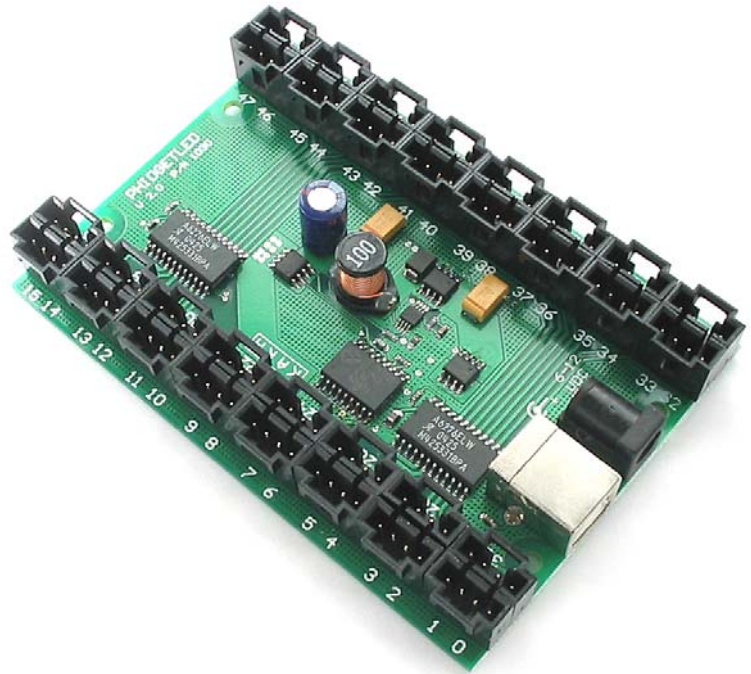


PhidgetLED 64

Phidgets are the most user-friendly system available for controlling and sensing the environment from your computer. People with absolutely no hardware knowledge or experience can include LEDs into their projects. It is just a matter of plugging your LEDs into the board, which in turn is plugged into the USB port on your computer. After that, you can use the simple to program Phidgets software libraries to access these devices.



The PhidgetLED 64 board can control up to 64 Light Emitting Diodes (LED). Two LEDs are plugged into each connector (no multiplexing), and the brightness of each LED can be controlled independently. An external power supply is required.

The PhidgetLED 64 board can be controlled from Windows, Linux, and Mac OS X. High-level programming interfaces are available for Visual Basic, C, C++, Flash, .NET, Java, LabVIEW, etc.

What Can the PhidgetLED 64 Do?

LEDs come in a range of colours. As the brightness of up to 64 LEDs can be controlled independently, the PhidgetLED 64 board can be the basis for a novel artistic display, or for the indicators in the cockpit of a flight simulator.

Getting Started on Windows 2000 / XP

The PhidgetLED 64 board can be controlled from a variety of Software Development Environments. In Visual Basic the PhidgetLED software component provide a high-level programmer interface. Here is how to get started under Windows 2000 or Windows XP.

Step 1. What you need to have ready

- Your PhidgetLED 64.
- An LED.
- A connector cable to connect the LED (they came with the Phidget 64).
- A power supply; 6 to 12 V DC at 1.5 amps
- A USB cable.
- A computer running Windows 2000 or Windows XP.
- An Internet connection and a Web browser.

Step 2. Assemble your hardware

- Attach the power supply.
- Attach the connector cable to the Phidget 64 board in position "1 0".
- Attach the LED to the connector cable. The cathode (short lead) on the LED is attached to the white wire in the cable, and the anode (long lead) to the wire next to it. This is position 1 on the PhidgetLED 64 board. The connector cables are intended to be cut in two (that is why only 16 are supplied); if you haven't done this yet then it is very easy to poke the LED leads into the connector on the end of the cable.
- Two LEDs can be attached to each four-pin connector. The four pins are in two pairs, the cathode (short lead) of each LED being connected to the left-hand pin of each pair.
- Plug the square end of the USB cable into the USB input connector on the Interface Kit.
- Plug the rectangular end of the USB cable into the USB connector on your computer (you can do this at any time).

Step 3. Install the software

Phidgets use a library installed on your computer. This only has to be installed once no matter how many different types of Phidgets you have.

- Have you previously installed the Phidget library? If so, you can skip this step.
- To install the library go to www.phidgets.com >> Downloads >> Release.

