

Optical Switch Evaluation Kit

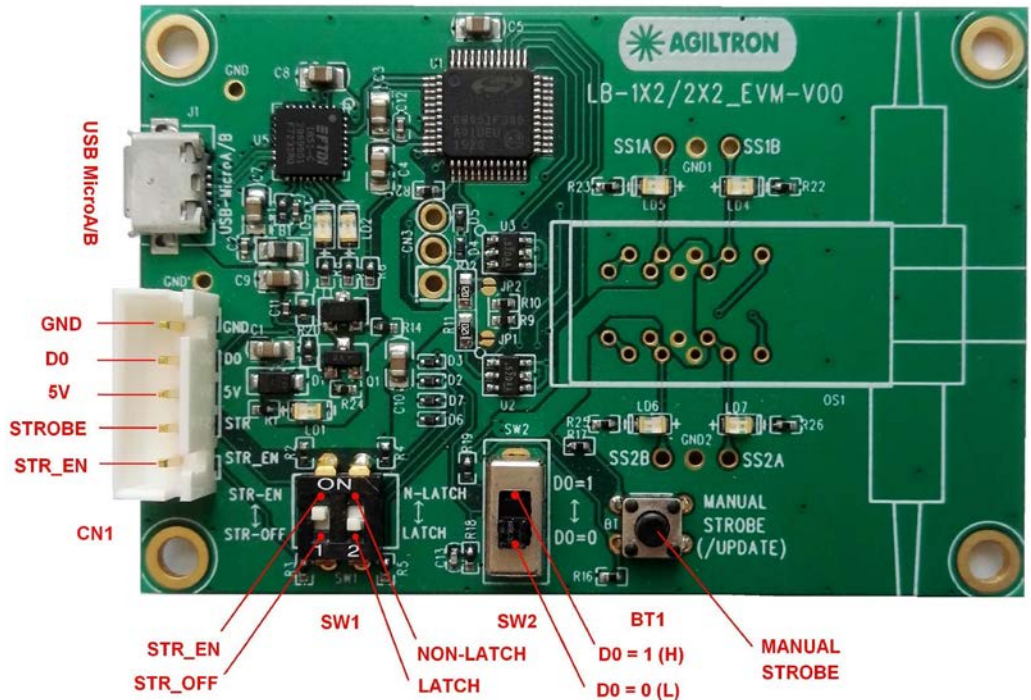
Push Button/USB, 1x2/2x2 PCB and GUI

Product Description

The SW-DR-5 evaluation kit is compatible with LightBend™, Fiber-Fiber™, MEMS, and Crystallatch™ 1x2/2x2 switches. It has three control modes: manual push button; TTL; USB with a user-friendly GUI Windows™ program. It is intended for convenient laboratory use or switch performance evaluation. The unit has a mini USB connector and a 5-PIN split cable. It can be powered by the mini USB connector to a computer or an accompanying cellphone 5V wall plug power supply. It is a cost-effective solution for ease of using our switches.

