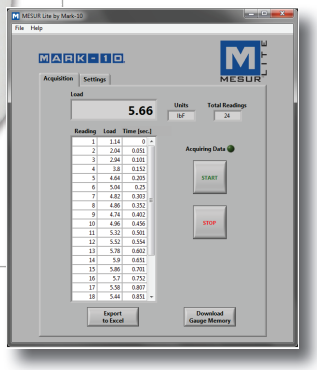


MESUR® Lite data acquisition software is included with the M5I

The M5I advanced digital force / torque indicator is designed to work with a wide range of Mark-10 remote force and torque sensors (see page 3). With exclusive Plug & Test® technology, all calibration and configuration data is saved within the sensor's smart connector, not the indicator, allowing for true interchangeability. In addition, all sensors are fully compatible with other Mark-10 indicators.

The M5I shares its menu structure and most specifications with Series 5 digital force gauges. The sampling rate is a blazing fast 7,000 Hz, producing accurate results even for quick-action tests. A large, backlit graphics LCD displays large, legible characters, while the simple menu navigation allows for quick access to the indicator's 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. An analog load bar is shown on the display for graphical representation of applied force or torque.

The M5I's averaging mode addresses the need to record the average load over time, while external trigger mode makes switch activation testing simple and accurate.

The M5I includes MESUR® Lite data acquisition software. MESUR® Lite tabulates continuous or single point data. Data saved in the indicator's memory can also be downloaded in bulk. One-click export to Excel easily allows for further data manipulation.

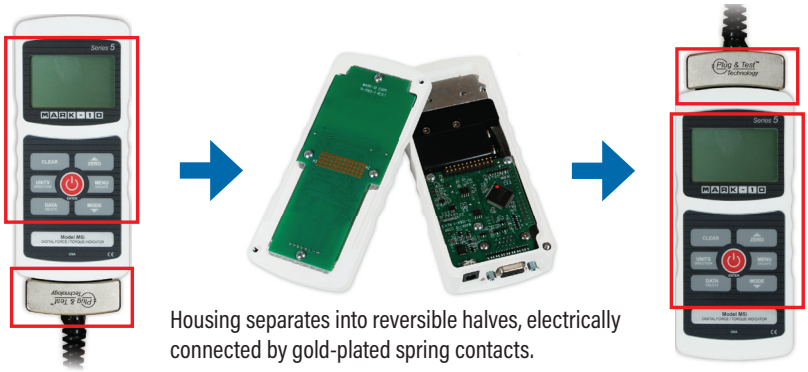
M5I is shown mounted to an optional AC1100 tabletop stand with Series R50 torque sensor

Features

- **Interchangeable force and torque sensors through Plug & Test® technology**
- **Sensor password protection, for preventing use of an unauthorized sensor**
- **High-speed 7,000 Hz sampling rate**
- **USB, RS-232, Mitutoyo, and analog outputs**
- **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**
- **Configurable audio alarms and key tones**
- **Password protection of individual keys and calibration**

Display Indicators

Focus on Engineering: Reversible Housing



Focus on Engineering: Plug & Test® Technology

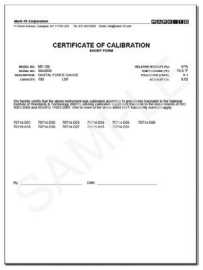
▲ Unique Plug & Test® technology allows for interchangeable sensors to be used with a Mark-10 model M7I, M5I, or M3I indicator. All calibration and configuration data is saved in the smart connector.

▲ The Plug & Test® connector locks into the receptacle in the indicator when fully inserted. Dual buttons on the indicator housing release the connector for easy removal. Gold plated spring contacts ensure long lasting and reliable connection.

Specifications

Accuracy:	±0.1% of full scale + sensor
Sampling Rate:	7,000 Hz
Power:	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.
Battery life:	**Backlight on / off:** up to 7 / 24 hours of continuous use
Outputs:	**USB / RS-232:** Configurable up to 230,400 baud. Includes Gauge Control Language 2 for full computer control. **Mitutoyo (Digimatic):** Serial BCD suitable for all Mitutoyo SPC-compatible devices. **Analog:** ±1 VDC, ±2% of full scale at capacity. **General purpose:** Three open drain outputs, one input. **Set points:** Three open drain lines, 40 VDC max., 100 mA DC max.
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.
Weight:	0.7 lb [0.3 kg]
Environmental requirements:	40 - 100°F, max. 96% humidity, non-condensating
Warranty:	3 years (see individual statement for further details)

In The Box



The M5I force / torque indicator is shipped as shown at left, and includes the following accessories:

(1) Carrying case

(1) USB cable

(1) AC adapter

(1) Certificate of calibration. A combined certificate for the sensor and an indicator is available at time of order, part no. CERT-SI.

Force and torque sensors are available separately.

