

Advanced Digital Force Gauges **Series 5**



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 peak sampling rate of 7,000 Hz, producing accurate results even for quick-action tests. Accuracy is $\pm 0.1\%$ of full scale ± 1 digit, 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 other data collector via USB, RS-232, Mitutoyo (Digimatic), or analog outputs.

On-board data memory for up to 1000 readings is included, as are statistical calculations and output to a PC. Integrated set points with indicators 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 150% 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

Features

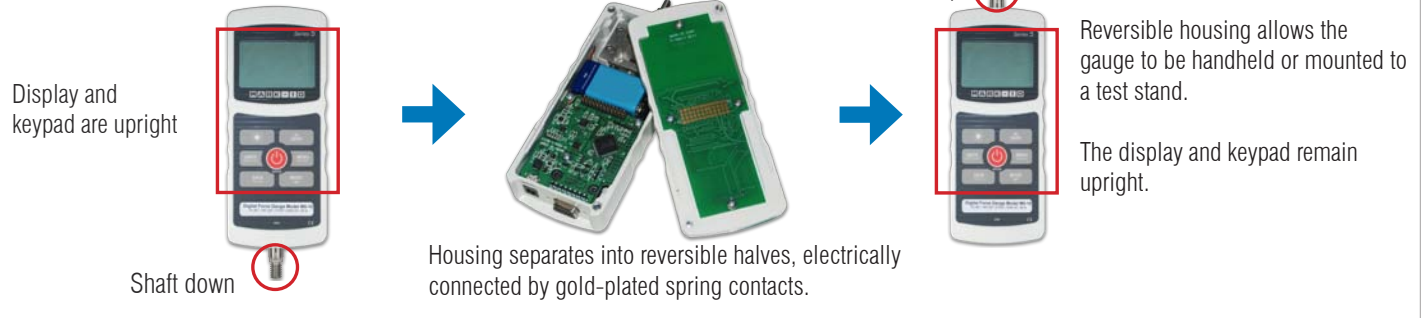
- High-speed 7,000 Hz peak sampling rate
- USB, RS-232, Mitutoyo, and analog outputs
- Large backlit graphic display
- 1,000-point data memory with statistics and outputs
- Live load bar graph with set point markers
- Programmable set points, with alarms and outputs
- Peak readings and set points always 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

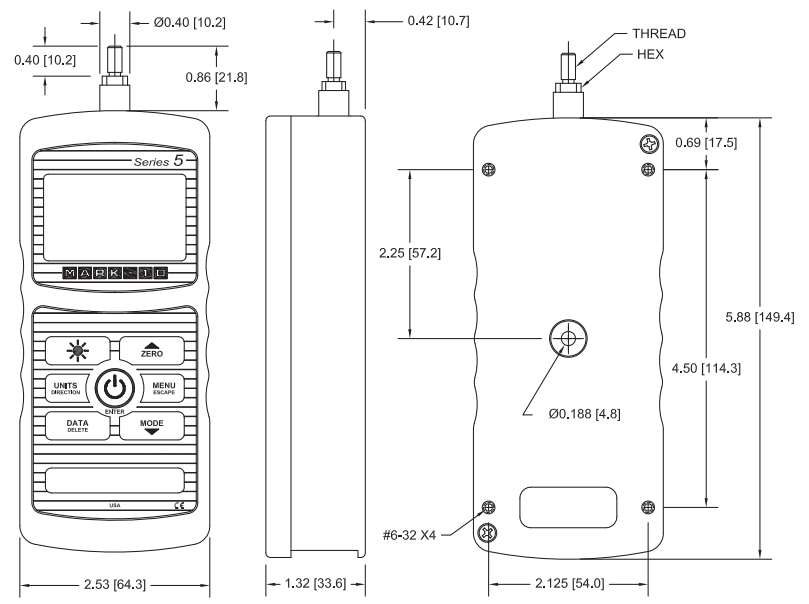
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- Set points
 - Pass/fail indicators
 - Automatic output indicator
 - Battery indicator
 - Number of saved data points
 - Measurement direction
 - Peak readings
 - Current reading
 - Measurement mode
 - Units of measurement
 - Analog load bar w/set point markers

