

LabMax-Pro SSIM LabVIEW Example VIs

This is a collection of LabVIEW VIs that have been created to help get started with setup and data collection from the LabMax-Pro SSIM. These VIs do not cover the entire set of remote commands that can be used with that meter, but are intended to give some basic examples of how to interface with the meter through LabVIEW. Additional remote commands for setting up the meter and collecting data can be found in the LabMax-Pro SSIM user manual. These commands can be tested using the “Example – Test Remote Commands” VI to see how they work with the meter.

The VISA Resource Name entry in each VI is used to connect to the meter. Once the USB driver for the meter is installed, the meter should show up under the Ports category in Device Manager on the computer. If the USB driver has installed properly, the LabMax-Pro SSIM will have a COM port number associated with it, which is the COM port number to select as the VISA Resource Name. The VISA Resource Name must be selected in each VI prior to running it. The standard LabMax-Pro SSIM software installation must be completed prior to using these VIs as that will install the USB driver for the device on the computer.

Here is a basic description of the main VIs included. Additional notes and descriptions are included in the front panel and block diagram of each VI.

Example – Measure Fast Data

This is an example of a sequence that could be used to collect data from the meter in Fast mode. The intention of this VI is to give the user an idea of what VIs would need to be used at the beginning and end of a data collection sequence in order to properly connect and set the meter for measurements and then to close the connection at the end.

Example – Test Remote Commands

This example can be used to test any of the remote commands that are printed in the LabMax-Pro SSIM user manual. Many of these commands have been incorporated into the example VIs, but there are still many commands that are not included here. This VI can be used to test how those commands work and to see how they affect the setup of the meter and the data that is collected.

LM-P Close

This VI should be run at the end of any program in order to release the connection with the meter.

LM-P Initialize

This VI should be run at the beginning of any program in order to establish a connection with the meter.

LM-P Measure Data – Single

This VI can be used to capture the single most recent data measurement that the meter has collected.

LM-P Measure Data – Snapshot

This VI can be used to capture a batch of Snapshot data from the meter. Snapshot mode is only available with PowerMax-Pro sensors and this mode must be set up using the “Measurement Mode” VI prior to running.

LM-P Measure Data – Stream Fast

This VI can be used to capture a batch of streamed data from the meter in Fast data acquisition mode. Fast mode is only available with PowerMax-Pro sensors and this mode must be set up using the “Measurement Mode” VI prior to running.

LM-P Measure Data – Stream Slow

This VI can be used to capture a batch of streamed data from the meter in Slow data acquisition mode. This mode must be set up using the “Measurement Mode” VI prior to running. This example just dumps the data into a text box format, which can easily be pasted or saved into a spreadsheet format for long-term data logging.

LM-P Measurement Mode

This VI is important to run prior to using any of the data collection VIs as this determines which data measurement mode the meter is set to. This VI can be used to query or change any of the measurement mode settings. Note that not all measurement mode settings are available with all sensor types.

LM-P System Info

This VI is an example of how to query for some of the basic system information that is available from the meter. There are a number of other system information queries that can be used with the LabMax-Pro SSIM. A full list of these queries is included in the remote commands section of the user manual.

LM-P Wavelength Setting

This VI can be used to set or query the wavelength correction feature for the meter. The range of available wavelengths will be determined by the sensor that is connected to the meter.

LM-P Zero Meter

This VI can be used to zero the meter prior to collecting measurements. Typically zeroing the meter needs to be done after the equipment is set up and prior to starting data collection. This helps establish a proper baseline for measurements. Zeroing the meter does not necessarily need to be done before every single measurement, but it should be done while setting the meter up and should also be done periodically after that to assure any baseline drift is subtracted out of the measurements being made.

utility – delay

This utility introduces a delay between certain VISA communication events to help make sure the meter has time to process and respond to remote commands.

utility – send and receive

This VI sends and receives commands to the meter. This VI could be used with many of the remote commands that are included in the LabMax-Pro SSIM user manual and this is used as the lower-level communication VI for many of the other VIs included here.