

Nikon

DIGITAL LENGTH
MEASURING
SYSTEM

DIGIMICRO

MF-1001 / MF-501 / MH-15M



DIGIMICRO

New Head and Counter; Readings from $1\mu\text{m}$ to $0.01\mu\text{m}$; Extreme Accuracy Guaranteed.



MF-1001 + MFC-101 counter + MS-21

MF-1001 + MFC-101 Counter

Compact digital micrometer reads values as small as $0.1\mu\text{m}$; minimum readable value can be switched to $0.5\mu\text{m}$ or $1\mu\text{m}$. Measurement length is 100 mm. MFC-101 counter can be attached to head or placed outside for use. RS-232C output and printer output are standard features.



MF-501 + MFC-101 counter + MS-11C

MF-501 + MFC-101 Counter

Compact digital micrometer reads values as small as $0.1\mu\text{m}$; minimum readable value can be switched to $0.5\mu\text{m}$ or $1\mu\text{m}$. Measurement length is 50 mm. Boasts $1\mu\text{m}$ accuracy at 20°C . MFC-101 counter can be attached to head or placed outside for use. RS-232 output and printer output are standard features.



MF-501 + TC-101 counter + MS-11C

MF-501 + TC-101 Counter

Minimum readable value can be switched in five stages, with $0.01\mu\text{m}$ being the smallest. Measurement length is 50 mm. Boasts $1\mu\text{m}$ accuracy at 20°C . TC-101 counter can also be used with old-type digital micrometer and rotary encoder. RS-232C output and printer output are standard features.



MF-1001 + TC-101 counter + MS-21

MF-1001 + TC-101 Counter

Minimum readable value is $0.01\mu\text{m}$. Measurement length is 100 mm. TC-101 counter can be used with old-type digital micrometer and rotary encoder. Minimum readable value can be switched in five stages. RS-232C output and printer output are standard features.

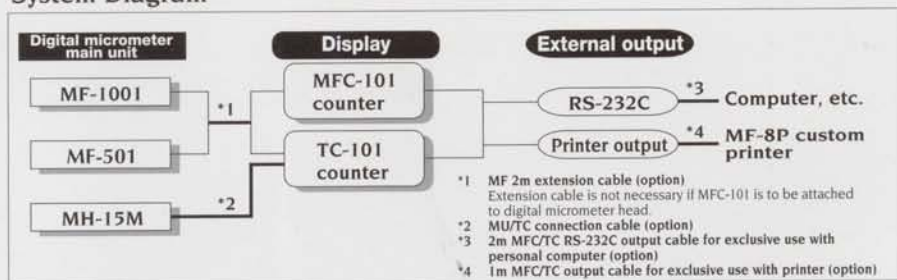


MH-15M + TC-101 counter + MS-5C

MH-15M + TC-101 Counter

A compact, highly accurate digital micro head. Minimum readable value is $0.01\mu\text{m}$; accuracy $0.7\mu\text{m}$ at 20°C . Can make measurements of several different accuracies. TC-101 counter has RS-232C output and printer output as standard features.

System Diagram



Specifications

Main unit+ counter	MF-1001 + MFC-101	MF-501 + MFC-101	MF-1001 + TC-101	MF-501 + TC-101	MH-15M + TC-101
Measurement range	0-100 mm	0-50 mm	0-100 mm	0-50 mm	0-15 mm
Minimum readable value	0.1 μm ; can be switched to 0.5 μm or 1 μm		0.01 μm ; can be switched to 0.05 μm , 0.1 μm , 1 μm , or 5 μm		
Accuracy (20°C)	3 μm	1 μm	3 μm	1 μm	0.7 μm
Response speed	500 mm/sec. or less				100 mm/sec. or less
Measuring force	Downward direction 1.225 to 1.813N (variable to about 0.441N), lateral 0.637 to 1.225N	Downward direction 1.127 to 1.617N (variable to about 0.294N), lateral 0.637 to 1.225N	Downward direction 1.225 to 1.813N (variable to about 0.441N), lateral 0.637 to 1.225N	Downward direction 1.127 to 1.617N (variable to about 0.294N), lateral 0.637 to 1.225N	Upward direction 0.245N, downward 0.637N, lateral 0.441N * With lifting release
External output	RS-232C and dedicated printer output				
Operating temperature	0 to +40°C				
Weight (main unit)	Approx. 610g	Approx. 460g	Approx. 610g	Approx. 460g	Approx. 140g

Accessories

Counters



*Example in which MFC-101 counter is placed outside for use (optional accessory dedicated cord is necessary).