Features

- USB Interface
- Push Button
- TTL
- GUI
- Power Supply



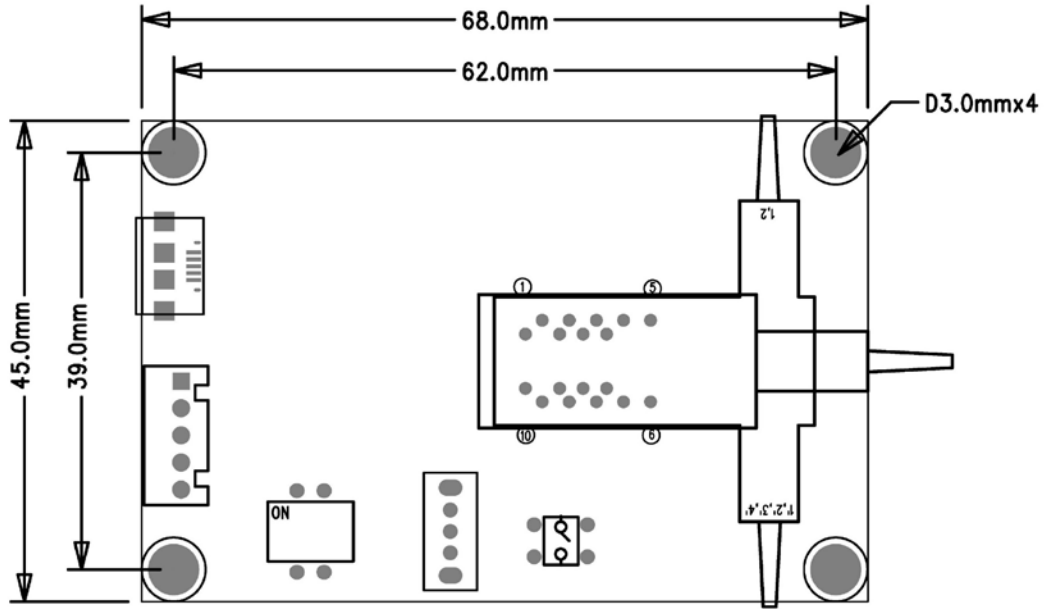
Electrical Specifications

Parameter	Min	Typ	Max	Units
Operating Temperature	-10	--	70	°C
Storage Temperature	-40	--	85	°C
Voltage	-0.3	--	5.2	V

Compatibility

- CrystaLatch™ 1x2/2x2
- LightBend™ 1x2/2x2
- MEMS 1x2/2x2
- Fiber-Fiber™ 1x2/2x2

Mechanical Dimension



Manual Operation Instruction

- **Power the Board**

The unit can be powered up via the Micro USB port connecting to a computer or a cellphone wall plug power supply.

- **Manual Push Button Control**

When using Manual Push Button Control, SW1-1 should be set to **STR_EN**. Once the board is powered (LED on), the unit can be easily controlled by pushing the **STROBE** button, the light path will be changed accordingly.

TTL Operation Instruction

- **Power the Board**

The unit can be powered up via the Micro USB port connecting to a computer or a cellphone wall plug power supply.

- **TTL Control**

When using TTL Control, SW1-1 should be set to **STR_OFF**. The unit can be controlled by TTL Signal. Sending a **HIGH** voltage (3.3V or 5V) to the **D0** pin in the 5 pin connector, and the light path will change. Sending a **LOW** voltage (0V) to the **D0** pin in the 5 pin connector light path will change again.

Computer Graphic Software User Guide

- **Install the Program**

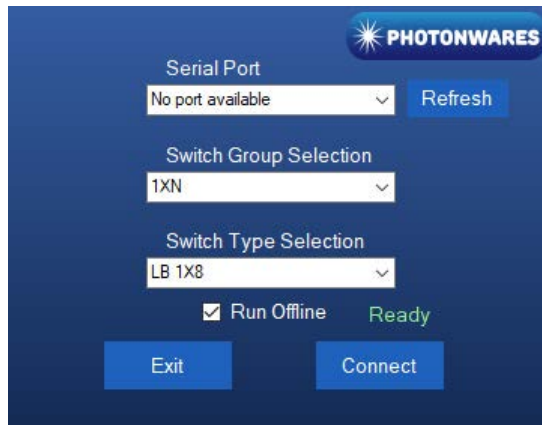
Click on setup.exe for the automatic installation, which should be provided with the product.

- **Power and Connect the Board**

Use the Micro-USB to USB cable to connect the board with the PC with software installed. Remember to set SW1-1 to **STR_EN**.

