What is EV3Lights V2

EV3Lights V2 is a controller to control WS2812 RGB LED Strips using EV3 or NXT brick.

You can control the light intensity of three colors (Red/Green/Blue) of the each LED (supported up to 60 LED) of your strip independently from your program.

Programming Environment(s)

EV3Lights V2 is supported for use in the following platforms using software blocks/libraries.

EV3-G IDE (for EV3 or NXT Brick):

To use capabilities of EV3Lights V2, please download EV3 blocks available at following URL:

http://www.mindsensors.com/index.php?controller=attachment&id_attachment=331

Installation instructions for EV3 block are available at:

http://www.mindsensors.com/content/13-how-to-install-blocks-in-ev3

Download EV3 sample program from following URL and modify it to suit your needs.

http://www.mindsensors.com/index.php?controller=attachment&id_attachment=332

Note: While using with EV3, ensure to use firmware version 1.03H or 1.03E or higher on your EV3.

NXC/BricxCC Library functions (for NXT Brick) are available at:

http://www.mindsensors.com/index.php?controller=attachment&id_attachment=330

Connecting EV3Lights V2

Wiring for EV3Lights V2

EV3Lights V2 may be connected to any of the sensor ports of NXT/EV3 using standard NXT/EV3 connector cable. In your program, select the appropriate port number to which EV3Lights V2 device is connected.

Powering LEDs

small length of srtip can be powered from NXT or EV3 port. However if you need to use all 60 LED please use 5V USB mini power supply

I2C Address:

Factoy default I2C address: 0x2c

I2C Registers:

Register	Read	Write
0x00-0x07	Software version - *V2.0*	-
0x08-0x0f	Vendor Id - *mndsnsrs*	-
0x10-0x17	Device ID – *EV3Light*	-
0x41	-	Command
0x42	-	Intensity of Red LED (0-255)
0x43	-	Intensity of Green LED (0-255)
0x44	-	Intensity of Blue LED (0-255)
0x45	-	LED Index (0 - 59)
0x46	-	Update (1 or 0)

I2C Command:

'I' (0x49) Normal mode (backward compatiable to V1)

'S' (0x53) WS2812 mode (V2 mode)

(example: if you want to write 8th LED to RGB =(0x30,0x40,0x50)

Write 6 byte of data (0x53, 0x30,0x40,0x50,0x08,0x01) starting at register 0x41