534**
Applicable display unit			LSM-6200
Laser Scanning Range		inch(mm)	Up to .74" (19mm)
Measuring range		inch(mm)	.002 to .4" (0.05 to 10mm)
Resolution		inch(mm)	.000001 to .0005" (0.00001 to 0.01mm) [Selectable]
Repeatability [*1]		inch(µm)	±.0000016" (±0.04µm) [*2]
Linearity [*1]	Whole range	inch(µm)	±.00002" (±0.5µm) [*3]
	Narrow measuring range	µm	±(0.3 + 0.1 ΔD) [*3][*4]
		inch	±(.000012" + .000004" ΔD)
Positional error [*1][*5]		inch(µm)	±.00002" (±0.5µm)
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/sec (m/sec)	4449"/sec (113m/sec)
Protection level			IP64
Distance between the laser emission unit and reception unit		inch(mm)	Standard 2.68" (68mm) Max. 3.93" (100mm) [*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]

[*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

Unit: mm



LSM-501S

MASS: 1.9kg

Optional Accessories for LSM-501S

02AGD120: Calibration gage set (ø0.1mm, ø10mm)
02AGD210: Wire guiding pulley
02AGD400: Adjustable workstage
02AGD440: Center support*
02AGD450: Adjustable V-block*
02AGD230: Air blow cover
957608: Air cleaner for air blow cover
02AGC150A: Extension relay cable 1m
02AGN780A: Extension signal cable 5m
02AGN780B: Extension signal cable 10m
02AGN780C: Extension signal cable 15m
*Use with an adjustable workstage.

Laser Scan Micrometer LSM-503S

SERIES 544 — High Accuracy Non-contact Measuring System

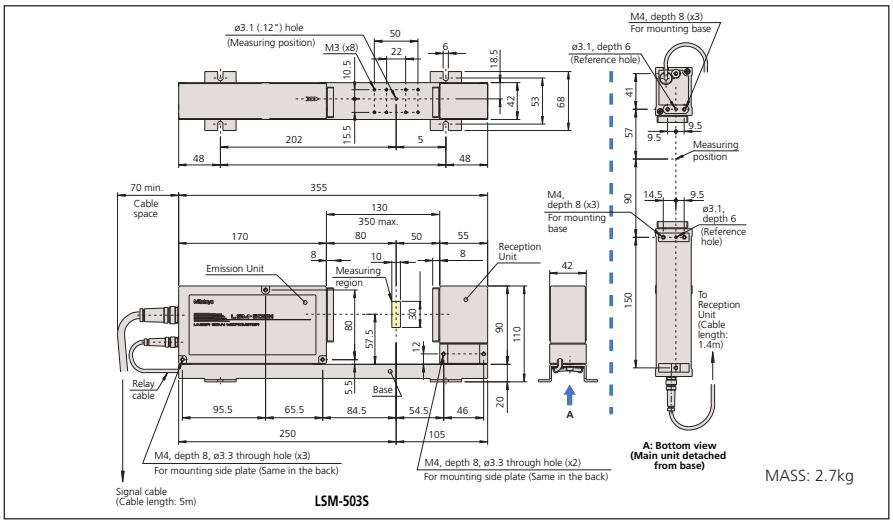


SPECIFICATIONS

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	±(0.6 + 0.1 ΔD) [*3][*4]
		inch	±(.000024" + .000004" ΔD)
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]

[*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



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.