- **Run the Program**

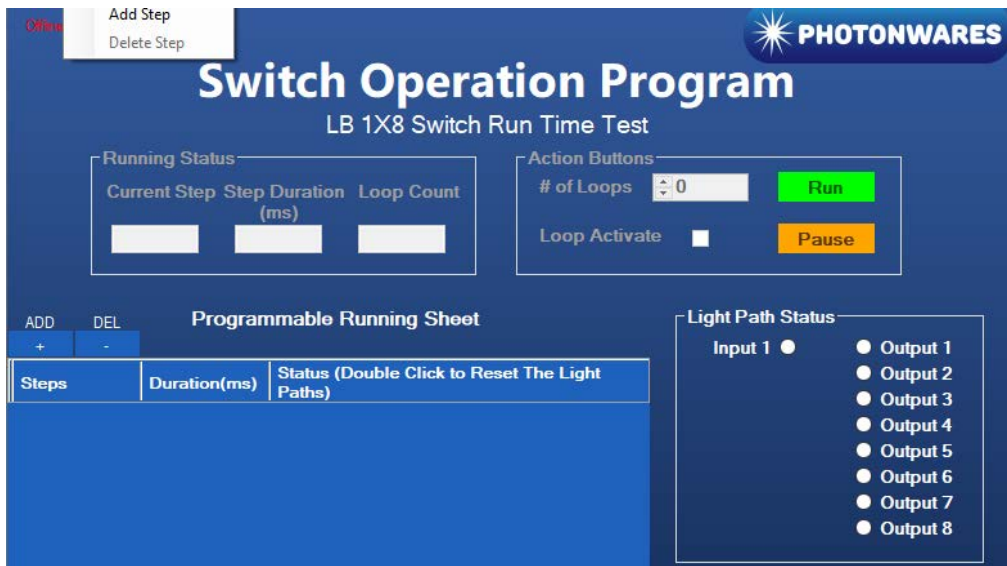
Run the “Switch Operation Program.exe” and the program will open the configuration window. Select the correct Switch Group and select the specific Switch Type. Then click the “Connect” button and the program will establish the connection between PC and board.



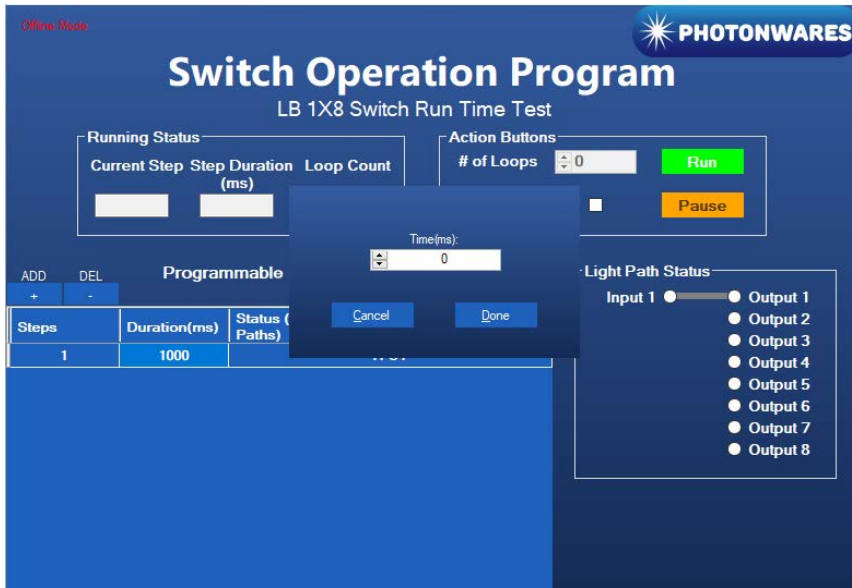
- **Create and edit testing time sequence**

Add step: Click the “Add Step” button in the menu strip or click the “+(ADD)” button would both add a step to the Programmable Running Sheet.

Delete step: Click the “Delete Step” button in the menu strip or click the “-(DEL)” button would both delete a step in the Programmable Running Sheet.



