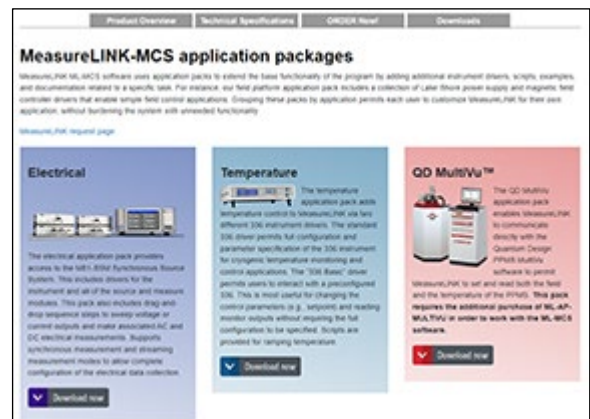# MeasureLINK™-MCS Software Quick Start Guide

MeasureLINK™-MCS software was created by Lake Shore to provide a non-programming method for controlling an experimental environment, monitoring important system parameters, and coordinating the collection of measurement data. This quick start guide provides the necessary steps to install and configure MeasureLINK.

Step 1: Download

MeasureLINK™-MCS software can be downloaded from: https://www.lakeshore.com/software. Many example scripts are included with the software. The API documentation contains working examples for the API calls. Other sample scripts can be found in the MeasureLINK folder on your hard drive: (C:\Users\Public\Documents\MeasureLINK\Examples). Scripts for any registered measurements can be opened and examined or modified.
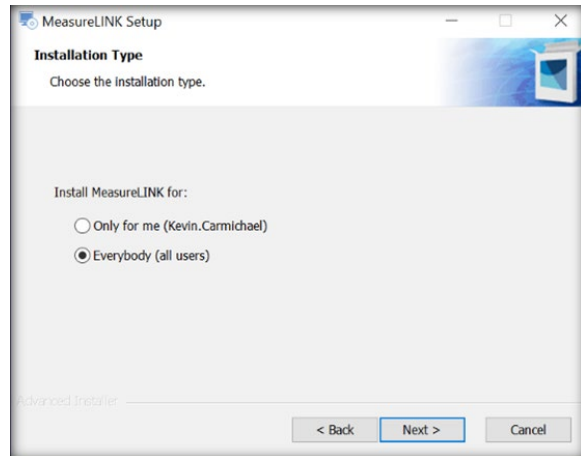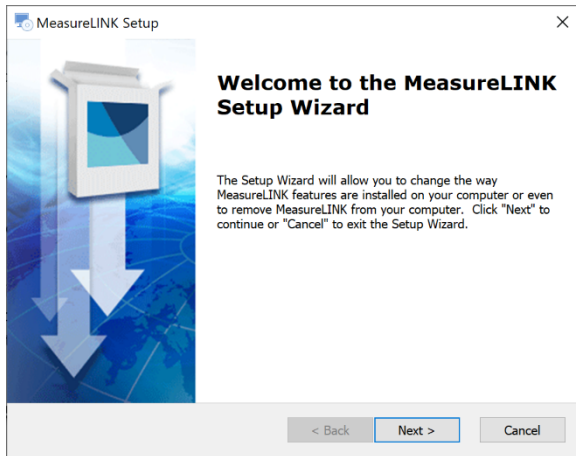
In addition to the MeasureLINK software, download any required application packs. Application packs allow the user to customize MeasureLINK for a specific application by adding instrument drivers, measurements, examples, and documentation needed for a given application.
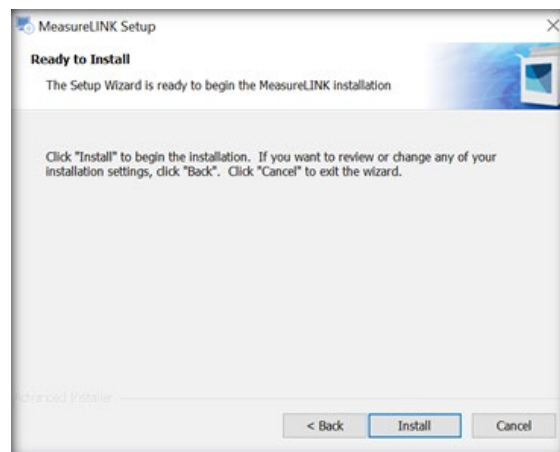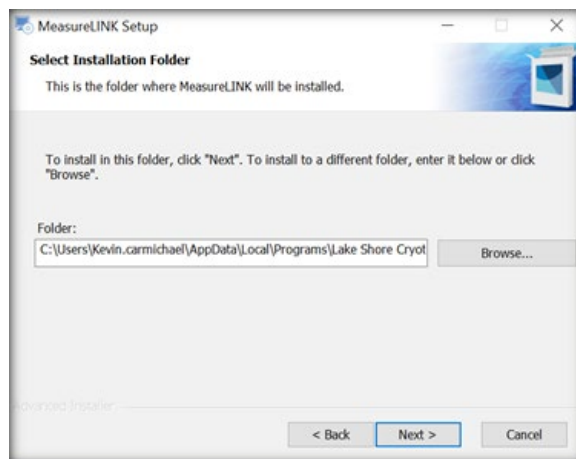
Step 2: Installation