Laser Scan Micrometer LSM-506S

SERIES 544 — High Accuracy Non-contact Measuring System



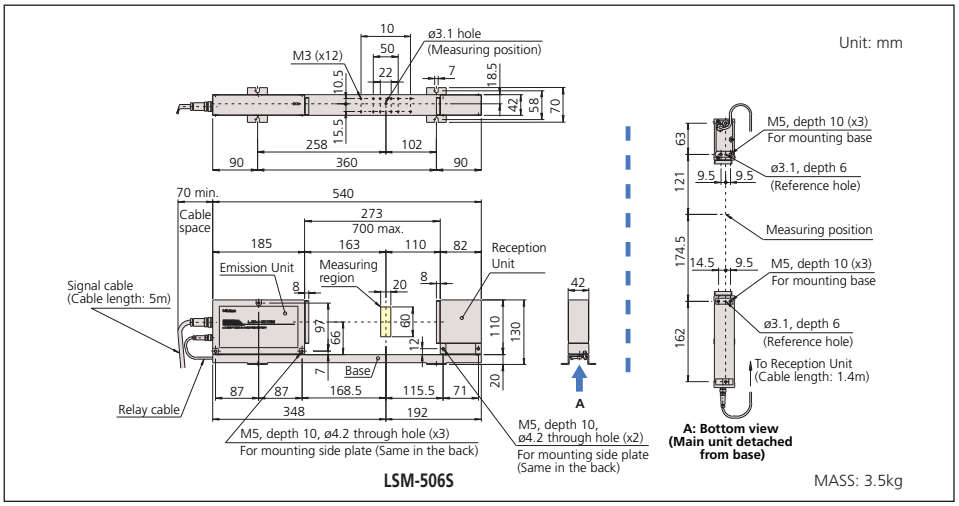
IP64

SPECIFICATIONS

Model			LSM-506S
Order No.			544-538
Applicable display unit			LSM-6200
Laser Scanning Range		inch(mm)	Up to 2.6" (66mm)
Measuring range		inch(mm)	.04 to 2.36" (1 to 60mm)
Resolution		inch(mm)	.000002 to .005" (0.00005 to 0.1mm) [Selectable]
Repeatability [*1]		inch(µm)	±.000014" (±0.36µm) [*2]
Linearity [*1]	Whole range	inch(µm)	±.00012" (±3.0µm) [*3]
	Narrow measuring range	µm	±(1.5 + 0.5 ΔD) [*3][*4]
		inch	±(.00012" + .00002" ΔD) [*3][*4]
Positional error [*1][*5]		inch(µm)	±.00016" (±4.0µm)
Measuring region		inch(mm)	.8 x 2.36" (20 x 60) [Optical axis direction x 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/sec (m/sec)	17795"/sec (452m/sec)
Protection level			IP64
Distance between the laser emission unit and reception unit		inch(mm)	Standard 10.75" (273mm) Max. 27" (700mm) [*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]

[*1] Environment for accuracy validation: 20°C ± 1°C temperature; 50% ± 10% humidity.
[*2] A value of ±2σ with a 60mm-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



Optional Accessories for LSM-506S

02AGD140: Calibration gage set (ø1mm, ø60mm)
02AGD520: Adjustable workstage
02AGD580: Center support*
02AGD590: Adjustable V-block*
02AGD250: 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.

Laser Scan Micrometer LSM-512S

SERIES 544 — High Accuracy Non-contact Measuring System

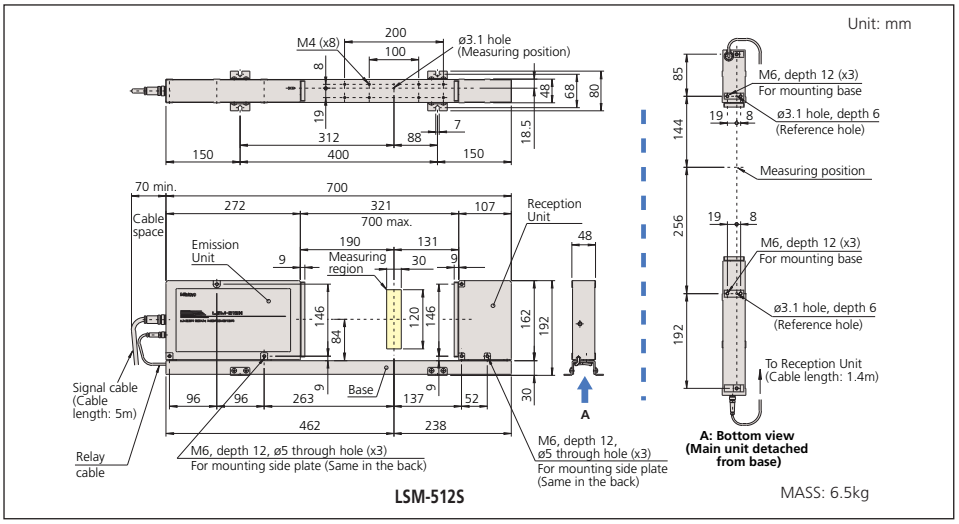


SPECIFICATIONS

Model			LSM-512S
Order No.			544-540
Applicable display unit			LSM-6200
Laser Scanning Range		inch(mm)	Up to 5.0" (126mm)
Measuring range		inch(mm)	.04 to 4.72" (1 to 120mm)
Resolution		inch(mm)	.000005 to .005" (0.0001 to 0.1mm) [Selectable]
Repeatability [*1]		inch(μm)	±.000033" (±0.85μm) [*2]
Linearity [*1]	Whole range	inch(μm)	±.00024" (±6.0μm) [*3]
	Narrow measuring range	μm	±(4.0 + 0.5 ΔD) [*3][*4]
		inch	±(.00016" + .00002" ΔD) [*3][*4]
Positional error [*1][*5]		inch(μm)	±.0003" (±8.0μm)
Measuring region		inch(mm)	1.2 x 4.72" (30 x 120) [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/sec (m/sec)	35590"/sec (904m/sec)
Protection level			IP64
Distance between the laser emission unit and reception unit		inch(mm)	Standard 12.64" (321mm) Max. 27" (700mm) [*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]

