Guide for Configuring Prizmatix LEDs in MetaMorph

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1 Prizmatix LED Control Software Options

The Prizmatix LED-Ctrl (Control) software and Multi-LED-Ctrl software were developed to facilitate convenient control of USB enabled Prizmatix LED products on Windows-based computers via a USB connection.

The USB enabled Prizmatix LED sources can be also operated by sending a simple text string via serial communication COM port from various software packages such as HyperTerminal, LabView, Matlab, and many other software packages. API and code examples available upon request.

The USB enabled Prizmatix LED sources can be also operated from MicroManager and MetaMorph.

This User Manual describes how to install and use Prizmatix LED products with MetaMorph software.

2 Supported Prizmatix Products

All Prizmatix LEDs with USB produced after November 2020 are supported and can be used with MetaMorph software. Specifically:

Single-channels LEDs:
- UHP-T-LEDs with UHPTLCC-02-USB and UHPTLCC-02-USB-STBL controllers
- UHP-F-LEDs with CTRL-F-USB controllers

Multi-channel LEDs:
- UHP-M
- Combi-LED
- FC-LED-USB

3 Health and Safety

Prizmatix products are NOT authorized for use as components in life support devices or systems.

> **The Prizmatix LED CTRL is intended for use as laboratory equipment only.**
>
> **It is not cleared or authorized for clinical use.**

4 Setup of the Hardware

For setup of the hardware (LED head, LED controller etc.) please refer to the specific LED illuminator User-Manual. In this document only aspects related to MetaMorph software will be discussed.

Please ensure that you have received appropriate USB cable to connect the LED controller to the computer.

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5 Software Setup

Each Prizmatix LED system with a USB port has appropriate software for controlling the system from a computer.

To use MetaMorph to control the LED no software download is needed: just to setup the USB device drivers and proceed with the configuration of Prizmatix LED in MetaMorph software.
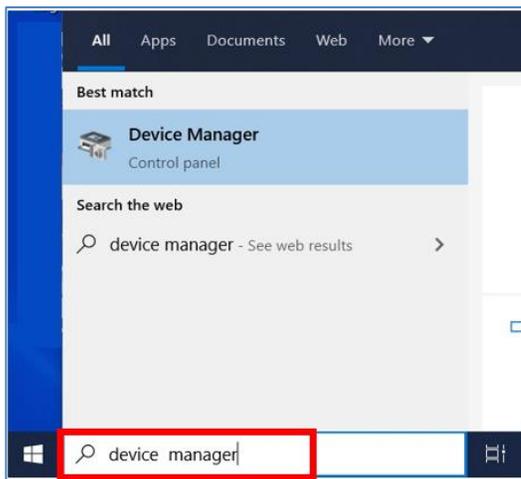
5.1 *Setup of USB Device Drivers*

The following description is for Windows 10 users.

Users of previous versions of Windows shall refer to Appendix A: Setup of USB Device Drivers for Win 7 and Win 8 at Multi-LED-Ctrl software User Manual.

