LUMETRICS®

Precision Measurement Solutions

# Optical Switch II

*Product Manual*

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# 1 Optical Switch

## 1.1 Revision History

| Revision | Description | Author | Date |
|---|---|---|---|
| Revision 1 | Initial Release | Jeremy Crouse | 8/27/15 |

## 1.2 Introduction

The Optical Switch II is used in order to gather data from multiple probes while only using one OptiGauge. The Optical Switch II moves from one channel to another and collects data from each channel that a probe is connected to. The user can set the amount of time that the OptiGauge II dwells on each probe. It enables the user to have up to eight probes connected to the OptiGauge II.

## 1.3 Quick Setup

To start using the Optical Switch II perform the following:

1. Verify the OptiGauge II is powered on and connected to its computer.
2. Connect the Optical Switch II to an electrical outlet.
3. Connect the USB (preferred) or RS-232 cable from the Optical Switch II to the OptiGauge II.
4. Connect the optical fiber cable from the **OPTICAL INPUT** of the Optical Switch II to the front of the OptiGauge II.
5. Connect the probe(s) into **CHANNELS** 1-8 on the rear of the Optical Switch II.

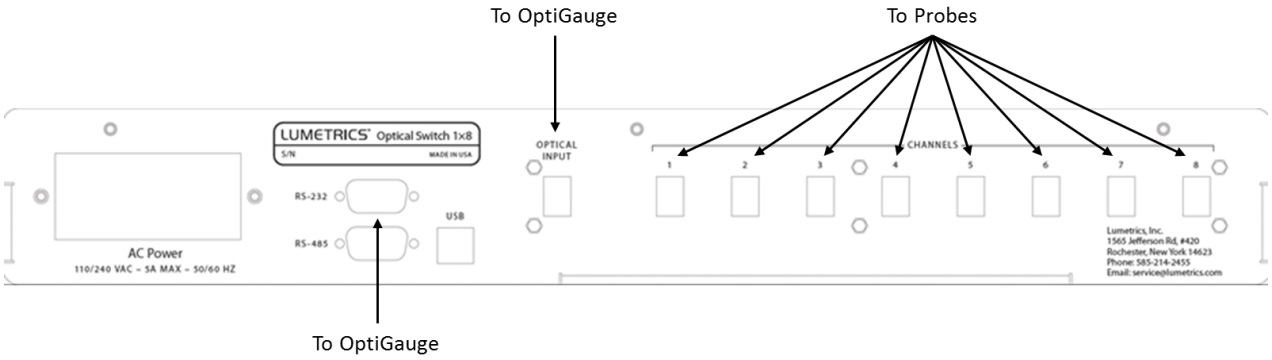



Figure 1: Setup Diagram

## 1.4 Getting Started

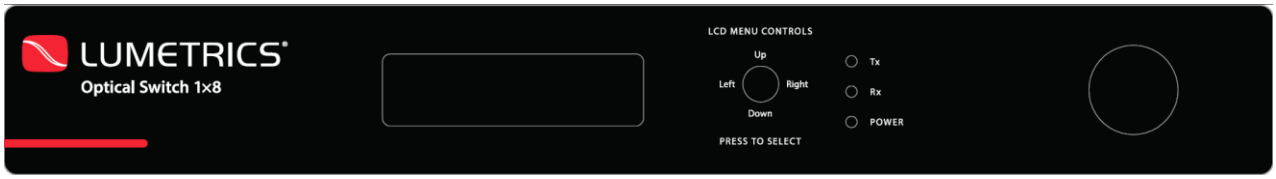



Figure 2 - Optical Switch II Front Panel

The button on the right side of the front of the Optical Switch II is the power button. Press it to turn the switch on.

Once the switch is on, the red light around the power button will illuminate along with the **POWER** light.

The controls on the front of the Optical Switch II are used to navigate up, down, left, right, and select on the screen.

Open up the OptiGauge Control Center (OCC) on the desktop. The switch tab in the OCC will only be visible when the optical switch is enabled via the “Tools” menu item. If the switch is not found, the tab is disabled (grayed).

