



Series 5 advanced 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 an industry-leading sampling rate of 7,000 Hz, producing accurate results even for quick-action tests. Accuracy is  $\pm 0.1\%$  of full scale, and resolution is 1/5000. 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.

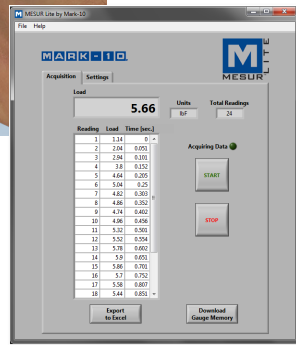
On-board data memory for up to 1,000 readings is included, as are statistical calculations with output to a PC. Integrated set points with indicators and outputs are ideal for pass-fail testing and for triggering external devices such as an alarm, relay, or test stand. The gauges are overload protected to 200% of capacity, and an analog load bar is shown on the display for graphical representation of applied force.

The Series 5's averaging mode addresses the need to record the average force over time, useful in applications such as peel testing, while external trigger mode makes switch activation testing simple and accurate. An ergonomic, reversible aluminum design allows for hand held use or test stand mounting for more sophisticated testing requirements. Series 5 force gauges are directly compatible with Mark-10 test stands, grips, and software.



Shown with an ESM301 test stand and G1061 wedge grips

MESUR™ Lite data acquisition software is included with Series 5 gauges

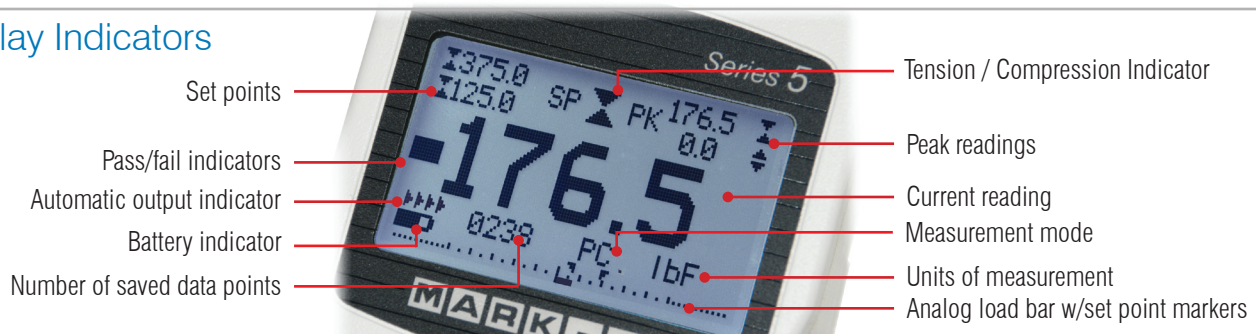


## Features

- High-speed 7,000 Hz sampling rate
- USB, RS-232, Mitutoyo, and analog outputs
- Large backlit graphic display
- 1,000-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

- Averaging mode - calculates average readings over time
- External trigger mode - for switch contact testing or remotely stopping display update
- Automatic data output via USB/RS-232
- 5 selectable units of measurement
- Configurable audio alarms and key tones
- Password protection, configurable for individual keys and calibration