MFC-101 Counter

A compact, single-shaft counter for exclusive use with the MF-501 and the MF-1001. With display and resolution switching, direction switching, and display unit switching functions. Can be used attached to the head or placed outside. RS-232C output and printer output are standard features.

Specifications

Display	7-segment LED (green); 8 digits (including-sign); zero blanking; floating minus sign
Minimum readable value	0.1 μm (can be switched to 0.5 μm or 1 μm)
Other functions	Reset Error alarm (excess speed etc.) RS-232C output Dedicated printer output
Input power supply	Dedicated AC adapter (12V 350 mA)
Ambient temperature	Operating temperature: 0 to +40°C Storage temperature: -20 to +60°C
Compatible micrometers	MF-501, MF-1001
Dimensions (mm)	80 (W) \times 60 (H) \times 25.5 (D) mm (32.2 (D) with connectors)
Weight	Approx. 100g



TC-101 Counter

More compact and accurate than previous models. Smallest readable value is 0.01 μm . Can also be used with old-type digital micrometers and rotary encoders. This counter offers superior cost performance. RS-232C output and printer output are standard features.

Specifications

Display	7-segment LED (green); 10 digits (including-sign); zero blanking; floating minus sign
Minimum readable value	0.01 μm (can be switched to 0.05 μm , 0.1 μm , 0.5 μm , 1 μm , or 5 μm)
Other functions	Reset/preset/pulse check Error alarm (excess speed etc.) RS-232C output Dedicated printer output
Input power supply	Dedicated AC adapter (12V 2.5A)
Ambient temperature	Operating temperature: 0 to +40°C Storage temperature: -20 to +60°C
Compatible micrometers	MF-501, MF-1001, previous micrometers MU Series, rotary encoders
Dimensions (mm)	150 (W) \times 67 (H) \times 176 (D) mm
Weight	Approx. 1 kg (excluding AC adapter)

Printer

MF-9P Printer

Connects to the MFC-101 counter and the TC-101; not only prints, but also performs statistical calculations, judges pass or reject, and creates histograms, all with simple key operations, permitting highly efficient data processing.



Dust Bellows

Protects the digital micrometer head spindle section from dust and dirt, increasing the lifetime of the equipment. 100 mm for MF-1001 50 mm for MF-501



Specifications

Printing method	Thermal line printing
Characters	36 x 24 dots (enlargement), 24 x 16 dots (standard)
Printing speed	Approx. 0.8 second per line
Power supply	AC 100V, 50/60 Hz with 6V-2A AC adapter, or 4 alkaline (LR6), or Ni-MH AA batteries. Manganese batteries CANNOT be used.
Operating temperature	0 to +45°C (with AC adapter), 10 to +45°C (with batteries)
Dimensions (mm)	94 (W) x 201 (D) x 75.2 (H) mm
Weight	390g (main body only)
Printouts	Mode 0: measurements; pass/reject judgment. Mode 1: measurements; pass/reject judgment; number of data; maximum value; minimum value; range; average value; standard deviation; number of defective products; percent defective; process capability index; histogram. Mode 2: mode 1 + D chart. Mode 3: control limit data for the creation of control charts. All Modes: date and time
Processing capacity	Mode 0: 100,000 data. Modes 1, 2: 9,999 data Mode 3: sample size 10 x sub-group 9,999 = 99,990 data
Output function	Pass/reject judgment output
Timer input	0.3 second, 1 second, 5 seconds, 30 seconds, 1 minute, 30 minutes, 60 minutes
Standard accessories	AC adapter; 1 roll of recording paper (total length 48m)

*Connection cable is an option.

Measurement attachments

Standard measurement attachment



Pin attachment



Plastic attachment



Off-center attachment



Flat attachment



Roller attachment



Measurement stands



Specifications

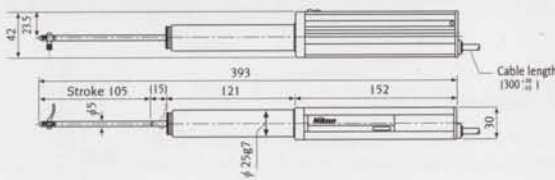
	Platform material	Stage dimensions
MS-11C	Ceramic	110 x 110 mm
MS-21	Steel	150 x 150 mm
MS-31G*	Granite	120 x 180 mm
MS-4G	Granite	400 x 300 mm
MS-5C	Ceramics	ϕ 100 mm

*It is also possible to place the object being measured on a large platform, and make measurements using the lower surface as a reference.