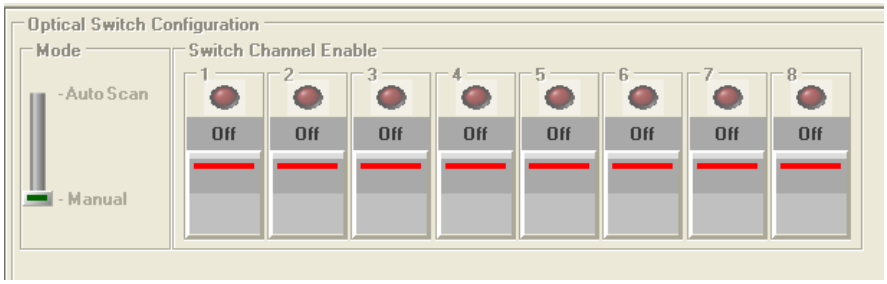



Figure 3 - Optical Switch Configurations (Switch Not Found or Disabled)

To show the switch, select the **Optical Switch Enabled** selection on the **Tools** menu selection.

Once enabled, the mode of switch operation is selected with a graphical slider. There are two modes available:

**Manual** – Select a channel by clicking a specific channel number on the screen.

**Auto Scan** – Scan through the enabled channels based upon the scanning parameters.

## 1.5 Manual Operation

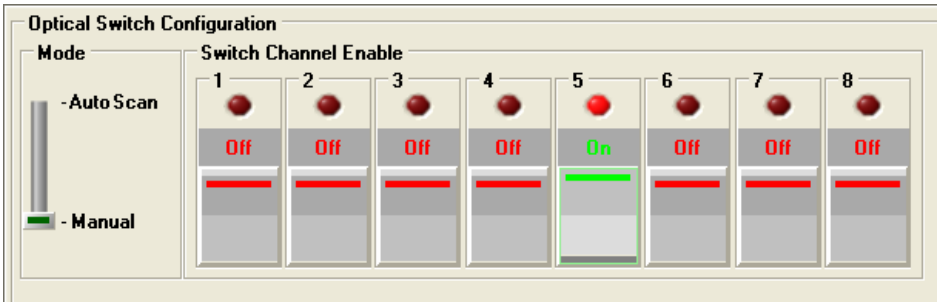



Figure 4 - Optical Switch Configurations (Switch Found and Active)

In Manual mode a switch channel is selected by clicking the graphical toggle switch. When selected the toggle label changes from **Off** to **On**, the color is changed from green to red, and the LED is brightened. The current channel is displayed in the status bar. Only one channel can be selected at a time.


Figure 5 - Status bar: switch channel label

## 1.6 Auto Scan Operation

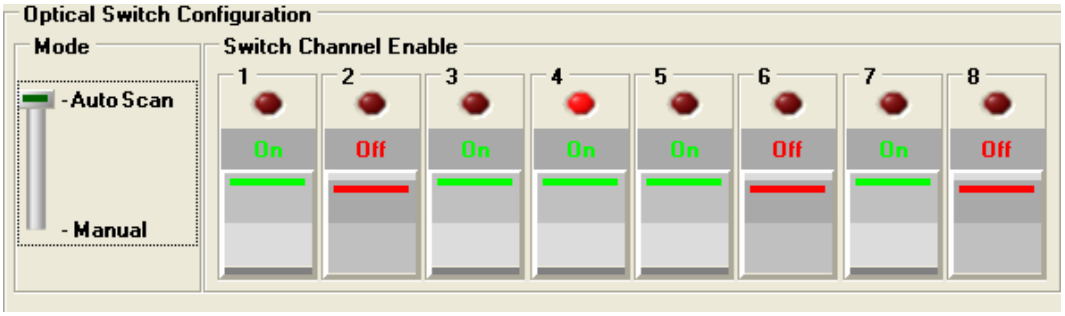
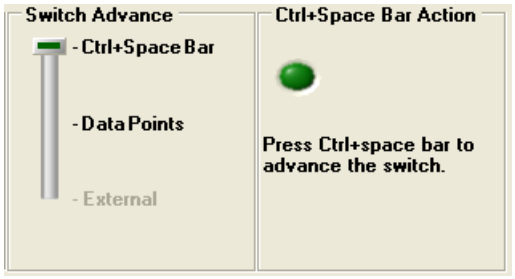
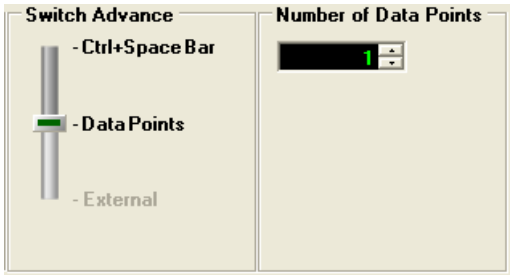