## Display Indicators



## Focus on Engineering: Reversible Housing

Display and keypad are upright

Shaft down

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

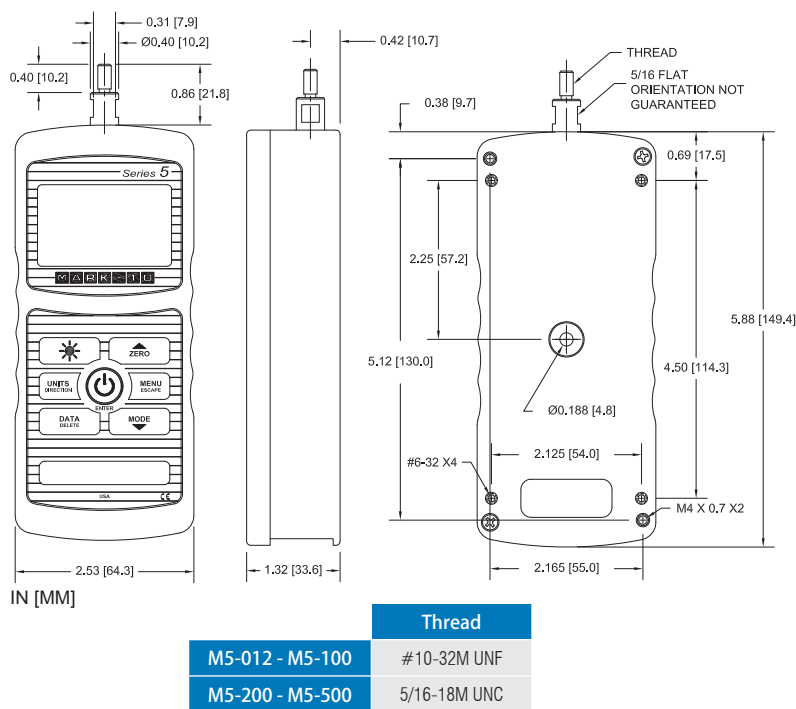
Shaft up

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

The display and keypad remain upright.

## Specifications

<b>Accuracy:</b>	±0.1% of full scale
<b>Sampling Rate:</b>	7,000 Hz, pulse response of 1/3,500 sec. minimum
<b>Power:</b>	AC or rechargeable battery. Multi-step low battery indicator is displayed, gauge shuts off automatically when power is too low.
<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. Includes Gauge Control Language 2 for full computer control. <b>Mitutoyo (Digimatic):</b> Serial BCD suitable for all Mitutoyo SPC-compatible devices. <b>Analogue:</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 output (via USB/RS-232), automatic shutoff, default settings, averaging mode, external trigger, passwords, key tones, audio alarms, backlight, calibration
<b>Safe overload:</b>	200% of full scale (display shows "OVER" at 110% and above)
<b>Weight (lb [kg]):</b>	M5-012 - M5-100: 1.0 [0.45], M5-200 - M5-500: 1.2 [0.54]
<b>Load cell deflection:</b>	All models 0.010 [0.25], except 0.005 [0.13] for M5-012
<b>Included items:</b>	Carrying case, chisel, cone, V-groove, hook, flat, extension rod, AC adapter, battery, quick-start guide, USB cable, resource CD (USB driver, MESUR™ Lite software, MESUR™ gauge DEMO software, user's guide), NIST-traceable certificate of calibration with data.
<b>Environmental requirements:</b>	40 - 100°F, max. 96% humidity, non-condensating
<b>Warranty:</b>	3 years (see individual statement for further details)



## Capacity & Resolution

Model	lbF	ozF	kgF	gF	N	kN	mN
M5-012	0.12 x 0.00002	2 x 0.0005	-	50 x 0.01	0.5 x 0.0001	-	500 x 0.1
M5-025	0.25 x 0.00005	4 x 0.001	-	100 x 0.02	1 x 0.0002	-	1000 x 0.2
M5-05	0.5 x 0.0001	8 x 0.002	-	250 x 0.05	2.5 x 0.0005	-	2500 x 0.5
M5-2	2 x 0.0005	32 x 0.01	1 x 0.0002	1000 x 0.2	10 x 0.002	-	-
M5-5	5 x 0.001	80 x 0.02	2.5 x 0.0005	2500 x 0.5	25 x 0.005	-	-
M5-10	10 x 0.002	160 x 0.05	5 x 0.001	5000 x 1	50 x 0.01	-	-
M5-20	20 x 0.005	320 x 0.1	10 x 0.002	10000 x 2	100 x 0.02	-	-
M5-50	50 x 0.01	800 x 0.2	25 x 0.005	25000 x 5	250 x 0.05	-	-
M5-100	100 x 0.02	1600 x 0.5	50 x 0.01	50000 x 10	500 x 0.1	-	-
M5-200	200 x 0.05	3200 x 1	100 x 0.02	-	1000 x 0.2	1 x 0.0002	-
M5-500	500 x 0.1	8000 x 2	250 x 0.05	-	2500 x 0.5	2.5 x 0.0005	-

For M5-1000, refer to its respective data sheet

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: M5-05E, M5-100U, M5-500A

