

# MESUR<sup>®</sup> Lite Software

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## User's Guide

**MARK-10<sup>®</sup>**

## Thank you...

Thank you for purchasing a Mark-10 system.

MESUR® Lite software is developed to collect and tabulate data from Mark-10 digital force and torque measuring instruments, as well as export directly to *Microsoft Excel*.

This User's Guide provides detailed operating instructions. For additional information or answers to your questions, please do not hesitate to contact us. Our technical support and engineering teams are eager to assist you.

For more advanced functionality, including graphing, statistical analysis, test stand motion control, reporting, and more, consider MESUR®gauge and MESUR®gauge Plus.

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# 1 STARTUP

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## 1.1 Computer Requirements

MESUR® Lite is compatible with PCs running Microsoft Windows XP or later operating system. Minimum monitor resolution is 1024 x 768. A USB or RS-232C serial port is required to communicate with an instrument. If USB communication is required, be sure to install the USB driver, included on the Resource CD provided with each instrument. It may also be downloaded from the Mark-10 website.

## 1.2 Windows Administrator Settings



**You must enable full Administrator privileges on your PC for proper operation.**

Failure to enable appropriate privileges will result in certain issues, such as not saving test setup files.

### Procedure for Windows 7 / 8 / 10

1. Log on to *Windows* as an administrator or as a user with administrator privileges.
2. Right-click on the MESUR™ Lite software icon on the Desktop, select *Properties*, and then click the *Compatibility* tab.
3. At the bottom of the screen, check the box *Run this program as an administrator*. Then click the button below it, labeled *Change settings for all users*. Then, click OK.

### Procedure for Windows XP

1. Log on to *Windows* as an administrator or as a user with administrator privileges.
2. Right-click the MESUR® Lite software icon on the Desktop, select *Properties*, then click *Find Target*. Navigate to the folder in *Windows Explorer* where MESUR® Lite was installed (default location is C:\Mark-10 Software\MESUR Lite).
3. Right-click the Mark-10 Software folder and select *Properties*. In the Security tab click *Advanced*, then click on all of the users or groups desired and click *Edit*. Check the *Allow Full control* box. Then click OK three times to close the dialog boxes.

If further instructions are required, consult your IT administrator.

## 1.3 Installation

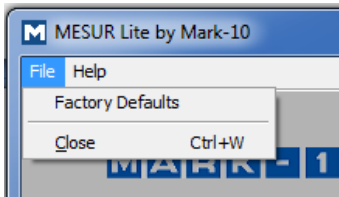
Insert the installation CD into the computer's CD-ROM drive. If *AutoRun* is enabled on the computer, the setup program will run automatically. If not, the setup program may be run manually. Locate and double-click the file "setup.exe" on the CD-ROM drive. Follow the installation prompts.

## 1.4 Launching the Software

When the installation is complete, run MESUR™ Lite by clicking the Windows **START** button, locating "MESUR Lite by Mark-10" under "Programs", and then clicking "MESUR Lite".

## 1.5 Menu Items (available in all tabs)

### 1. File



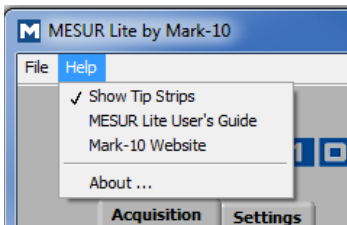
*Factory Defaults*

Restore factory default settings.

*Close*

Exit MESUR® Lite.

### 2. Help



*Show Tip Strips*

Check this selection to show “tip strips” - instructive text boxes which appear when the cursor hovers over an object or area of the screen.

*MESUR® Lite User's Guide*

Open the user's guide as a PDF document (Adobe Reader is required).

*Mark-10 Website*

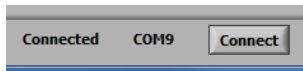
Link directly to the Mark-10 website.

*About*

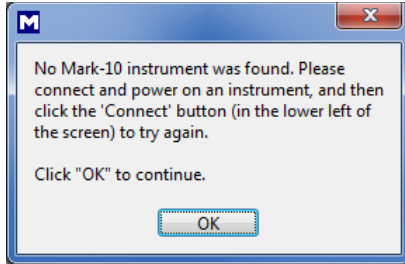
Click “About” or the logo in the upper right corner to display general software information.