Figure 6 - Optical Switch Configurations (Auto Scan)

In Auto Scan mode switch channels are enabled for measurement by clicking the graphical toggle switch. An enabled channel is indicated with the text **"On"** displayed in green. The active channel is indicated by the red LED being lit.




There are two selections for the switch advance:

1. **Ctrl-Space Bar** – Pressing ctrl-space bar advances the switch to the next enabled channel.
2. **Data Points** – The switch advances after the specified number of measurements have been made.


When in Auto Scan mode the Show History slider selects the channel to be displayed by the Layer History panel. Selecting a channel that is not enabled will result in the display of a blank panel. After the selection changes, the Layer History panel displays the history. The annotation text is not displayed until a measurement is made on the selected channel.

As with Manual mode, the current channel is displayed in the status bar.

## 1.7 Programing the Optical Switch from LCD

### 1.7.1 LCD Display

20 character by 2 lines

| |
|---|
| XXXXXXXXXXXXXXXXXXXX |
| XXXXXXXXXXXXXXXXXXXX |

### 1.7.2 Navigation Menu Button

Five position navigation button which has the following motion:

Up - Move up menu

Down - Move down menu

Right - Change selection to next parameter selection or display next submenu

Left - Change selection to previous parameter selection or display previous submenu

Press Center - Change current parameter to selected parameter

## 1.8 Menus

### 1.8.1 Status- Current Channel and Errors

With No Errors

| |
|---|
| 0-Status Ch: xx<br>Status: OK-No Errors |

With Error

| |
|---|
| 0-Status Ch: xx<br>Error: "*Error Message*" |

### 1.8.2 Information- Model, Serial #, Firmware Version, Total Channels

Switch information with sub menus

| |
|---|
| 1-Info Switch <More><br>Model: xxxx |

More>

| |
|---|
| 1-Info Switch <More><br>Serial: xxxx |

More>

| |
|---|
| 1-Info Switch <More><br>Soft Ver: xxxx |

More>

| |
|---|
| 1-Info Switch <More><br>Total Ch: xx |

### 1.8.3 Information- Communications Parameters: Type, Baud, Bits, Flow

Com. Information with sub menus

| |
|---|
| 2-Info Com <More><br>0-Type: xxxx |

More>

| |
|---|
| 2-Info Switch <More><br>1-Baud: xxxx |

More>

| |
|---|
| 2-Info Switch <More><br>2-Dat: x Stp: x Prty: x |

More>

| |
|---|
| 2-Info Switch <More><br>3-flow : xxxx |

### 1.8.4 Temperature- Inside of unit

| |
|---|
| 3-Temperature Status<br>Temperature: xx |

### 1.8.5 Up Time- From Last power up

| |
|---|
| 4-Up Time<br>D:xx H:xx M:xx S:xx |

### 1.8.6 Manual Override- Local Channel Select

| |
|---|
| 5-Local Ch. Override<br>Ch Select: CH:xx |

### 1.8.7 Interface Setup

| |
|---|
| 6-COM Type: xxxxx<br>Select Type: |

Selection options are: USB, RS-232, RS-422, RS-485(future release)