Windows 10 users with updated and Internet connected PC system can experience a fully automatic setup of the USB drivers. Please follow these simple steps:
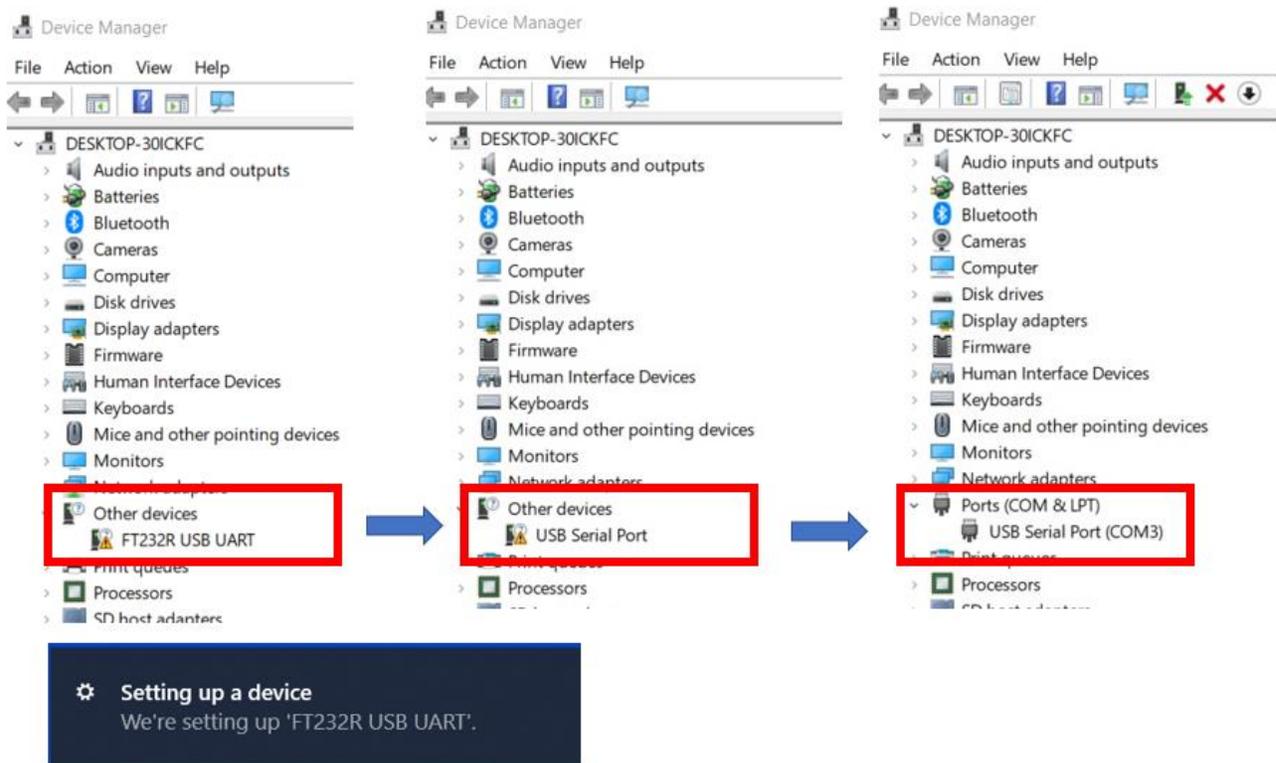
a.   Connect the Prizmatix hardware according the hardware user manual and switch the power switch to ON.

b.   Type in Search Field: "device manager" and click on it to run this application.

c.   Connect the hardware to the computer by the USB cable.

d.   Immediately after connecting the USB cable, Windows will start the standard driver installation procedure. After few seconds "FT232R USB UART" device appear in the Device Manager list and a rectangular message "Setting up a device" will appear at lower right corner of the screen. After few additional seconds, this device will be replaced by USB Serial Port, and then

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eventually USB Serial Port (COM3) will appear as shown at following picture. Please notice the COM port number (3 in this example). Please remember this COM port number for future use.
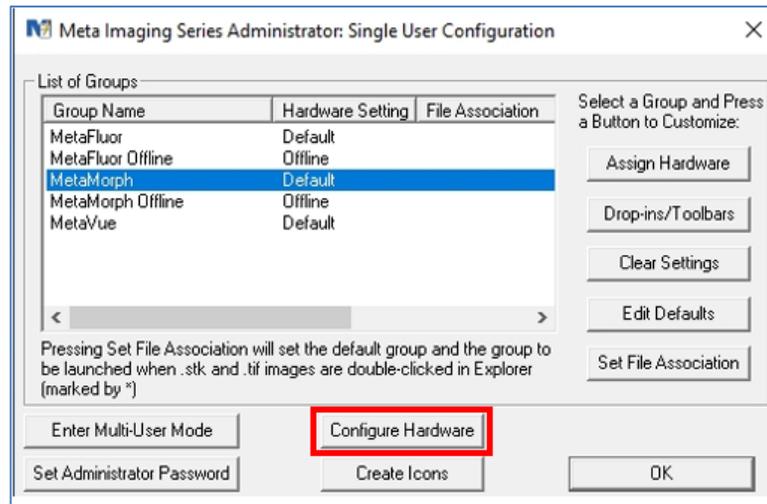