Alternative AC Adapter Prongs

AC1120

AC1121

AC1122

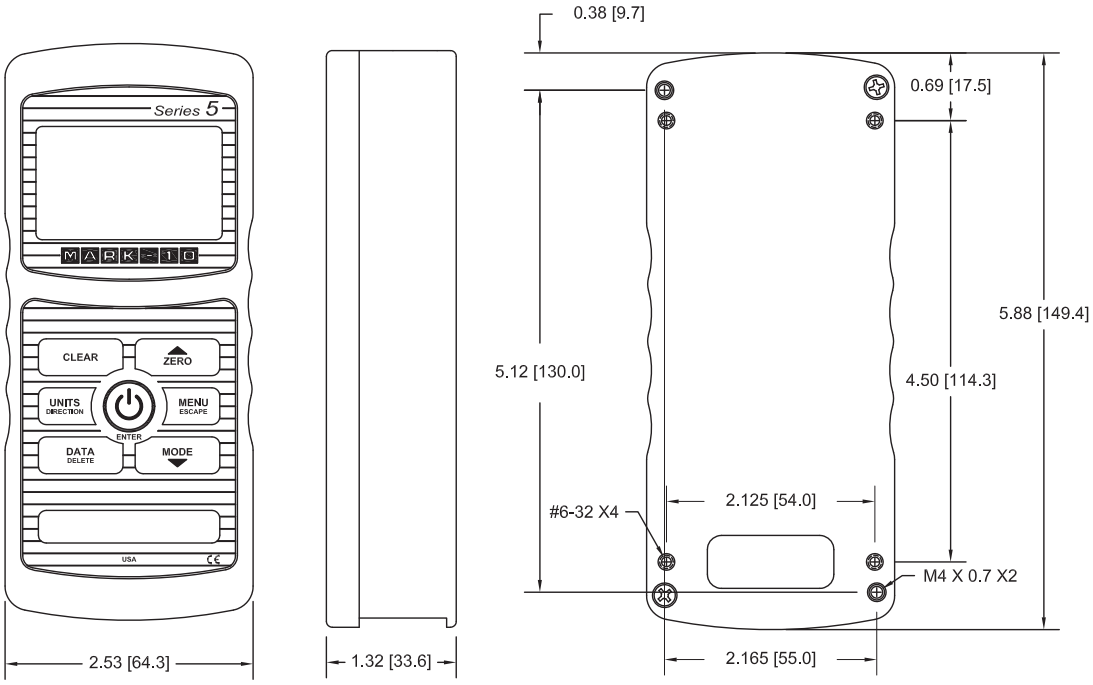
All instruments include a 110V AC adapter with US prong style. Select an alternative prong adapter (if required) from the table below.

Model	Description
AC1120	Prong for AC adapter, 220V EUR
AC1121	Prong for AC adapter, 220V UK
AC1122	Prong for AC adapter, 220V AUS

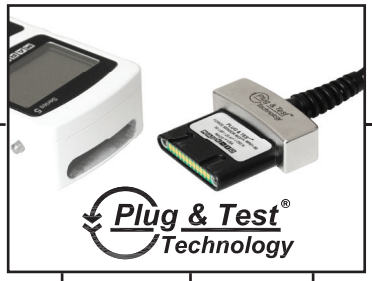
Ordering Information

Model	Description
M5I	Advanced force / torque indicator, 110V
AC1100	Tabletop mounting kit for M7I/M5I/M3I
CERT-SI	Combined certificate of calibration with data, indicator + sensor, calibrated as a set

Dimensions in [mm]



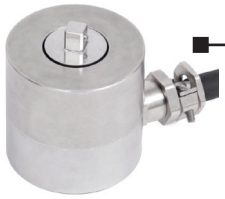
Models M7I, M5I, and M3I force / torque indicators are designed for use with Mark-10's Plug & Test® remote force and torque sensors. All calibration and configuration data is saved within the sensors' smart connectors - not the indicator - allowing for true interchangeability. Each sensor series is available in a range of capacities, from 0.25 to 10,000 lbF (1 N to 50 kN) full scale and from 10 ozFin to 5,000 lbFin (7 Ncm to 550 Nm) full scale. Refer to individual sensor data sheets for further details.



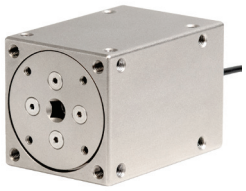
Series R50
Universal torque sensors, fixed chuck

Series R51
Universal torque sensors, interchangeable attachments

Series R55
Torque sensors



Series R52
Static torque sensors



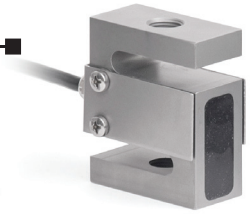
Series R08
Tension / compression force sensors

Model M7I
Professional Indicator

Model M5I
Advanced Indicator

Model M3I
Basic Indicator

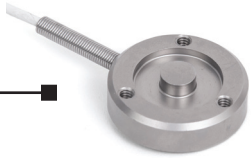
Series R01
Tension / compression sensors



Series R03
Inline tension / compression sensors

Series R04
Miniature tension / compression sensors

Series R02
Compact compression sensors



Series R05
Ergonomics testing push / pull sensors

Series R06
Wire crimp pull sensor