MeasureLINK software installation is guided by an installation wizard. The wizard guides the user through the installation process. The first step will determine the type of installation:
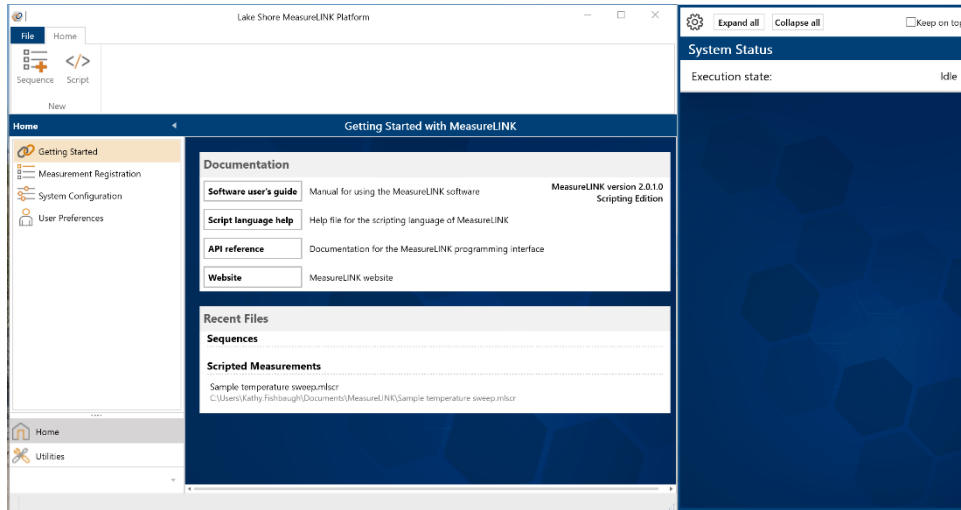
- **Everybody (all users):** the best choice if you have administrator access to the target computer. In this case, any logged in Windows user can open MeasureLINK.
- **Only for me:** does not require administrator access, but can only be used by the user who installed the software.

The second wizard choice is to specify the installation directory. Choose a specific directory as the installation folder, but using the default directory is recommended. Once the folder is specified, click **Next**, and then click **Install** to finish the installation.
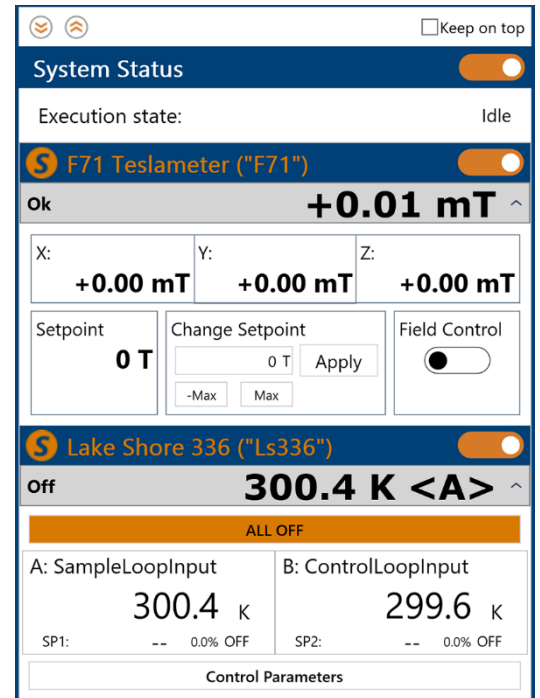
After the installation is complete, the software can be started. Two windows are normally displayed on startup, the main window and the Monitor window.