- Select the PHIDGET.msi file.
- A dialog box will appear asking if you would like to open the file or save it to your computer. You can do either, but if you are unsure just select "Open" and follow the instructions.
- Do you want to update a previously installed Phidget library? If so, you must remove the old library when prompted to do so.

Step 4. Download the sample programs

- Go to www.phidgets.com >> Downloads >> Release.
- Select the Examples.zip file.
- Save the zip file to a place of your choosing, and then uncompress it.
- You will find many executables in the Visual Basic folder, and their source in the sub-folders.
- PhidgetMonitor.exe will show you what Phidgets are plugged in. If you have followed Step 2 and Step 3, a PhidgetLED should be displayed in the list, along with its serial number. The source for this .exe is in the PhidgetManagerExamples folder.
- All PhidgetLED samples have a "PhidgetLED" prefix. Try them! All source code can be found in the PhidgetLedExamples folder.

Step 5. Try Programming a Phidget

- Go to www.phidgets.com >> Documentation.
- Read the documentation for the PhidgetManager, the IPhidget, and read the documentation under the PhidgetLED heading.
- Based on this documentation, we recommend you examine the source of the sample programs mentioned in Step 4.
- Now try modifying the samples. Or code your own from scratch.

Step 6. Learning more ...

- Explore www.phidgets.com. We recommend you visit Projects and Examples to see what other people have done. For new applications or other programming languages visit the Forums.

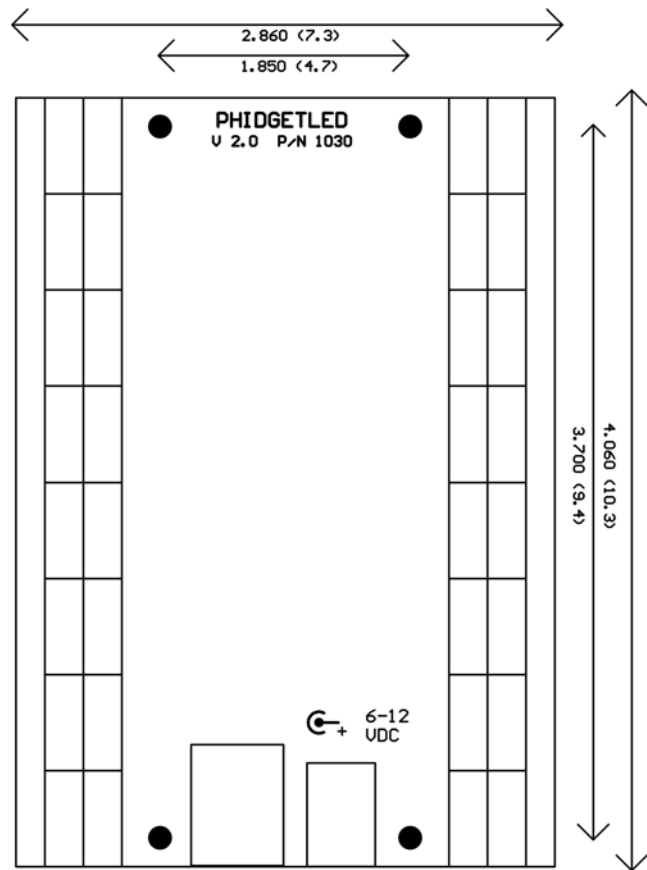
Step 7. Read the license agreement

Go to www.phidgets.com >> Documentation and select the License link. Note that the term Phidget™ is trademarked, and that the name PhidgetLED is synonymous with Phidget™.

Hardware Description

The PhidgetLED 64 controls up to 64 Light Emitting Diodes (LED). No current limiting resistors are required. This system has been designed to be much more efficient driving LEDs than the standard digital outputs of other Phidgets. Each LED can be switched on or off, and its brightness controlled. 32 connectors are used to connect to the 64 LED's, 2 LEDs per connector (no multiplexing is required). The connectors are 4 pin 0.100" spacing with a locking mechanism. Each PhidgetLED 64 comes with 16 cables (of length 60cm); it is intended that they be cut and extended to whatever length is required.

The socket on the board is a Molex 70543-0003, the mating plug a Molex 50-57-9404, and the wire crimp insert a Molex 16-02-0102.



Device Specification

Update Rate	Approx. 30 Hz
USB Current Consumption	100 mA
External Power Supply Voltage	6 to 12 V DC
External Power Supply Current	1500 mA