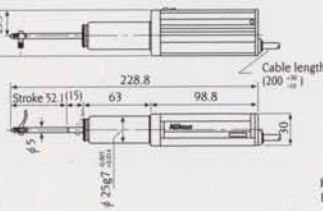
Dimensions

Micrometer head

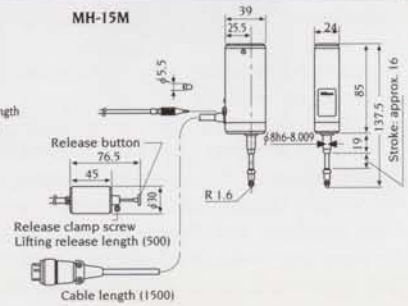
MF-1001



MF-501

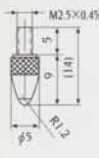


MH-15M

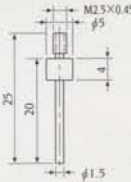


Measurement attachments

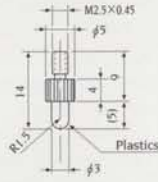
Standard measurement attachment



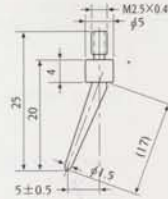
Pin attachment



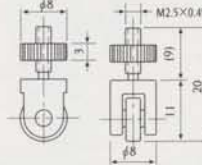
Plastic attachment



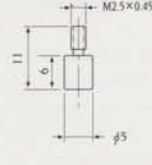
Off-center attachment



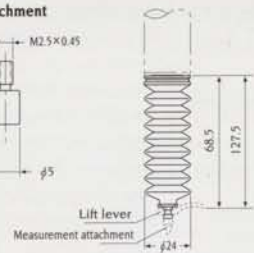
Roller attachment



Flat attachment

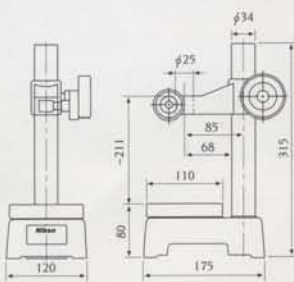


Dust bellows (50mm, 100mm)

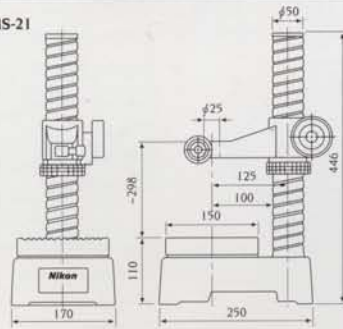


Measurement stands

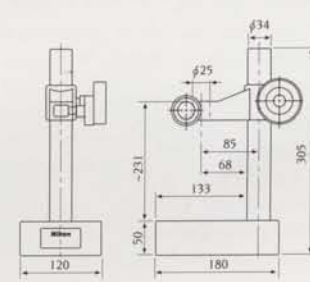
MS-11C



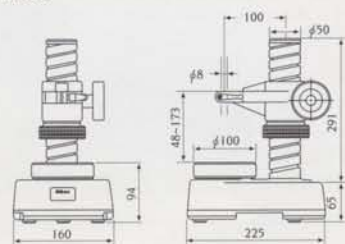
MS-21



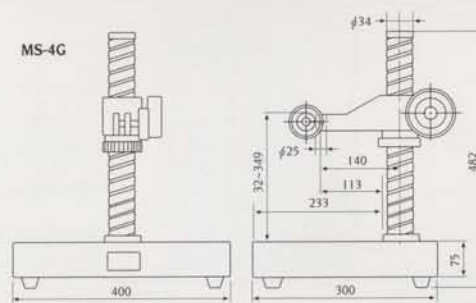
MS-31G



MS-5C



MS-4G



Specifications and equipment are subject to change without any notice or obligation on the part of the manufacturer. March 2002. ©1998/2002 NIKON CORPORATION

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