Monitor window

The Monitor window shows real-time instrument information for the instruments in the current system configuration. The name of the instrument and an enable/disable slider control is provided at the top of each instrument block. In the example shown here, notice that the last instrument is labeled Lake Shore 336 ("Ls336") and has a large "S" next to the name. This indicates that this instrument is in simulation mode.
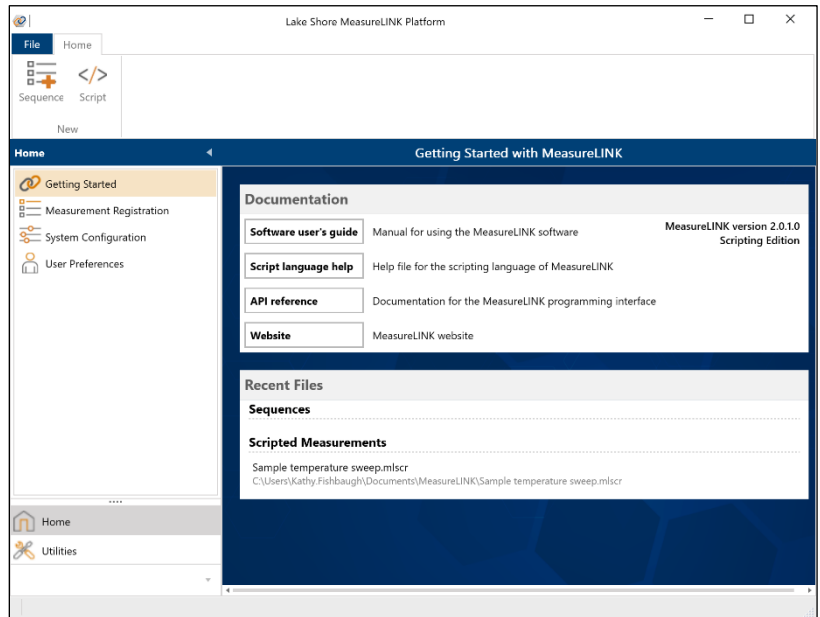
NOTE: A fully populated configuration is shown here for clarity. On initial installation of MeasureLINK, a default configuration containing a simulated LS-336 temperature controller will be selected.

Main window

The main window is divided into different sections to simplify navigation:

- **Navigation pane:** On the left of the main window is a two-tiered navigation pane. The category tab is located at the bottom of the pane and shows the different high-level functions available in MeasureLINK, such as Home and Utilities. After selecting a specific function, its sub-tabs are displayed at the top of the pane. Therefore, nearly all of the content available in the MeasureLINK main window can be reached by selecting a category, followed by a sub-tab selection.

- **Menu bar:** At the top of the main window is the menu bar. This menu provides direct access to recently used files and provides access to additional pages.

- **Ribbon:** Below the main menu is the ribbon bar. Each page in MeasureLINK uses a customized ribbon to provide direct access to the main navigation items in the page.

- **Workspace:** The bottom portion of the MeasureLINK main window is a working area where users will interact with the system.
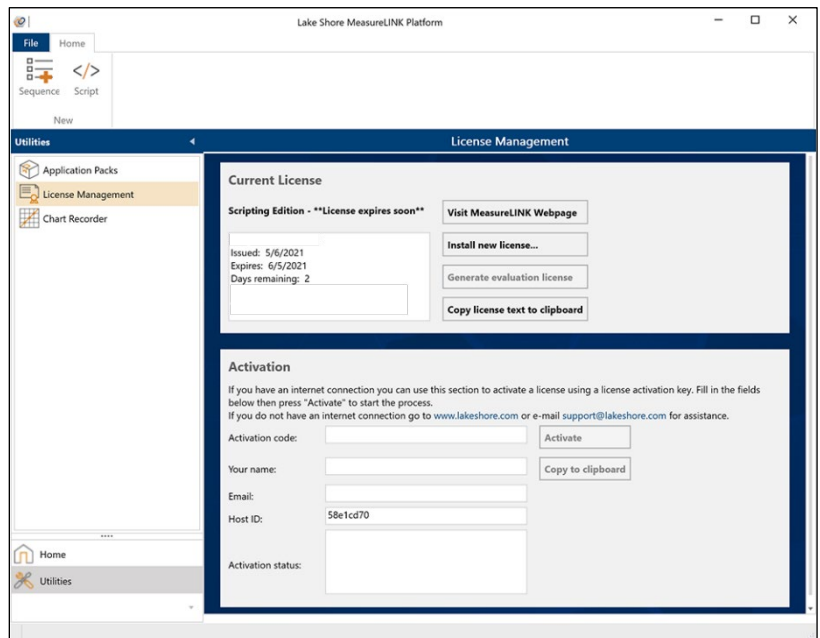
Step 3: Activation

To complete activation, select the Utilities level, and then click the License Management utility. **NOTE: If you do not have a license, this utility should be displayed when you open MeasureLINK.**

When MeasureLINK is downloaded, an activation code will be sent to the e-mail address provided. Activation requires an internet connection.

