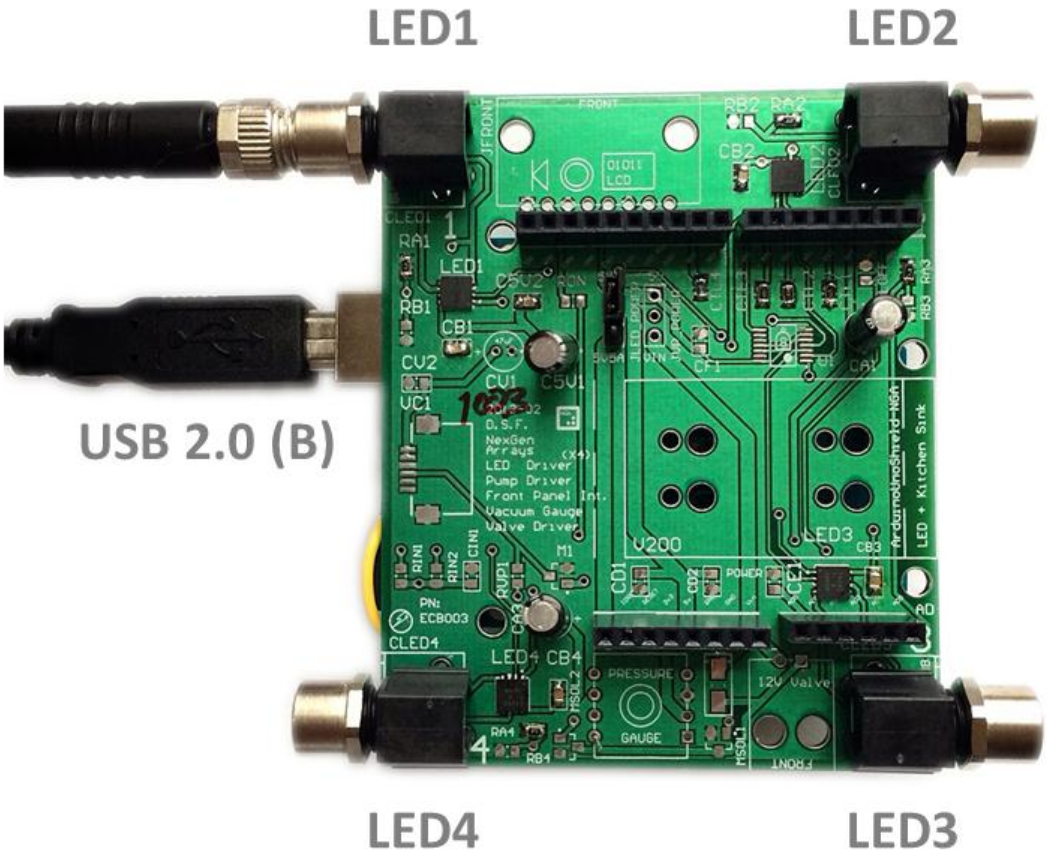
LED-INT-1000



LED USB Interface – 4 Drivers

Reference Manual

Revision: 1.01
Effective 4/25/2014

NexGen Arrays
Know with certainty

Description: The LED-INT-1000 electronic module provides a USB serial interface to control up to 4 LEDs. It has been designed to connect to M8 connectors; standard on Thor Labs mounted LEDs.

Power: Only one LED at a time (at max brightness) should be used when powered off the USB connection. External power (7-12 VDC) can be used by connecting a 2.1 mm center-positive plug into the board's power jack. Operating all four LEDs simultaneously at maximum brightness is not recommended without speaking to the vendor first.

Serial Config: 9600 Baud, 8-N-1: eight (8) data bits, no (N) parity bit, and one (1) stop bit.

Commands:

Commands	Description
L1	Turn on LED1
L2	Turn on LED2
L3	Turn on LED3
L4	Turn on LED4
A	Turn on all LEDs
O	Turn off all LEDs
S	Status (to tell if power cycled), returns 0 on the first time, and 1 on subsequent calls
D[0-255]	Duty Cycle, e.g. D128 sets intensity to half, D255 is maximum brightness
VER	Software Version
SN	Serial Number

- Commands are completed with the sending of a newline (\n, 0x0A)
- A successful command will return a ":" followed by an optional parameter.
    - e.g. L1 will return ":255" if the LED is set to max intensity
- A failed command will return "!Error".

Notes:

- To change the intensity, issue the Duty Cycle command followed by the LED command.
- LED intensities are not monotonic down to zero. Intensity values below ~30 can be non-linear and each channel behaves slightly differently. It's recommended that one only uses duty cycle values > 30.

Drivers:

http://arduino.cc/en/Main/Software

Installing drivers on Windows7, Vista, or XP:

1. Plug in your board and wait for Windows to begin its driver installation process. After a few moments, the process will fail, despite its best efforts.
2. Click on the Start Menu, and open up the Control Panel.
3. While in the Control Panel, navigate to System and Security. Next, click on System. Once the System window is up, open the Device Manager.
4. Look under Ports (COM & LPT). You should see an open port named "Arduino UNO (COMxx)"
5. Right click on the "Arduino UNO (COmxx)" port and choose the "Update Driver Software" option.
6. Next, choose the "Browse my computer for Driver software" option.
7. Finally, navigate to and select the driver file named "arduino.inf", located in the "Drivers" folder of the Arduino Software download (not the "FTDI USB Drivers" sub-directory).
8. Windows will finish up the driver installation from there.

Installing drivers on Windows 8:

1. Open the Device Manager.
2. Look under Other Services. You should see an device named "Arduino UNO "
3. Right click on the "Arduino UNO" port and choose the "Update Driver Software" option.
4. Next, choose the "Browse my computer for Driver software" option.
5. Next, choose “Let me pick from a list of device drivers on my computer”
6. Next, choose “Modems”
7. Under Manufacture, select “Compaq”
8. Under Models, navigate to the bottom and select “Ricochet Wireless USB Modem”
9. Click Next
10. Accept the “Update Driver Warning” by clicking “Yes”
11. Windows will finish up the driver installation from there.
12. Select the properties of the installed Modem by right clicking on the “Ricochet Wireless USB Modem.
13. Select the Modem tab, change the maximum port speed to 9600
14. Select the Advanced tab, click Advanced Port Settings
15. Uncheck “Use FIFO buffer” and click OK.