usb-nFOCUS Instructions

Hardware Connection

1) DC motor cable plugs into nFOCUS
2) nFOCUS connects to usb-nFOCUS using supplied curly telephone cable.
3) usb-nFOCUS connects to PC usb port using supplied usb cable

4) Optional temperature probe plugs into 2.5mm jack next to telephone connector socket on usb-nFOCUS.


BEFORE INSTALLING SOFTWARE

Make sure that your windows account has ADMIN privilege as ADMIN privilege is required to install drivers in Windows

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Software Installation

1) Download and install the ASCOM platform from http://ascom-standards.org/index.htm

2) Go to rigelsystems.com web page, click on Stepper focus motors link and at bottom of Stepper focus motors page there is a link to download the usb-nFOCUS software, **or** go directly to http://www.astrogene1000.com/products/gcusb_nfocus/GCUSB_nFOCUS%20Setup.2022.exe

3) Double click on the "**GCUSB_nFOCUS_Setup.exe**" to run the exe. Note depending upon your version of Windows and AntiVirus you may have to go through the steps to approve running this exe.
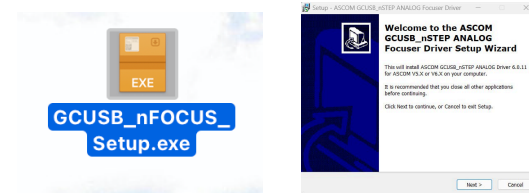

4) Accept license agreement and proceed
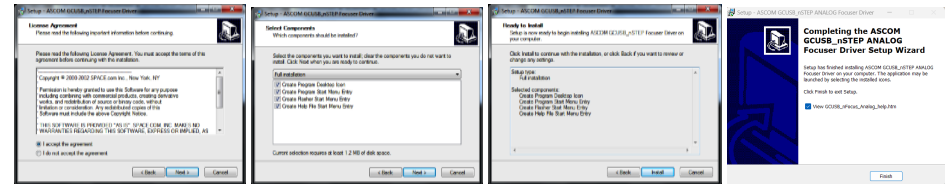
5) Plug the **usb-nFOCUS** hardware into a USB port and device drive should install.

6) Select **PORTS (COM & LPT)** in the **Device Manager**. **USB to focus motor controller (COM#)** is displayed, with COM port assigned. You will need to know this COM port to set up the **usb-nFOCUS** application.
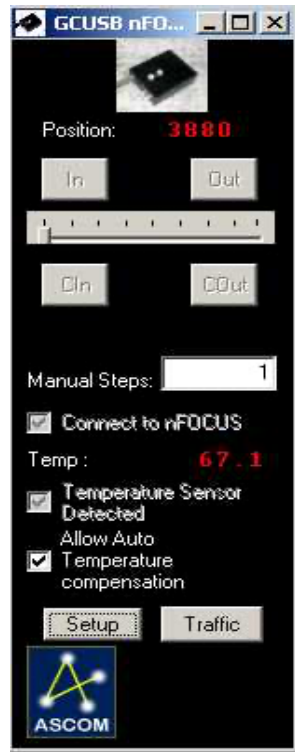   If desired, you **may** change the COM port assignment by clicking on the USB to focus controller, select the **Port Settings** tab, select **Advanced** and selecting a "**virgin**" **COM Port Number (one that doesn't say "in use") to avoid problems with settings from other applications.**
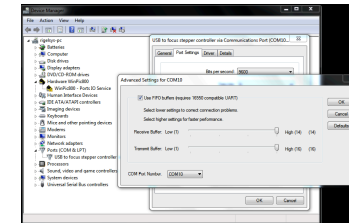
7) Ready to go ☺ Use the shortcut on your desktop to activate the **GCUSB-nFOCUS** application.

Control Window

Position:

Where the driver thinks the focuser is. For nFOCUS this is truly always relative to a point you set in the SETUP screen.

In/Out:

Press to move in or out the number of "steps" indicated by the 'sliders' setting.