Edit step: There are two things that you can modify for one step. One is the light path, and the other is the duration for each step. Double click the cell that you want to modify, and the program will allow you to modify the setting.



The screenshot shows the 'Switch Operation Program' interface for 'LB 1X8 Switch Run Time Test'. A dialog box titled 'Time(ms):' is open, allowing the user to edit the duration of a step. The dialog has a text input field with '0' and 'Cancel' and 'Done' buttons.

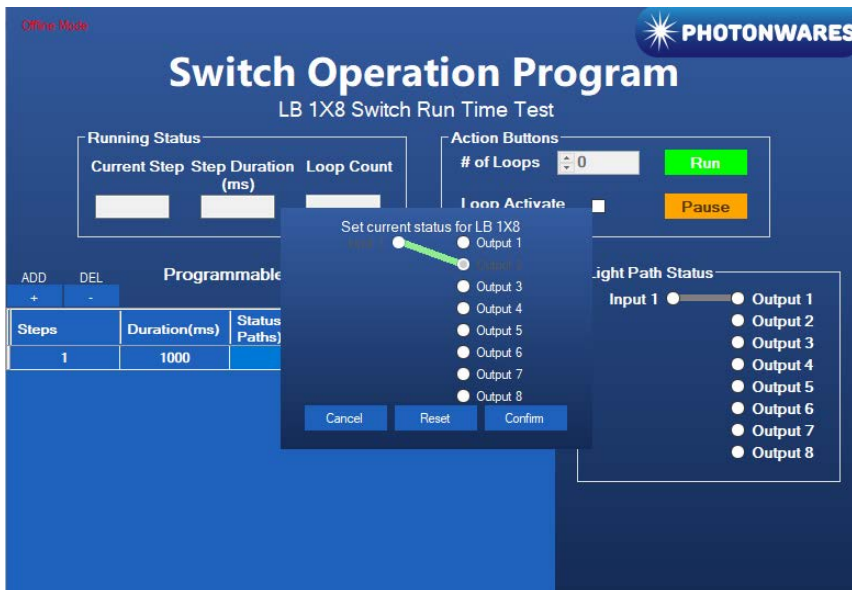
Running Status: Current Step, Step Duration (ms), Loop Count

Action Buttons: # of Loops: 0, Run, Pause

Programmable:

Steps	Duration(ms)	Status (Paths)
1	1000	

Light Path Status: Input 1, Output 1 through Output 8



The screenshot shows the 'Switch Operation Program' interface for 'LB 1X8 Switch Run Time Test'. A dialog box titled 'Set current status for LB 1X8' is open, allowing the user to select a light path for a step. The dialog has a list of radio buttons for Output 1 through Output 8 and 'Cancel', 'Reset', and 'Confirm' buttons.

Running Status: Current Step, Step Duration (ms), Loop Count

Action Buttons: # of Loops: 0, Run, Pause

Programmable:

Steps	Duration(ms)	Status (Paths)
1	1000	

Light Path Status: Input 1, Output 1 through Output 8

Command List

- Command in Serial**

The serial communication should be set in **9600 baud rate, none parity, 8 data bits, 1 stop bits.**

```
0x01 0x12 0x00 0x01 ---- Switch to status 1
0x01 0x12 0x00 0x02 ---- Switch to status 2
```

In Matlab,

Example code as below:

```
s = serialport("COM1", 9600, "Timeout", 5);
Write(s, [1, 18, 0, 1], "uint8");           for status 1
Write(s, [1, 18, 0, 2], "uint8");           for status 2
```

Ordering Information

SWDR-	1 1	1 1	1	1	1 <input type="checkbox"/>	1
	Switch	Function	Size(mm)		Switch Tyep	Control Mode
	1x2 2x2 Dual 2x2 Dual 1x1				CL =1 FF= 2 MEMS =3 MEMS Latch = 4 LB =5 LB Latch = 6	USB TTL Push Button