### 1.8.8 Baud Rate Setup

| |
|---|
| 7-Baud Rate: xxxx<br>New Baud: xxxx |

Selection options are: 300, 1200, 2400, 4800, 9600, 19.2k, 39.4k

### 1.8.9 Stop Bits Setup

| |
|---|
| 8-Stop Bits: xxxx |

| |
|---|
| New Stop Bits: xxxx |

Selection options are: 1 or 2

### 1.8.10 Data Bits Setup

| |
|---|
| 9-Data Bits: xxxx<br>New Data Bits: xxxx |

Selection options are: 7 or 8

### 1.8.11 Parity Setup

| |
|---|
| 9-Parity: xxxx<br>New Parity: xxxx |

Selection options are: None, Odd, Even

## 1.9 Software setup LCD Optical Switch II with OPTIGAUGE Control Center Software

Setup OptiGauge system hardware and powered-up as described in OptiGauge User Manual using the OptiGauge Control Center software without LCD Optical Switch connected to verify operation of probe, hardware, and software.

## 1.10 LCD Optical Switch II Default Settings

Communication Interface: RS-232

Baud Rate: 38.4K

Stop Bits: 1

Data Bits: 7

Parity Setup: None

Handshaking:

{"None\0","DTR/DSR\0","RTS/CTS\0"}; // not implemeted: "Xon/Xoff\0"

## 1.11 Physical Properties

| Dimension | Standard | Metric |
|---|---|---|
| Height | 2.5 in | 63.5 mm |
| Width | 17.0 in | 432 mm |
| Depth | 11.1 in | 282 mm |
| Weight | 4.8 lbs | 2.18 kg |

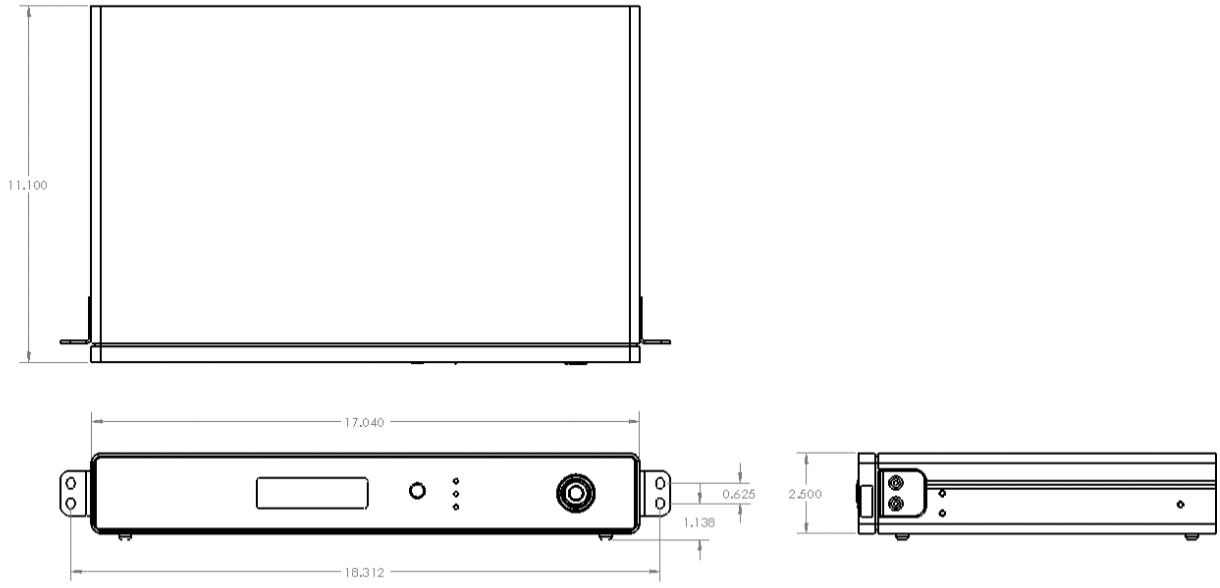



Figure 7: External Dimensions