## 1.6 Auto Connect

When the software is launched, *Auto Connect* will automatically attempt to establish a connection with a Mark-10 instrument. If USB communication is desired, ensure that the USB driver has been installed. The connection status may be seen in the lower left corner of the screen, as follows:

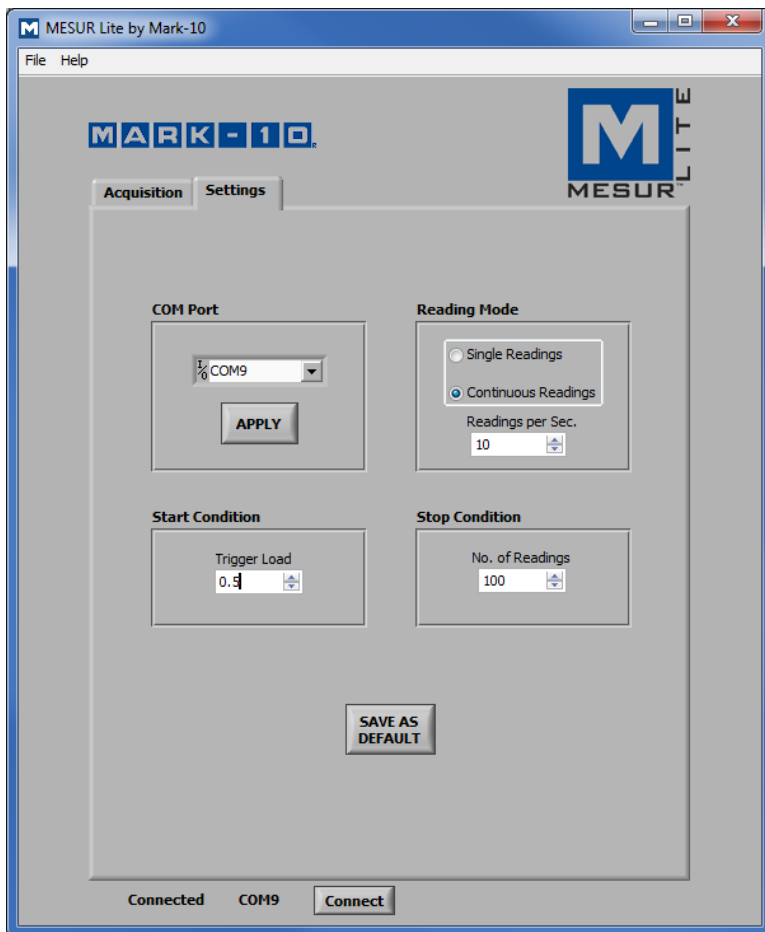


If an instrument cannot be identified or is not connected, the following message appears:



If the instrument is properly connected and configured but this message still appears, the COM port connection may be manually configured. Refer to the communication flowchart below and the following sections for details.

## 2 SETTINGS TAB



Use this tab to select the PC's COM port number, reading mode, and start and stop triggers. These settings can be saved as default.

### 2.1 Compatible Instruments

Any Mark-10 instrument with RS-232 or USB output may be used with MESUR® Lite.

## 2.2 COM Port

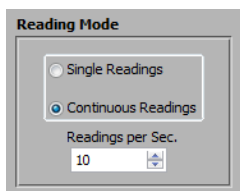
If *Auto Connect* cannot establish a connection with the instrument, manually select the appropriate COM port from the drop-down list. Clicking **Refresh** updates the list with all installed ports. The COM port associated with the instrument can be identified under the Ports sub-section of Device Manager in *Windows*.

*Apply*



Click after changing the COM port number or after making any communication setting changes in the instrument while MESUR™ Lite is running.

## 2.3 Reading Mode



*Single Readings*

Discrete readings are transmitted from the instrument each time **Read** is clicked in the **Acquisition** tab, or the **DATA** button on the instrument is pressed.

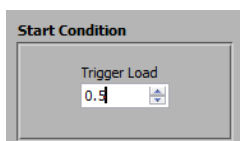
*Continuous Readings*

When selected, readings are requested from the instrument at a rate set in the *Readings per Second* field.

*Readings per Second*

Set the data acquisition rate for *Continuous Readings* mode. Available range is 0.1 to 10 readings per second.

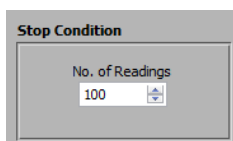
## 2.4 Start Condition



Pressing **START** in the **Acquisition** or **Digital Display** tab starts data acquisition when a load trigger has been reached. Type the desired load into this field. The unit of measurement matches the unit set in the instrument. Setting a value of 0 will start data acquisition as soon as the **START** button is pressed in the **Acquisition** tab (refer to the next section for details).

**Note:** The start condition applies for *Continuous Readings* only.

## 2.5 Stop Condition

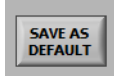


Data acquisition stops when the programmed number of readings has been collected. Up to 5,000 readings may be

collected.

