



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.

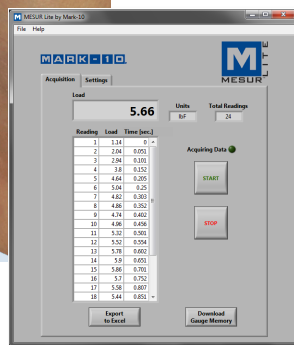
On-board data memory for up to 50 readings is included, as are statistical calculations with output to a PC. Integrated set points with indicators and outputs are ideal for pass-fail testing and for triggering external devices such as an alarm, relay, or test stand. The gauges are overload protected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



Shown with an ESM301 test stand and G1061 wedge 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



Mark-10 Corporation ■ www.mark-10.com ■ info@mark-10.com
Toll-free: 888-MARK-TEN ■ Tel: 631-842-9200 ■ Fax: 631-842-9201



Focus on Engineering: Reversible Housing

Display and keypad are upright

Shaft down

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

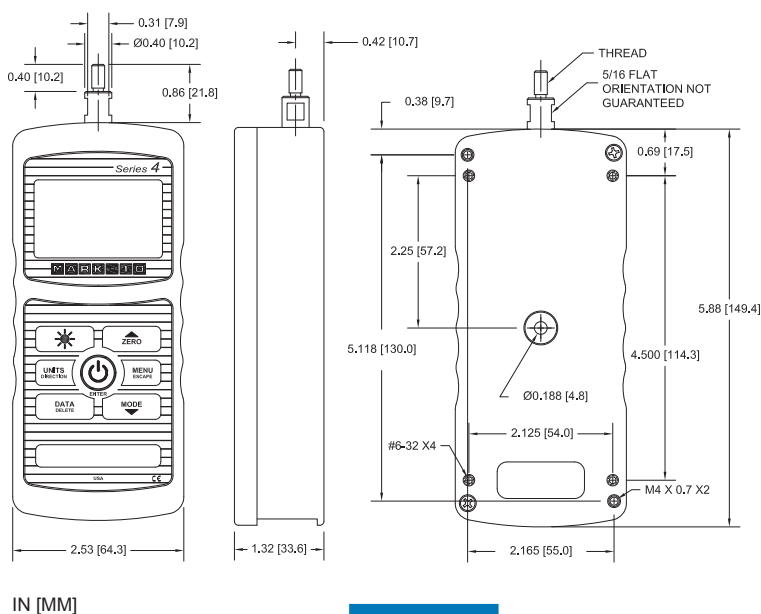
Shaft up

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

The display and keypad remain upright.

Specifications

| | |
|------------------------------------|--|
| Accuracy: | ±0.2% of full scale ±1 digit |
| Sampling Rate: | 3,000 Hz, pulse response of 1/1,500 sec. minimum |
| Power: | AC or rechargeable battery. Multi-step low battery indicator is displayed, gauge shuts off automatically when power is too low. |
| Battery life: | Backlight on / off: up to 7 / 24 hours of continuous use |
| Outputs: | USB / RS-232: Configurable up to 115,200 baud. Mitutoyo (Digimatic): Serial BCD suitable for all Mitutoyo SPC-compatible devices. Analog: ±1 VDC, ±0.25% of full scale at capacity, General purpose: Three open drain outputs, one input. Set points: Three open drain lines. |
| Configurable settings: | Digital filters, outputs, automatic shutoff, default settings, key tones, audio alarms, calibration |
| Safe overload: | 200% of full scale (display shows "OVER" at 110% and above) |
| Weight: | M4-012 - M4-100: 1.0 lb [0.45 kg] M4-200 - M4-500: 1.2 lb [0.54 kg] |
| Load cell deflection: | All models 0.010 [0.25], except 0.005 [0.13] for M4-012 |
| Included items: | 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, and user's guide), NIST-traceable certificate of calibration with data. |
| Environmental requirements: | 40 - 100°F, max. 96% humidity, non-condensating |
| Warranty: | 3 years (see individual statement for further details) |



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

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.