



Series 4 digital force gauges are designed for tension and compression force testing in numerous applications across virtually every industry, with capacities from 0.12 lb to 500 lb (0.5 N to 2500 N). The gauges feature a sampling rate of 3,000 Hz, producing accurate results under a wide range of test conditions. Accuracy is  $\pm 0.2\%$  of full scale, and resolution is 1/2000. A large, backlit graphics LCD displays large, legible characters, while the simple menu navigation allows for quick access to the gauges' many features and configurable parameters. Data can be transferred to a PC or data collectors via USB, RS-232, Mitutoyo (Digimatic), or analog outputs.

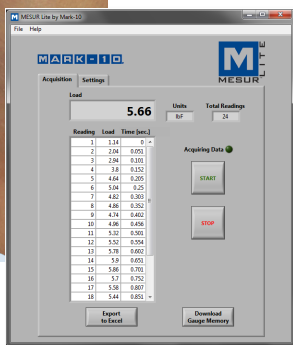
On-board data memory for up to 50 readings is included, as are statistical calculations with output to a PC. Integrated set points with indicators and outputs are ideal for pass-fail testing and for triggering external devices such as an alarm, relay, or test stand. The gauges are overload protected to 200% of capacity, and an analog load bar is shown on the display for graphical representation of applied force.



Shown with an ESM303 test stand and G1008 film & paper grips

An ergonomic, reversible aluminum design allows for hand held use or test stand mounting for more sophisticated testing requirements. Series 4 digital force gauges are directly compatible with Mark-10 test stands, grips, and software.

Series 4 gauges include MESUR® Lite data acquisition software. MESUR® Lite tabulates continuous or single point data from Series 5 and 4 gauges. Data saved in the gauge's memory can also be downloaded in bulk. One-click export to Excel button easily allows for further data manipulation.



MESUR® Lite data acquisition software is included with Series 4 gauges

## Features

- 3,000 Hz sampling rate
- USB, RS-232, Mitutoyo, and analog outputs
- Large backlit graphic display
- 50-point data memory with statistics and outputs
- Live load bar graph with set point markers
- Programmable set points, with indicators and outputs
- Peak readings and set points always displayed
- Configurable audio alarms and key tones
- 5 selectable units of measurement
- MESUR® Lite data collection software included

## Display Indicators



## Focus on Engineering: Reversible Housing

Display and keypad are upright



Reversible housing allows the gauge to be handheld or mounted to a test stand.

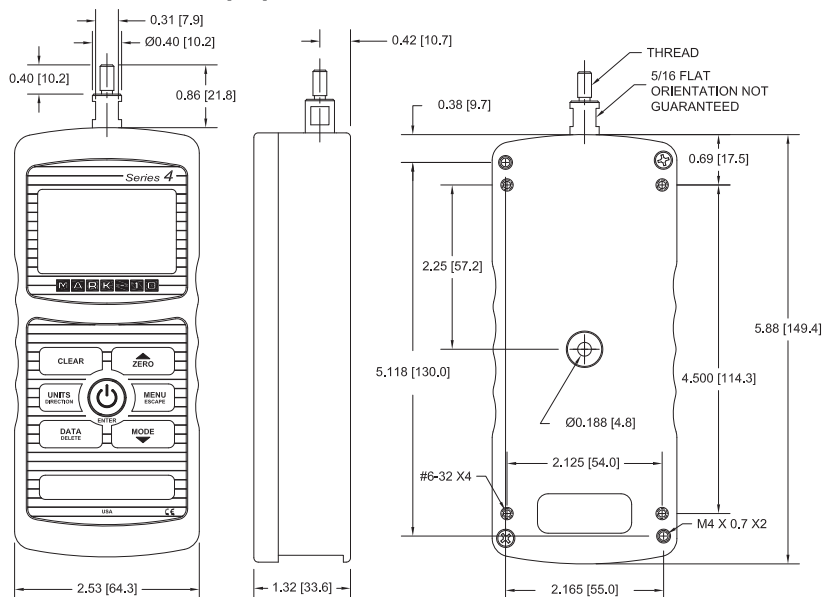
The display and keypad remain upright.