Once the driver installation is complete, please close the Device Manager. Now the Prizmatix LED can be used with MetaMorph. It remains only to configure it correctly inside the MetaMorph software.
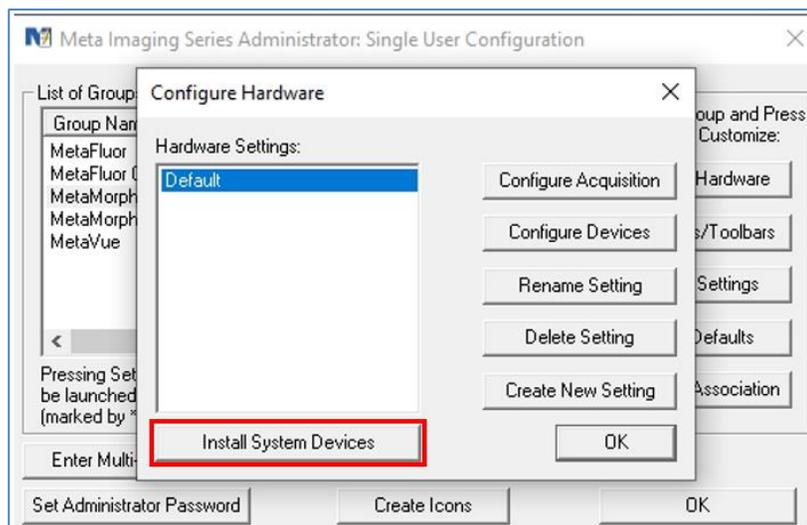
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6 Configuration of Prizmatix LED in MetaMorph

6.1 *Setup of Prizmatix LED in MetaMorph*
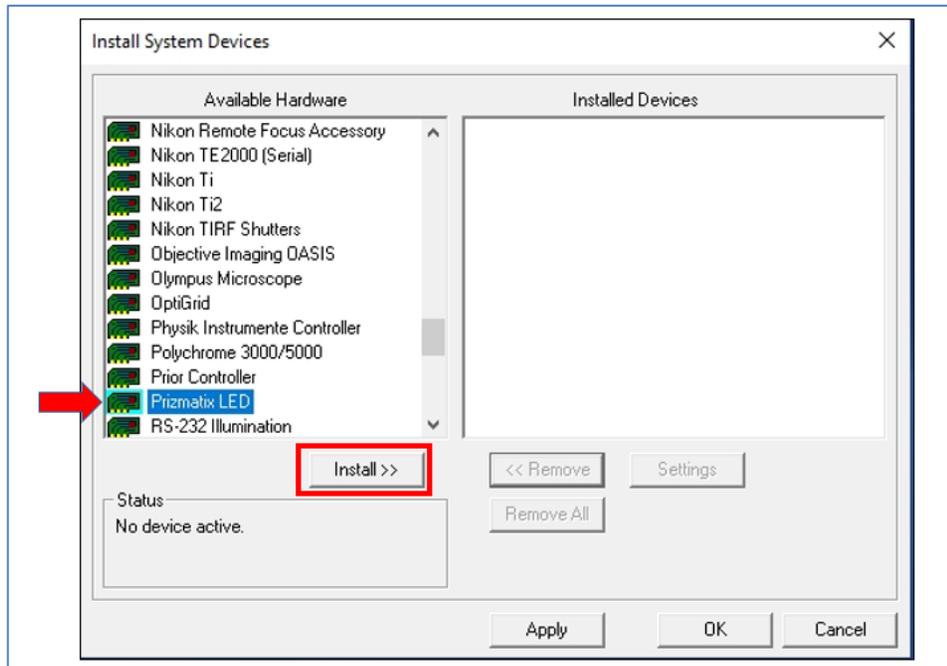
Open the "Meta Imaging Series Administrator":