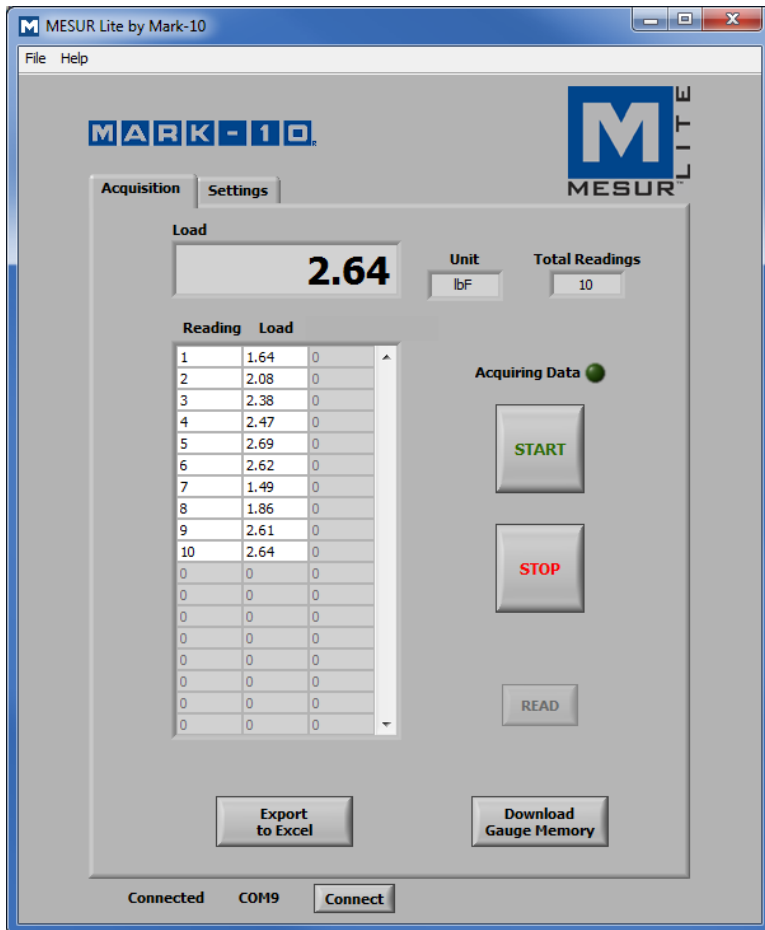
**Note:** The stop condition applies for *Continuous Readings* only.

### 2.6 Save as Default



All parameters in the **Settings** tab are saved as default. They are restored any time MESUR® Lite is launched.

## 3 ACQUISITION TAB



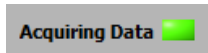
Use this tab to start and stop the test and observe the collected data in tabular format. From this tab, it is also possible to download saved data from a compatible Mark-10 instrument’s memory, and also to export data to Microsoft Excel.

**Note:** To communicate with MESUR® Lite, the instrument must be in the main operating mode, not in a menu or configuration area. A communication error message will appear if an incompatible instrument is used.

### 3.1 START



Starts a test. Data acquisition from the instrument commences when the start condition in the **Test Setup** tab is met. When data is being captured, the “Acquiring Data” indicator above the **START** button illuminates, as follows:

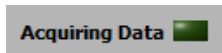


### 3.2 STOP



Stops data acquisition.

In *Continuous Readings* mode, data acquisition will stop automatically when the stop condition in the **Settings** tab has been met. For *Single Readings* mode, **STOP** should be pressed after all desired data has been collected. When the test is completed, the “Acquiring Data” indicator turns off, as follows:



### 3.3 Read



Requests the currently displayed value from the instrument.

**Note:** This button is only visible when *Single Readings* mode is selected. It is located below the **STOP** button.

### 3.4 Load



The current load value acquired from the instrument.

### 3.5 Unit



The unit of measurement received from the instrument. The instrument must be configured to send data with units, otherwise this field will be blank. Refer to the instrument’s user’s guide for details.