[*1] Environment for accuracy validation: 20°C ± 1°C temperature; 50% ± 10% humidity.
[*2] A value of ±2σ with a 120mm-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



Optional Accessories for LSM-512S

02AGD150: Calibration gage set (ø20mm, ø120mm)
02AGD260: 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

Laser Scan Micrometer LSM-516S

SERIES 544 — High Accuracy Non-contact Measuring System



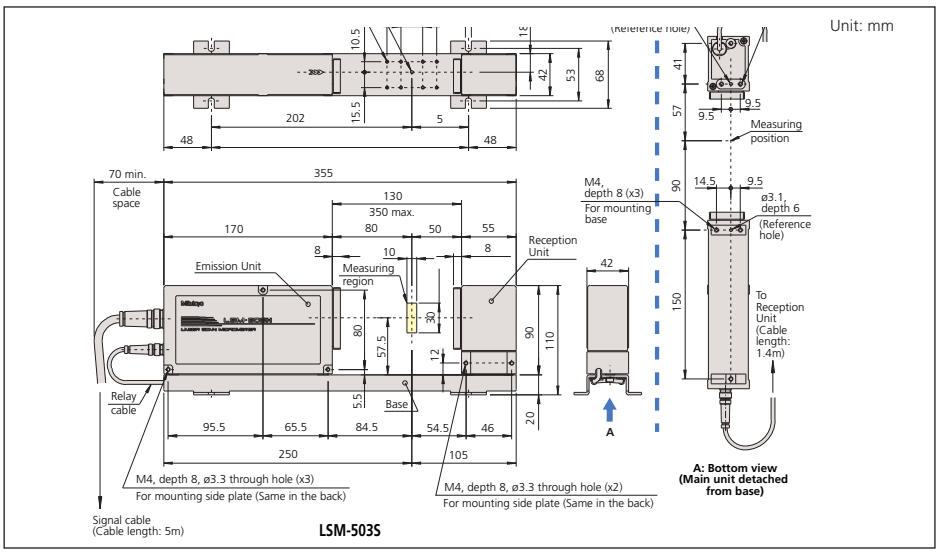
IP64

SPECIFICATIONS

Model			LSM-516S
Order No.			544-542
Applicable display unit			LSM-6200
Laser Scanning Range		inch(mm)	Up to 6.7" (170mm)
Measuring range		inch(mm)	.04 to 6.3" (1 to 160mm)
Resolution		inch(mm)	.000005 to .005" (0.0001 to 0.1mm) [Selectable]
Repeatability [*1]		inch(µm)	±.000055" (±1.4µm) [*2]
Linearity [*1]	Whole range	inch(µm)	±.00028" (±7.0µm) [*3]
	Narrow measuring range	µm	±(4.0 + 2.0 ΔD) [*3][*4]
		inch	±(.00016" + .000079" ΔD) [*3][*4]
Positional error [*1][*5]		inch(µm)	±.0003" (±8.0µm)
Measuring region		inch(mm)	1.57 x 6.3" (40 x 160) [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/sec (m/sec)	47480"/sec (1206m/sec)
Protection level			IP64
Distance between the laser emission unit and reception unit		inch(mm)	Standard 15.74" (400mm) Max. 32.72" (800mm) [*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]

[*1] Environment for accuracy validation: 20°C ± 1°C temperature; 50% ± 10% humidity.
[*2] A value of ±2σ with a 160mm-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



Optional Accessories for LSM-516S

002AGM300: Calibration gage set (ø20mm, ø160mm)
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

LSM-5200 Display Unit

SERIES 544 — Compact Display Unit for Real-time Multi-channel Measurement

Technical Data

Main display: 9-digit LED
Interface units equipped: RS-232C, Analog I/O, Foot switch
Power supply: +24V DC±10%, 1A