Click on the "Configure Hardware" button and then on the "Install System Devices" button within the "Configure Hardware" screen:
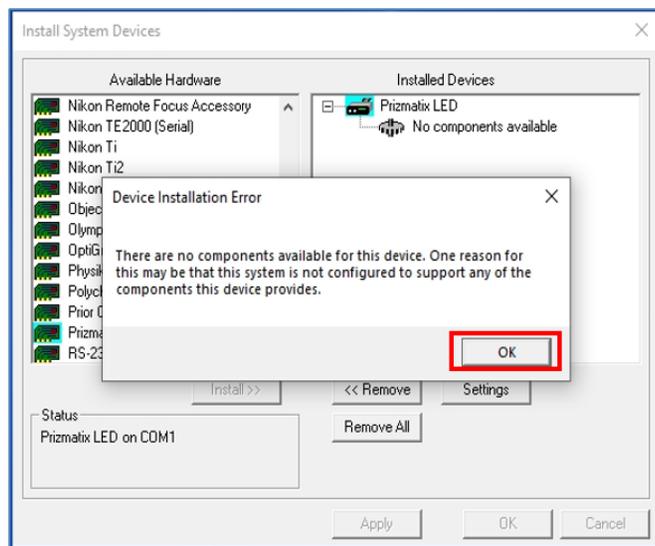
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This will bring up the "Install System Devices" Window. Click "Prizmatix LED" in the "Available Hardware" and click "Install >>" button:
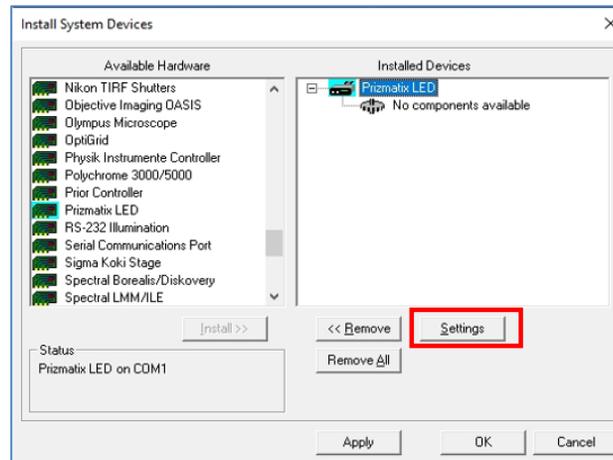

Normally MetaMorph recognizes the Prizmatix LED automatically. But at first connection MetaMorph searches for Prizmatix LED at a specific COM port, which is typically not the relevant port. Therefore, most probably "Device Installation Error" dialog will appear:
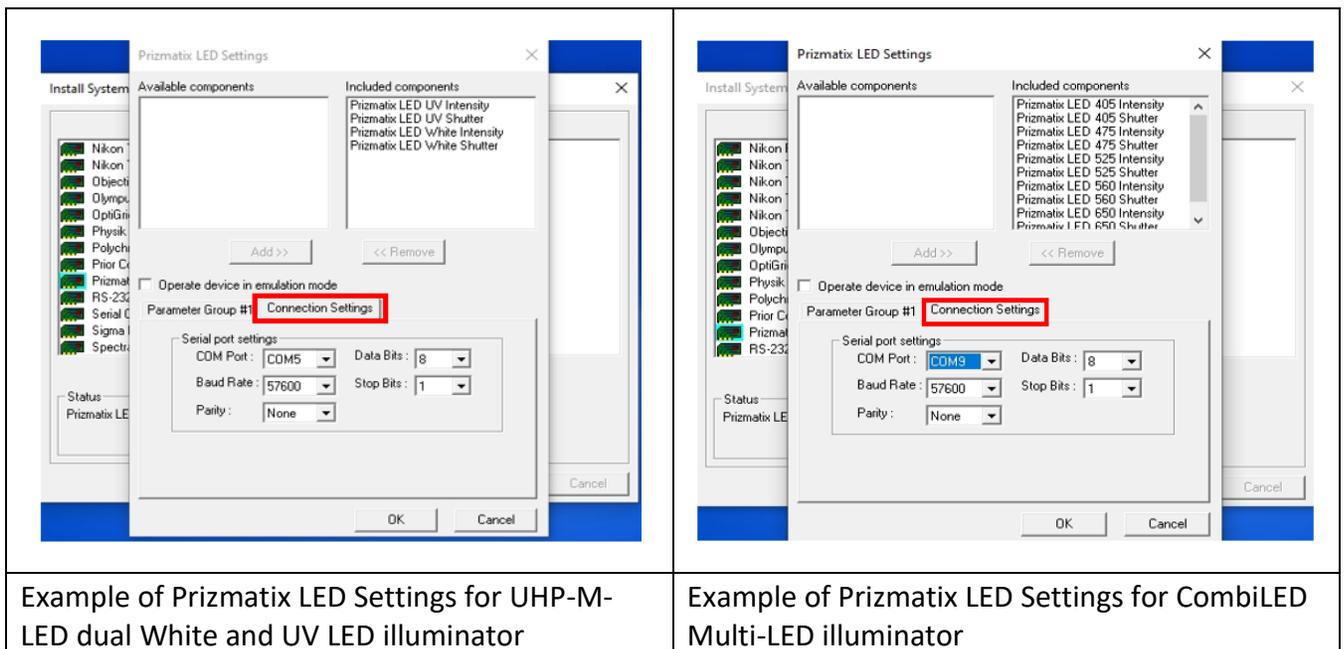
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Click on "OK" button to return to "Install System Devices" dialog and get the list of available hardware:

Click on 'Settings' button. A new dialog box with a list of available Prizmatix LEDs appears.
Click on "Connection Settings" tab: "Serial port settings" appears.
Select correct COM port (see above how to find the COM Port in Device Manager), Bound Rate: 57600, Parity: None, Data Bits: 8, Stop Bit:1. and press "OK"
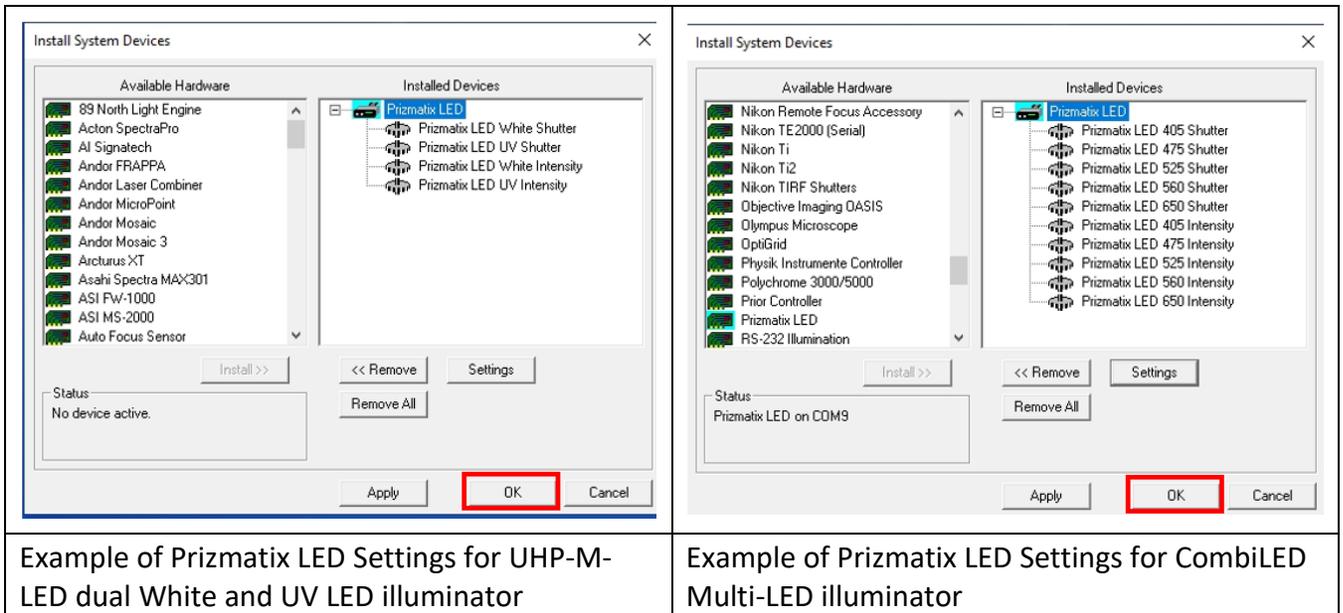
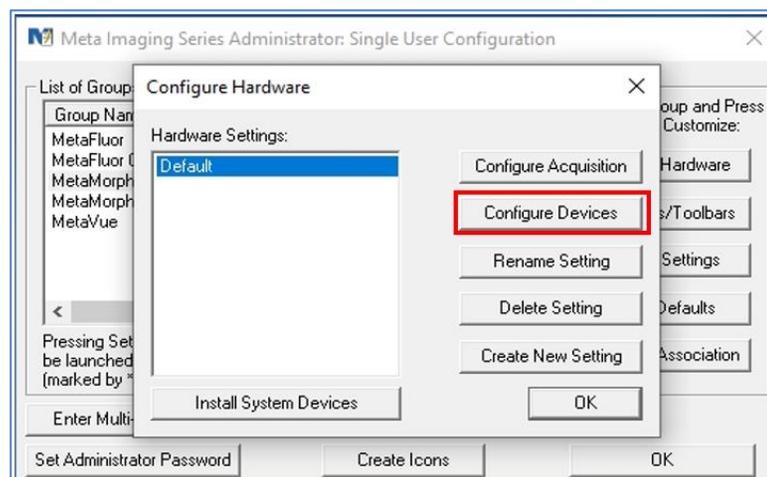|	
Example of Prizmatix LED Settings for UHP-M-LED dual White and UV LED illuminator	Example of Prizmatix LED Settings for CombiLED Multi-LED illuminator