To activate:
1. Enter the activation code, your name, and e-mail address.
2. The HostID displayed is a unique identifier for your computer.
3. If the computer has access to an internet connection, click **Activate** to automatically retrieve and install a valid license file for the target computer.

4. If an internet connection is not available, fill in the required fields and click the **Copy to clipboard button** to e-mail the contents to support@lakeshore.com.
5. A valid license file will be returned and can be installed by clicking the **Install new license...** button.

If you do not have an activation code, you can generate a temporary evaluation license that will create a one-time activation for 90 days.
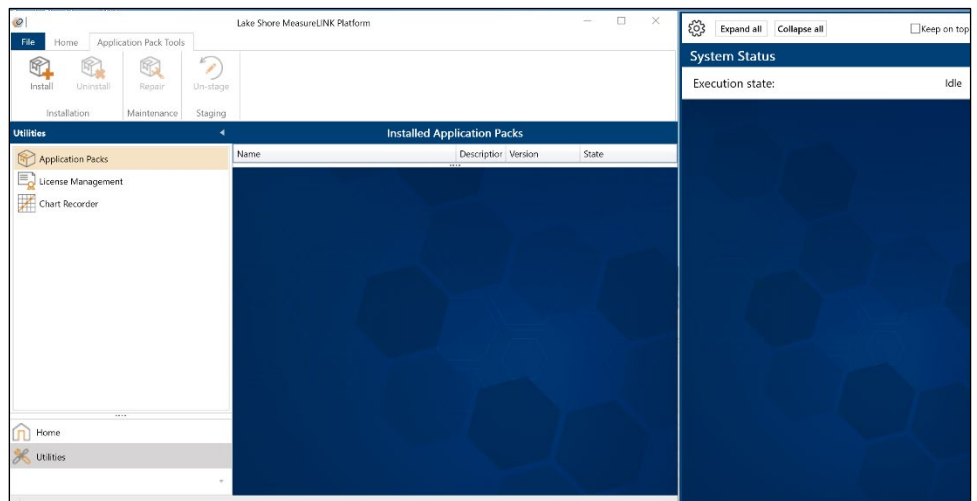
To generate an evaluation license:
1. Click the **Generate evaluation license** button in the License Management utility
2. A temporary evaluation license will be generated and activated. An evaluation license can be generated only once.

Once MeasureLINK is activated, the startup splash screen will display the user's name and the length of time left on the current license.
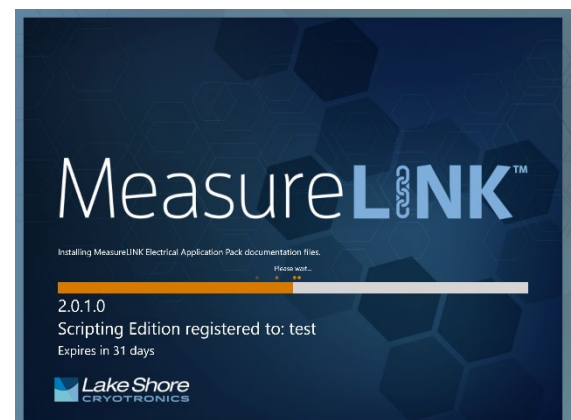
Step 4: Application packs

After MeasureLINK is installed and activated, download any required application packs to customize MeasureLINK for specific applications. Select the Utilities level, and then click the Application Packs utility.

If not previously downloaded, the application packs can be found on the Lake Shore Cryotronics website.