Function of Display Unit

Zero-setting, presetting, GO/±NG judgment, Offset value setting, Sample measurement, Statistical calculation, Data output, Workpiece position display, mm/inch switching, Dual-gage calibration, Transparent object measurement, Automatic measurement, Abnormal data eliminating

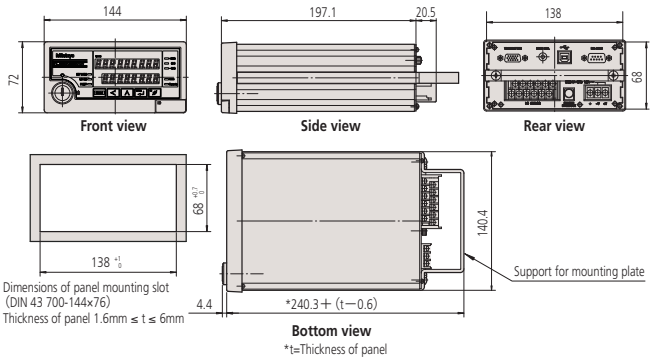
FEATURES

- Panel-mount type (with dimensions conforming to DIN standards) allows easy system integration.
- Capable of calculating mean, maximum, minimum, and range (maximum - minimum).
- Either the segment measurement (7 segments max.) or edge measurement (1 to 255 edges) can be selected.
- The RS-232C interface and the I/O and analog interface are provided as standard.
- The arithmetical average or moving average can be selected.
- GO/±NG judgment function.



544-047

DIMENSIONS



LSM-6200 Display Unit

SERIES 544 — Standard Display Unit for Laser Scan Micrometer

Technical Data

Main display: 16-digit fluorescent tube
Interface units equipped: RS-232C, Analog I/O, Foot switch
Power supply: 100 - 240V AC±10%, 40VA, 50/60Hz

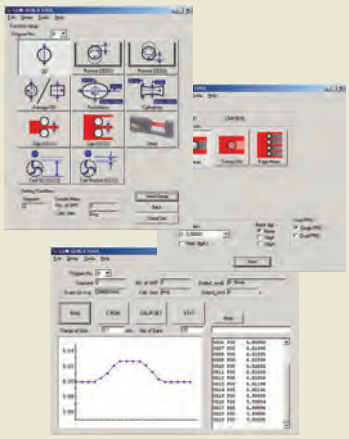
Function of Display Unit

Zero-setting, Presetting, GO/±NG judgment, Multi-limit judgment, Offset value setting, Sample measurement, Statistical calculation, Group judgment, Data output, Workpiece position display, mm/inch switching, Dual-gage calibration, Transparent object measurement, Dual-unit measurement (optional), Automatic measurement, Abnormal data eliminating

QUICKTOOL

QUICKTOOL is a free software program that makes programming the LSM-6200 quick and easy. Please contact your Mitutoyo office for more information.





FEATURES

- With a dual-display design setup values can be continuously monitored. Also, two measurement value items can be displayed on the sub-display with the simultaneous measurement function.
- Either the segment measurement (7 segments max.) or edge measurement (1 to 255 edges) can be selected.
- The RS-232C interface and the I/O and analog interface are provided as standard.
- A statistical calculation function and abnormal data eliminating function are provided.

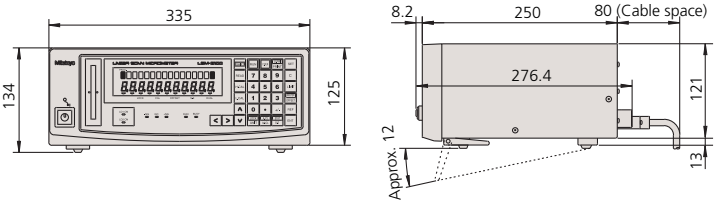


544-072A (Inch/Metric)

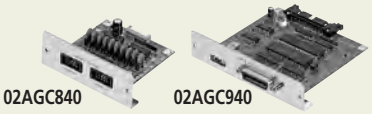
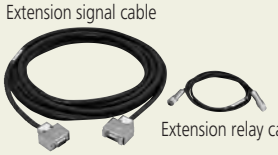
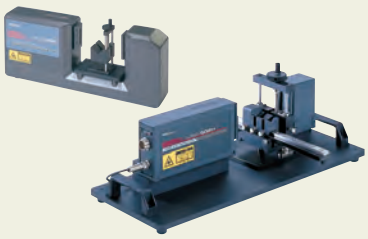
SPECIFICATIONS