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After click on "OK" button following dialogue appears:

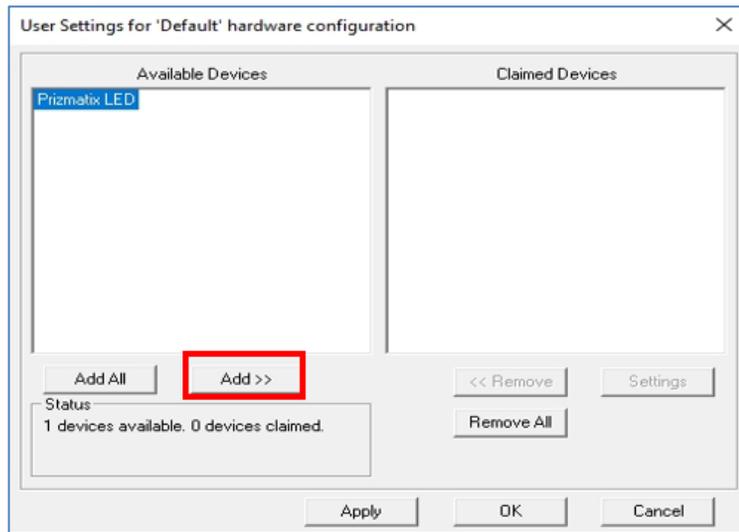| Example of Prizmatix LED Settings for UHP-M-LED dual White and UV LED illuminator	Example of Prizmatix LED Settings for CombiLED Multi-LED illuminator