If the required application packs were previously downloaded, download updated files using these steps:

1. Click the **Install** button.
2. Navigate to the directory containing the application pack files.
3. Select the application packs that are needed and click **Open**.
4. A message box will appear showing the application packs that will be installed on the next MeasureLINK startup. This will *stage* the application packs for installation. Since application packs change the function of the MeasureLINK application they cannot be installed while the application is running.
5. To complete the installation, exit and restart MeasureLINK.
6. On restart, a progress bar shows the status of the application pack installation.
7. After the program starts, return to the Application Packs utility to verify that the application packs were installed.
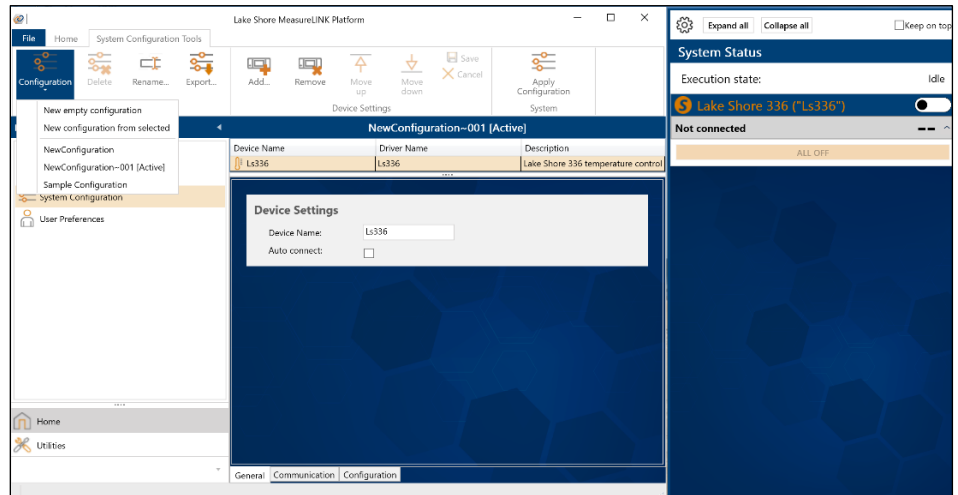
MeasureLINK™-MCS Software Quick Start Guide

Step 5: System Configuration

MeasureLINK can support many different instrument configurations, but is initially installed with a configuration containing a simulated Lake Shore 336 Temperature Controller (Ls336). To prepare MeasureLINK for a specific application, the instruments required for the application must be configured.

Select the Home level, and then click the System Configuration option. The example below is a simple temperature-dependent, electrical measurement application.
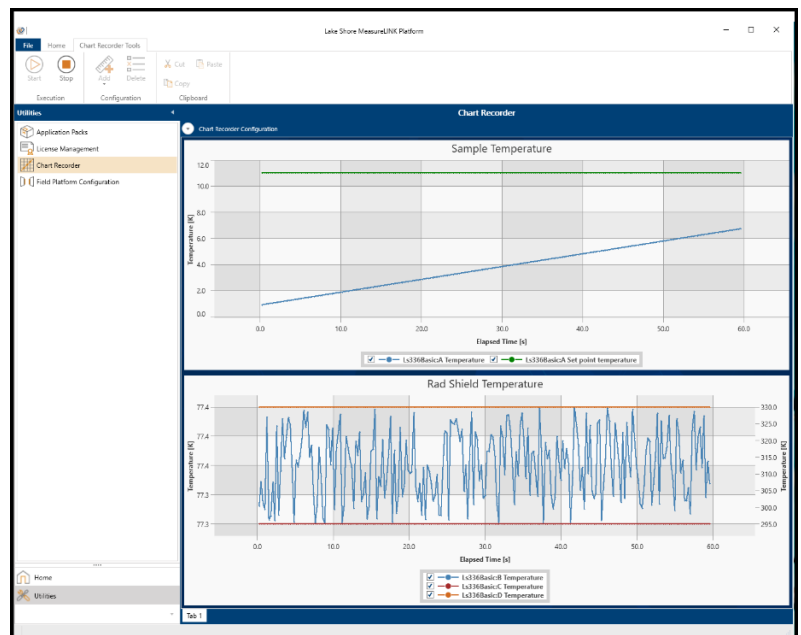

To create a new system configuration:
1. Click the **Configuration** button on the ribbon.
2. Click **New empty configuration**.
3. Select the instruments that are required for the target measurement by clicking the **Add** button from the ribbon and selecting each instrument required. For this example, we will use the Lake Shore 336 temperature controller and the Lake Shore M81 synchronous source measure system with the VM-10 measurement module.
   NOTE: You need to have previously installed the appropriate application packs to populate this instrument list.
4. After selecting the instruments, each instrument can be configured with tabs at the bottom of the screen.