Model	LSM-6200
Order No.	**544-072A**

DIMENSIONS AND MASS



Optional Accessories for LSM

Appearance	Order No.	Description	Application
	**02AGD110** **02AGD120** **02AGD180** **02AGD130** **02AGD140** **02AGD150** **02AGM300** **02AGD170**	Calibration gage set Calibration gage set Calibration gage set Calibration gage set Calibration gage set Calibration gage set Calibration gage set Calibration gage set	LSM-500S LSM-501S LSM-902 LSM-503S LSM-506S LSM-512S LSM-516S LSM-9506
	**02AGP150**	Dual-type add-on unit	LSM-6200
 **02AGC840** **02AGC940**	**02AGC840** **02AGC880** **02AGC910** **02AGC940**	Digimatic (SPC) codeout unit 2nd I/O & analog interface unit BCD interface unit GP-IB interface unit	LSM-6200/6900 LSM-6200/6900 LSM-6200/6900 LSM-6200/6900
Extension signal cable  Extension relay cable	**02AGN780A** **02AGN780B** **02AGN780C** **02AGN780D**	Extension signal cable (5m) Extension signal cable (10m) Extension signal cable (15m) Extension signal cable (20m)	Any model of LSM* Any model of LSM* Any model of LSM* Any model of LSM*
	02AGC150A **02AGC150B** **02AGC150C**	Extension relay cable (1m) Extension relay cable (3m) Extension relay cable (5m)	Any model of LSM** Any model of LSM** Any model of LSM**
	**936937**	SPC cable (1m)	LSM-6200/6900/9506
	**937179T**	Footswitch	LSM-6200/6900/9506
	**02AGD270** **02AGD400** **02AGD280** **02AGD490** **02AGD520** **02AGD370** **02AGD680** **02AGD440** **02AGD580** **02AGD450** **02AGD590**	Work stage Adjustable workstage Adjustable workstage Adjustable workstage Adjustable workstage Adjustable workstage Adjustable workstage Center support Center support Adjustable V-block Adjustable V-block	LSM-501S/503S/902 LSM-501S LSM-902 LSM-503S LSM-506S LSM-9506 LSM-9506 LSM-501S/503S/902 LSM-506S/9506 LSM-501S/503S/902 LSM-506S/9506
	**02AGD200** **02AGD210**	Wire guiding pulley Wire guiding pulley	LSM-500S LSM-501S
	**02AGD220** **02AGD230** **02AGD240** **02AGD250** **02AGD260** **957608**	Air blow cover Air blow cover Air blow cover Air blow cover Air blow cover Air cleaner	LSM-500S LSM-501S LSM-503S LSM-506S LSM-512S Any model of LSM
	**02AGD600B**	Thermal printer (120V AC)	Any model of LSM

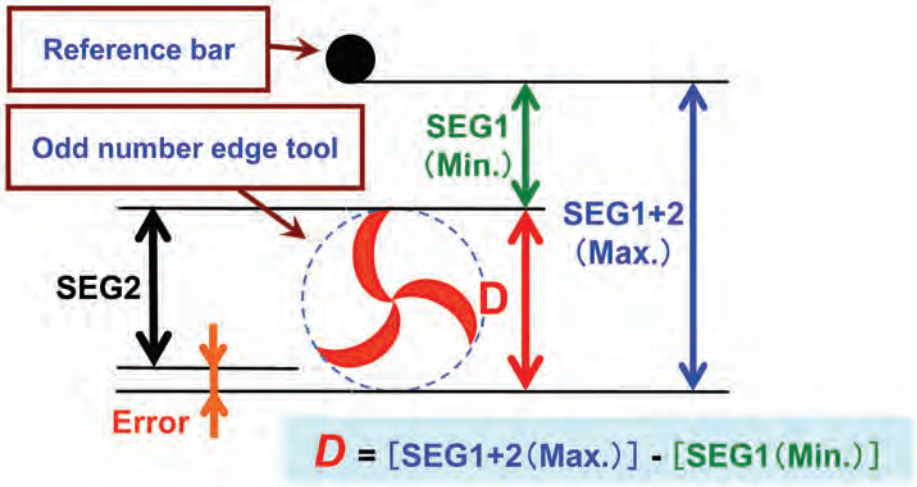
* Except for LSM-902
** Except LSM-500S/902

Laser Scan Micrometer

Application Example

•Drill / End mill (Odd-number teeth) outer-diameter standard function at LSM-6200 Display Unit







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