If all LEDs appear correctly, click on "OK" button to close this dialog to return to "Configure Hardware" dialogue.
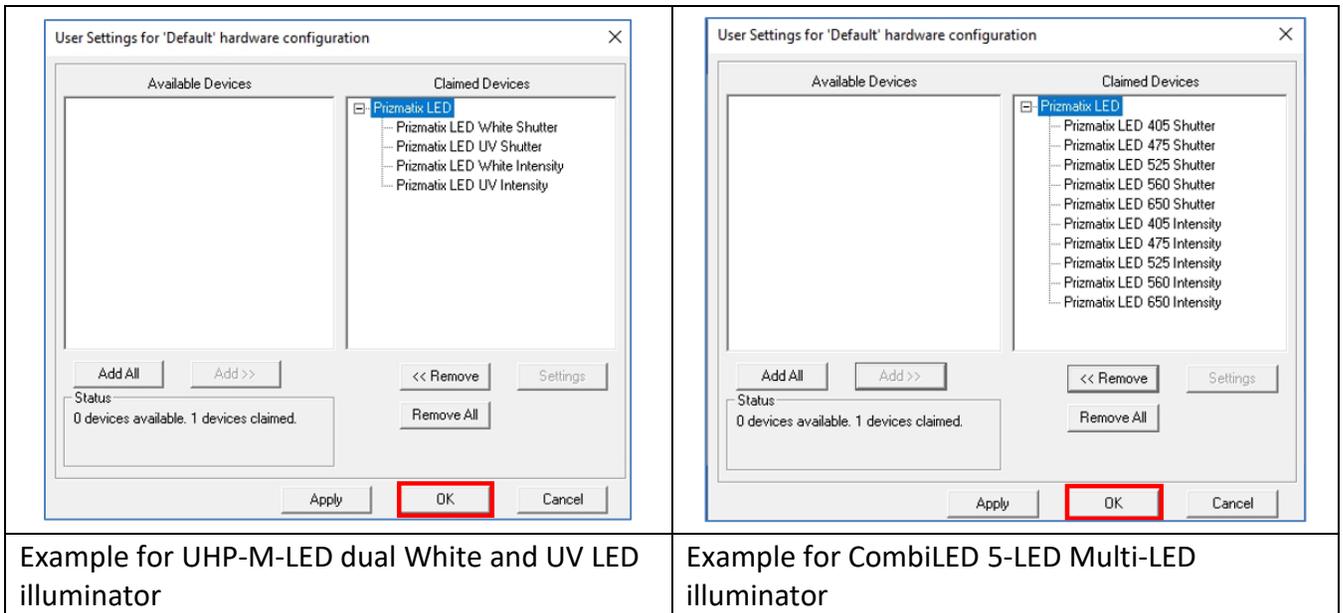

Click on "Configure Devices" button: "User Settings for 'Default' hardware configuration" dialogue appears:

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The Prizmatix LED will be shown at in the "Available Devices" window. Click "Add>>" button to add the Prizmatix LED to the "Claimed Devices".

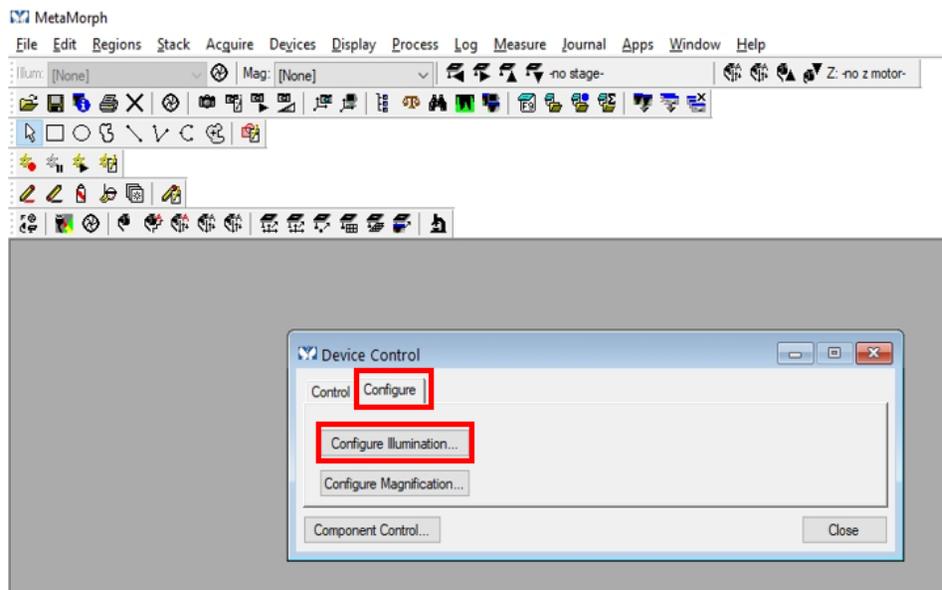|	
Example for UHP-M-LED dual White and UV LED illuminator	Example for CombiLED 5-LED Multi-LED illuminator