### 3.6 Table

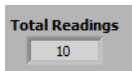
Contains the reading number, load reading, and relative time stamp (if the Reading Mode is set to *Continuous Readings*) for each data point. The table appears as one of the following configurations:

Reading	Load	
1	1.64	0
2	2.08	0
3	2.38	0
4	2.47	0
5	2.69	0
6	2.62	0
7	1.49	0
8	1.86	0
9	2.61	0
10	2.64	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0

OR

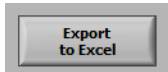
Reading	Load	Time [sec.]
1	0.71	0
2	1.02	0.1
3	1.31	0.2
4	1.56	0.3
5	1.81	0.4
6	2.01	0.5
7	2.32	0.6
8	2.59	0.7
9	2.85	0.8
10	3.1	0.9
11	3.36	1
12	3.56	1.1
13	3.74	1.2
14	3.97	1.3
15	4.18	1.4
16	4.4	1.5
17	4.67	1.6
18	5.14	1.7

### 3.7 Total Readings



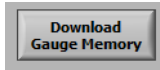
The total number of readings acquired during the test.

### 3.8 Export to Excel



Clicking this button launches *Excel* (if installed, sold separately) and populates a worksheet containing reading numbers, load, and relative time stamps (only if the Reading Mode is set to *Continuous Readings*).

### 3.9 Download Memory



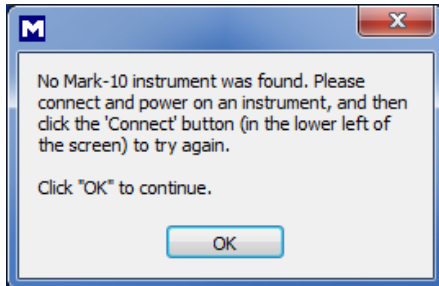
Downloads saved data from a compatible Mark-10 instrument. The instrument must be in the main operating mode (i.e. not in a menu or configuration area).

Before clicking **Download Memory**, ensure that the Reading Mode in the **Test Setup** tab is set to “Single Readings”. Also ensure that the **START** button is not clicked before downloading saved data. The “Acquiring Data” indicator should be off during this time.

A communication error message will appear if an incompatible instrument is used or if it is not in the main operating mode.

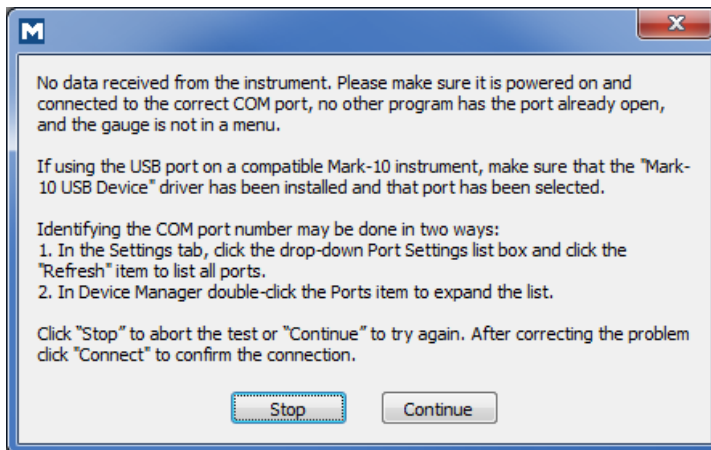
## 4 TROUBLESHOOTING

### 1. Error message: “No Mark-10 instrument was found...”



This message appears after opening the software if no instrument is detected. Confirm that the instrument is connected, powered on, and configured appropriately.

### 2. Error message: “No data received from the instrument...”



This message appears after clicking **START** if communication has not been achieved between the instrument and the software, due to a number of possible causes. If unable to establish communication based on these instructions, try a different USB / COM port, or a different PC.

### 3. *Auto Connect* does not establish a connection to the instrument.

Under most circumstances, the *Auto Connect* feature automatically detects the instrument and selects the appropriate COM port and baud rate in the **Test Setup** tab. However, if an automatic connection cannot be established, cable connections and settings should be checked. Refer to the communication flowchart in the **Startup** section for further information.

### 4. When using the **Export to Excel** function, there are gaps in the data in the Excel spreadsheet. Not all data is transferred.

This is caused by mouse-clicking anywhere within the Excel application before all the data has been transferred. Do not click the mouse button until the data transfer is complete.

**NOTES:**



*Mark-10 Corporation has been an innovator in the force and torque measurement fields since 1979. We strive to achieve 100% customer satisfaction through excellence in product design, manufacturing and customer support. In addition to our standard line of products we can provide modifications and custom designs for OEM applications. Our engineering team is eager to satisfy any special requirements. Please contact us for further information or suggestions for improvement.*



*Force and torque measurement engineered better*

**Mark-10 Corporation**

11 Dixon Avenue  
Copiague, NY 11726 USA  
1-888-MARK-TEN  
Tel: 631-842-9200  
Fax: 631-842-9201  
Internet: [www.mark-10.com](http://www.mark-10.com)  
E-mail: [info@mark-10.com](mailto:info@mark-10.com)