Focus on Engineering: Reversible Housing



Specifications

| | |
|-------------------------------|---|
| Accuracy: | ±0.1% of full scale ±1 digit |
| 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: up to 7 hours of continuous use Backlight off: up to 24 hours of continuous use |
| Measurement units: | lbF, ozF, gF, kgF, N, kN, mN (depending on model) |
| Outputs: | USB / RS-232: Configurable up to 115,200 baud. Includes Gauge Control Language 2 for full computer control. Mitutoyo (Digimatic): Serial BCD suitable for all Mitutoyo SPC-compatible devices. Analog: ±1 VCD, ±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 output (via USB/RS-232), automatic shutoff, default settings, averaging mode, external trigger, passwords, key tones, audio alarms, backlight, calibration |
| Safe overload: | 150% of full scale (display shows "OVLD" at 110% and above) |
| Weight (gauge only): | M5-012 - M5-100: M5-012 - M5-100: 1.0 lb [0.45 kg] M5-200 - M5-500: 1.2 lb [0.54 kg] |
| Included items: | Carrying case with chisel, cone, V-groove, hook, flat, extension rod, universal voltage AC adapter, battery, quick-start guide, USB cable, resource CD (USB driver, MESURgauge DEMO software, and user's guide), and NIST-traceable certificate of calibration with data. |
| Warranty: | 3 years (see individual statement for further details) |



| | Thread | Hex |
|-----------------|---------|-------|
| M5-012 - M5-100 | #10-32 | 5/16 |
| M5-200 - M5-500 | 5/16-18 | 11/32 |



Ordering Information

| Model | Capacity | | | | | | | Resolution | | | | | | | Load Cell Deflection |
|--------|----------|------|-----|-------|------|-----|------|------------|--------|--------|------|--------|--------|-----|----------------------|
| | lbF | ozF | kgF | gF | N | kN | mN | lbF | ozF | kgF | gF | N | kN | mN | |
| M5-012 | 0.12 | 2 | | 50 | 0.5 | | 500 | 0.00002 | 0.0005 | | 0.01 | 0.0001 | | 0.1 | 0.005 [0.13] |
| M5-025 | 0.25 | 4 | | 100 | 1 | | 1000 | 0.00005 | 0.001 | | 0.02 | 0.0002 | | 0.2 | 0.010 [0.25] |
| M5-05 | 0.5 | 8 | | 250 | 2.5 | | 2500 | 0.0001 | 0.002 | | 0.05 | 0.0005 | | 0.5 | 0.010 [0.25] |
| M5-2 | 2 | 32 | 1 | 1000 | 10 | | | 0.0005 | 0.01 | 0.0002 | 0.2 | 0.002 | | | 0.009 [0.23] |
| M5-5 | 5 | 80 | 2.5 | 2500 | 25 | | | 0.001 | 0.02 | 0.0005 | 0.5 | 0.005 | | | 0.005 [0.13] |
| M5-10 | 10 | 160 | 5 | 5000 | 50 | | | 0.002 | 0.05 | 0.001 | 1 | 0.01 | | | 0.010 [0.25] |
| M5-20 | 20 | 320 | 10 | 10000 | 100 | | | 0.005 | 0.1 | 0.002 | 2 | 0.02 | | | 0.004 [0.10] |
| M5-50 | 50 | 800 | 25 | 25000 | 250 | | | 0.01 | 0.2 | 0.005 | 5 | 0.05 | | | 0.010 [0.25] |
| M5-100 | 100 | 1600 | 50 | 50000 | 500 | | | 0.02 | 0.5 | 0.01 | 10 | 0.1 | | | 0.010 [0.25] |
| M5-200 | 200 | 3200 | 100 | | 1000 | 1 | | 0.05 | 1 | 0.02 | | 0.2 | 0.0002 | | 0.010 [0.25] |
| M5-500 | 500 | 8000 | 250 | | 2500 | 2.5 | | 0.1 | 2 | 0.05 | | 0.5 | 0.0005 | | 0.010 [0.25] |

All models include 110V AC adapters.

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

Ex: M5-50E, M5-200U