Housing separates into reversible halves, electrically connected by gold-plated spring contacts.

## Specifications

<b>Accuracy:</b>	±0.2% of full scale
<b>Sampling Rate:</b>	3,000 Hz, pulse response of 1/1,500 sec. minimum
<b>Power:</b>	AC adapter: 100-240VAC, 50-60 Hz, 0.3 A Battery: Rechargeable 8.4V NiMH Low battery indicator appears when battery level is low, and gauge powers off automatically when power reaches critical stage.
<b>Battery life:</b>	Backlight on / off: up to 7 / 24 hours of continuous use
<b>Outputs:</b>	<b>USB / RS-232:</b> Configurable up to 115,200 baud. <b>Mitutoyo (Digimatic):</b> Serial BCD suitable for all Mitutoyo SPC-compatible devices. <b>Analog:</b> ±1 VDC, ±0.25% of full scale at capacity, <b>General purpose:</b> Three open drain outputs, one input. <b>Set points:</b> Three open drain lines.
<b>Configurable settings:</b>	Digital filters, outputs, automatic shutoff, default settings, key tones, audio alarms, calibration
<b>Safe overload:</b>	200% of full scale (display shows "OVER" at 110% and above)
<b>Weight:</b>	<b>M4-012 - M4-100:</b> 1.0 lb [0.45 kg] <b>M4-200 - M4-500:</b> 1.2 lb [0.54 kg]
<b>Load cell deflection:</b>	All models 0.010 [0.25], except 0.005 [0.13] for M4-012
<b>Environmental requirements:</b>	40 - 100°F, max. 96% humidity, non-condensating
<b>Warranty:</b>	3 years (see individual statement for further details)

## Dimensions in [mm]



	Thread
M4-012 - M4-100	#10-32 UNF
M4-200 - M4-500	5/16-18 UNC

## In The Box



Series 4 force gauges are shipped as shown at left, and include the following accessories:

- (1) Extension rod \*
- (1) Hook \*
- (1) Cone \*
- (1) Chisel \*
- (1) V-Groove \*
- (1) Flat \*
- (1) Coupling \*
- (1) Carrying case
- (1) USB cable
- (1) AC adapter
- (1) Battery
- (1) Certificate of calibration with data

\* The specific accessory depends on the force gauge model. Refer to the website for details.

## Capacity & Resolution

Model	lbF	ozF	kgF	gF	N	kN	mN
M4-012	0.12 x 0.00005	2 x 0.001	-	50 x 0.02	0.5 x 0.0002	-	500 x 0.2
M4-025	0.25 x 0.0001	4 x 0.002	-	100 x 0.05	1 x 0.0005	-	1000 x 0.5
M4-05	0.5 x 0.0002	8 x 0.005	-	250 x 0.1	2.5 x 0.001	-	2500 x 1
M4-2	2 x 0.001	32 x 0.02	1 x 0.0005	1000 x 0.5	10 x 0.005	-	-
M4-5	5 x 0.002	80 x 0.05	2.5 x 0.001	2500 x 1	25 x 0.01	-	-
M4-10	10 x 0.005	160 x 0.1	5 x 0.002	5000 x 2	50 x 0.02	-	-
M4-20	20 x 0.01	320 x 0.2	10 x 0.005	10000 x 5	100 x 0.05	-	-
M4-50	50 x 0.02	800 x 0.5	25 x 0.01	25000 x 10	250 x 0.1	-	-
M4-100	100 x 0.05	1600 x 1	50 x 0.02	50000 x 20	500 x 0.2	-	-
M4-200	200 x 0.1	3200 x 2	100 x 0.05	-	1000 x 0.5	1x 0.0005	-
M4-500	500 x 0.2	8000 x 5	250 x 0.1	-	2500 x 1	2.5 x 0.001	-

All models include 110V AC adapters.

Add suffix 'E' for euro plug (220V), 'U' for UK plug (220V) or 'A' for Australian plug (220V).

Ex: M4-05E, M4-100U, M4-500A.