The Prizmatix LED is now installed. Click "OK" to close this dialog box and others, and to exit the "Meta Imaging Series Administrator". The set-up is now complete, and MetaMorph software can be used to control the device.
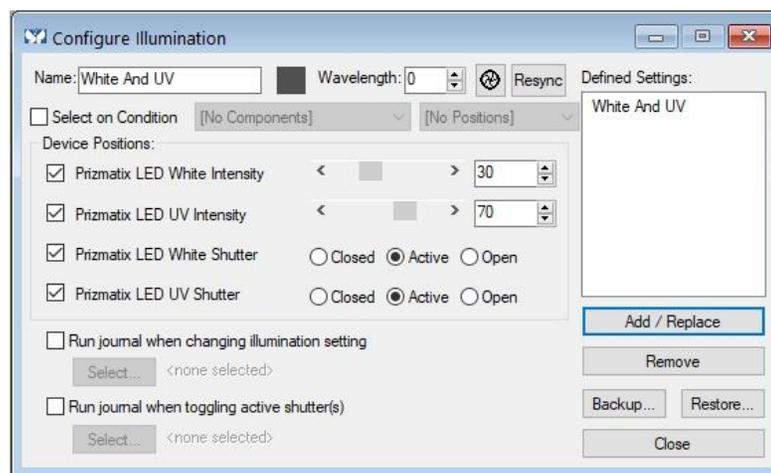
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6.2 *Usage of Prizmatix Illuminator in MetaMorph*

Open the MetaMorph software.
At MetaMorph menu go to "Devices" and then "Device Control". Choose "Configure" tab and click on "Configure Illumination…" button.
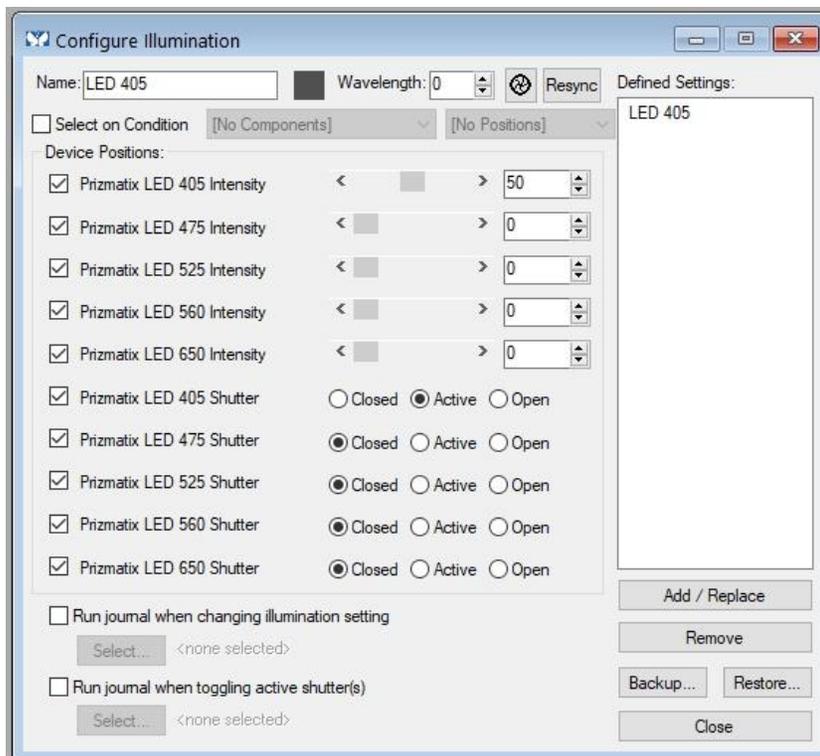

Assuming you need to configure UHP-M-LED product. This product has UV and White LED illumination. You can name the new configuration "White and UV".

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The following example shows a configuration for 5-LED system, when just the 405nm LED is active:

The check boxes on the left enable the user to define for each LED channel what type of control will be available and it's settings.

MetaMorph software enables many control options, for farther information please see MetaMorph user manual.