

PhysLogger

Testing the Analog and Digital channels

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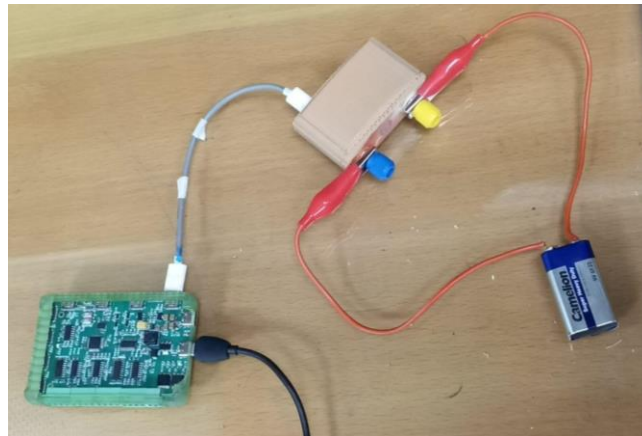
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PhysLogger, a versatile data acquisition device manufactured by Qosain Scientific, comprises four analog input channels and four digital channels. This manual is intended to serve as a quick guide for efficiently testing these channels of PhysLogger.

Procedure for testing the Analog Channels

For testing the analog channels of PhysLogger, perform the following steps:

1. Connect V probe to one of the analog channels of PhysLogger, which is further attached to a PC. The red LED of V Probe should turn on. If it does not, refer to the troubleshooting section of this manual.
2. Connect the two terminals of the battery of 8 V with the two terminals of the V probe as shown in [Figure 1](#).



[Figure 1](#): A setup of the instruments required for testing the Analog Channels of PhysLogger.

3. After connecting everything properly, start the PhysLogger application on your PC. Select 'PhysLogger' and continue.
4. Click on Measure > Voltage. Set the input voltage range [-10 V to +10 V] for the channel to which your V probe is connected and then, click "Proceed".
5. A live graph of voltage for the respective channel should appear on the screen. The peak voltage appearing on the graph should be 7.98 V to 8 V (for a battery of 8 V) as shown in [Figure 2](#). (You may confirm the voltage of the battery using a multimeter as well.)

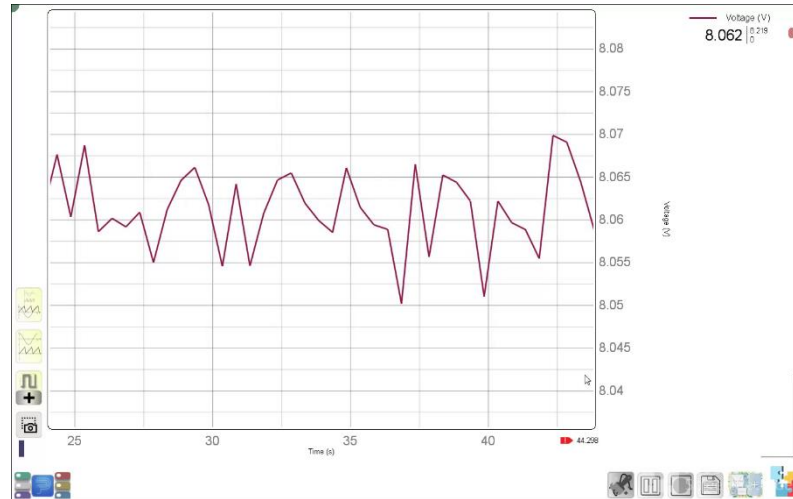


Figure 2: A live plot of the voltage obtained on the PhysLogger Desktop App.

6. Repeat the similar procedure for testing the remaining analog channels of PhysLogger.

Procedure for testing the Digital Channels

For testing the digital channels of PhysLogger, perform the following steps:

Note: Prior to testing, ensure that the PhysLogger Desktop App is installed on your computer.

1. Connect the four wires of the Digital Channels Port Tester to the four digital channels of the PhysLogger, which is further linked to a PC, as shown in **Figure 3**.

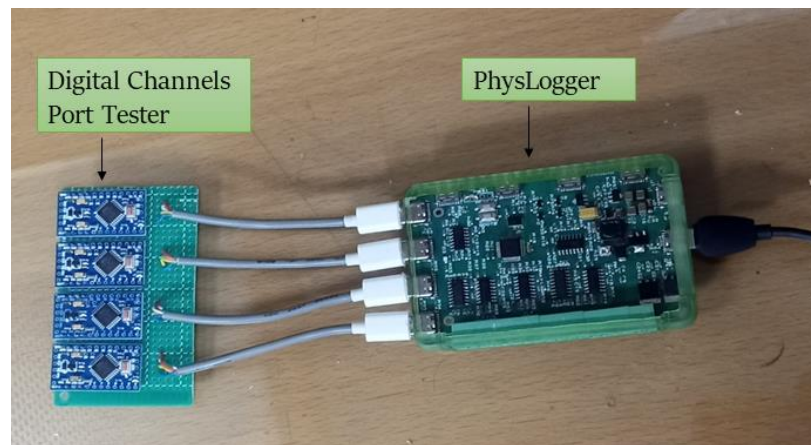


Figure 3: PhysLogger is connected to the digital channels port tester.

2. Launch the Physlogger Desktop App on your PC. Select “PhysLogger” and continue.
3. The four top LEDs of all STM32’s should turn on at this point, as shown in **Figure 4**. If the top LED of any STM32 does not switch on, refer to the troubleshooting section of this manual.