Using MeasureLINK™-MCS Software

After following the steps above, MeasureLINK software is installed and configured to use with the configured instruments. Three important features can be used to interact with attached instrumentation. See the sections below.
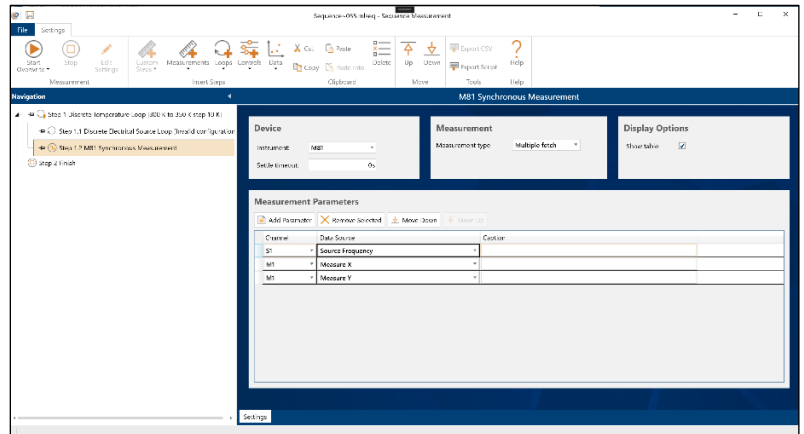
Chart Recorder

The chart recorder displays and logs instrument parameters such as real-time temperatures and setpoints. Multiple charts can be configured for different output displays.

Sequence drag and drop measurements

Using a Sequence measurement, the user can select items from the ribbon to create measurement sequences (e.g. discrete temperature loop with an electrical sweep and measurement at each temperature).
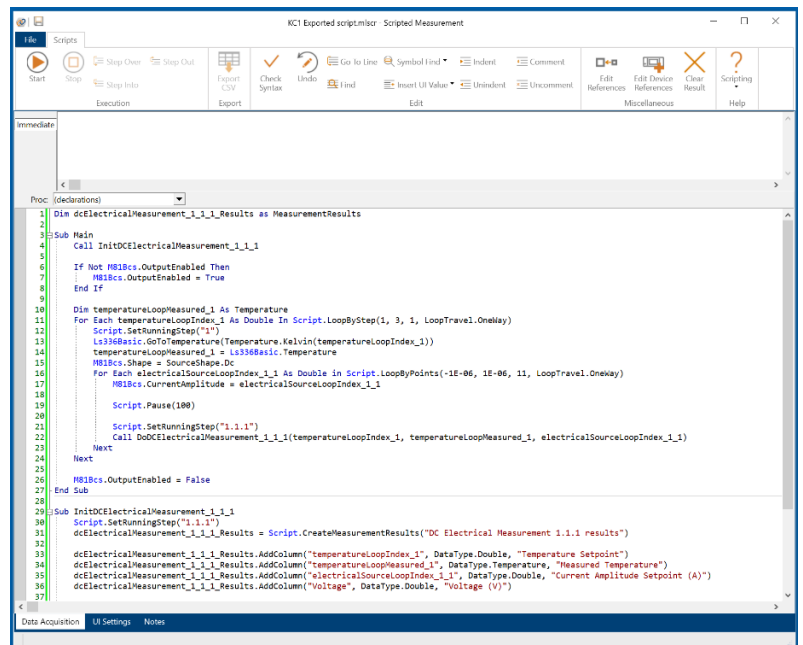

Scripted measurements

A scripting environment is included within MeasureLINK-MCS software. It provides a .NET compatible basic language IDE with debugger that permits the development of custom measurements that can be run in MeasureLINK.

This function is ideal for researchers who demand open-ended capability to add third-party instruments, and create customized content to meet their research needs. Sequences can be exported to a scripted measurement and customized to suit your measurement requirements.

For systems containing the MeasureReady M81-SSM or M91 FastHall™ measurement controller, please refer to the instrument's quick start guide and user's manual for complete setup instructions.

For more information, please see the MeasureLINK™-MCS Software manual, and the integrated Help files within MeasureLINK™-MCS software.

Contacting Lake Shore

The Lake Shore Technical Support Department is staffed Monday through Friday between the hours of 8:00 a.m. and 5:00 p.m. EST, excluding holidays and company shut down days. Contact Lake Shore through any of the means listed below. However, the most direct and efficient way is to complete the online service request form: https://www.lakeshore.com/support/.

Lake Shore Cryotronics
575 McCorkle Blvd.
Westerville, Ohio USA 43082-8888
Phone: 614-891-2244
Email: support@lakeshore.com
Web: www.lakeshore.com