Note: See **Figure 5** for a description of the LEDs that we are referring to as top and bottom LEDs.

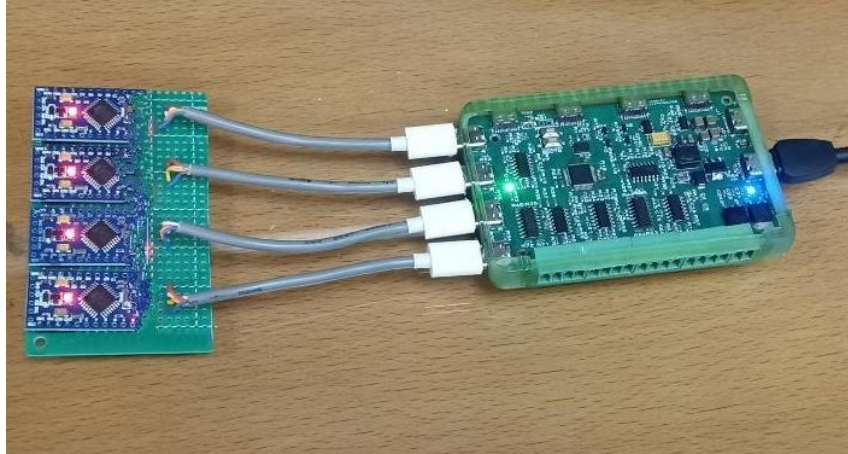


Figure 4: The top LEDs of STM32s on the digital channel port tester are turned on upon launching the software on PC.

4. In the application, select the option “Clear Workspace” or “Clean it and use it” to reset everything and then, click “Proceed”.
5. Once on the workspace, click the scan icon to detect the digital channels port tester. At this moment, the bottom LEDs of all STM32s along with the top LEDs should turn on as shown in Figure 5. If the bottom red LED of any STM32 does not turn on, this is a clear indication that the respective digital channel is not working properly.

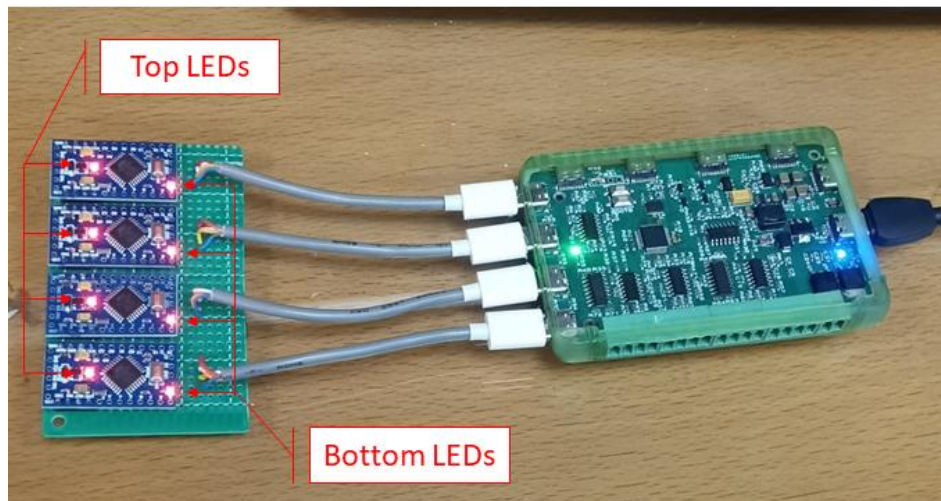
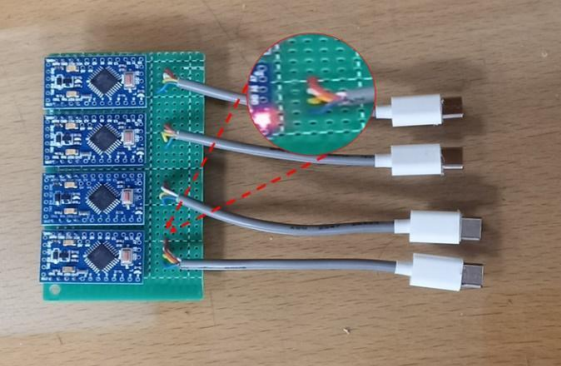


Figure 5: The turning on of the bottom LEDs, indicating the proper functioning of the digital channels of PhysLogger.

Troubleshooting

Table 1 describes troubleshooting procedures for common possible errors that may occur when testing the analog and digital channels of a PhysLogger.

No.	Error/Symptom	Solution
1.	When testing the digital channels, one of the Top LEDs on the STM-32 of the Digital Channels Port Tester does not turn on upon launching the software.	<p>Check and resolder (if needed) the four wires of the STM32 for that channel.</p>  <p>Figure 6: The possible point on the wires of the Digital Channels Port Tester that may need to be resoldered for the corresponding faulty channel.</p> <p>Check if the C-type cable of the respective channel is working properly.</p>
2.	When testing the analog channels, the LED of the V probe does not turn on.	<p>Check and replace (if needed) the cable being used to connect V probe and PhysLogger.</p> <p>Check if the V probe is functioning properly and replace (if needed).</p> <p>Check and resolder (if needed) the ground pin and 5 V on the PCB of the PhysLogger.</p>