Slider

Select number of 'pulses' to do for each press of an In/Out or C

CIn/COut

Equivalent to repeatedly pressing the In/Out buttons. nFOCUS will continue to move until you release the button.

Manual Steps

Displays the value selected on 'slider', or you can manually enter the number of "pulses

Connect to nFOCUS:

Check box to connect control software to usb-nFOCUS hardware via the COM port selected in the setup screen (below).

Note: Once connected to the nFOCUS you cannot disconnect without quitting program.

Note: An ASCOM application opening the driver will force this connection when "Linked"

Temp:

Displays the current temperature in degC or degF for the temperature probe is attached to the usb-nFOCUS.

Temperature Sensor Detected

The software will "check" this box if it detects that a temperature probe is connected to the usb-nFOCUS. If temp probe detected then you can choose to allow automatic temperature compensation.

Temperature Compensation

Check box to enable temperature compensation but note that manual focusing is disabled while in temperature compensation mode.
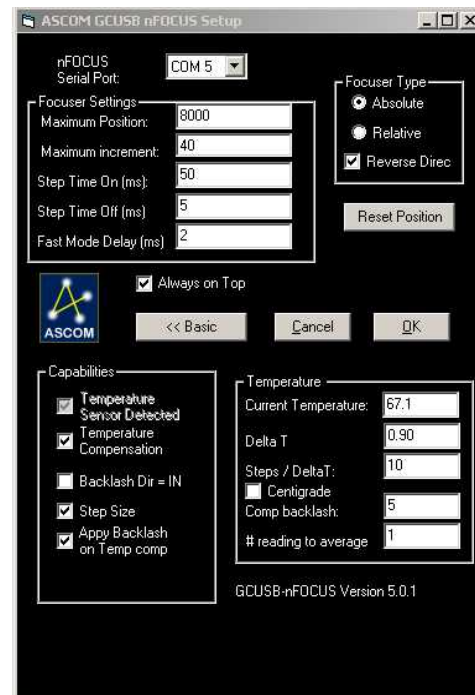
Setup

Select to display usb-nFOCUS setup screen.

Traffic

Select to display ASCOM usb-nFOCUS command traffic with usb-nFOCUS hardware.

Setup Window

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nFOCUS Serial Port:

Set to the COM port number assigned to the usb-nFOCUS hardware when first plugging it into a usb port on your computer. You can confirm/change the usb-nFOCUS hardware COM port number using the WINDOWS DEVICE MANAGER. For backwards compatibility, valid values are 1-16.

Focuser Settings

Maximum Position: Not used for nFOCUS.

Maximum Increment: Maximum number of "steps" to send to the nFOCUS at one time. Generally used to limits the number of "moves" an ASCOM autofocus application can execute during each call to the usb-nFOCUS ASCOM driver.

Step Time On (ms): Sets the duration of a "step". Valid range is 10-250 ms. 15 ms will produce about a 0.5 deg "step" rotation of the focuser shaft.

Step Time Off (ms): Sets the delay between "steps". Valid range is 1 to 250 ms. Provides time to react and unpress the CIn/COut button.

Fast Mode Delay (ms): Set to 1 ms. Valid range is 1-20 ms. This is used by the usb-nFOCUS logic to emulate the nFOCUS manual button pushes. If you find steps are erratic, set to a larger value.

Focuser Type

Absolute: not used by nFOCUS

Relative: Emulate a relative position focuser (nFOCUS is always truly a relative position focuser) so **select this option**.

Reverse Direc: Reverse In/Out directions to reflect peculiarities of focusers and focus motors.

Reset Position

Press to set the current focuser position to zero.

Basic/Advanced

Toggles between displaying the **Advanced** (full screen as shown at left) or **Basic** setup (only upper half of screen)

Cancel

Cancel setup changes and, return to the Control Window.

OK

Apply all changes to setup and return to Control Window.

Capabilities

Temperature Sensor Detected: If temperature probe is attached this box will be 'checked' and enable other menu items.

Temperature Compensation: Enable automatic temperature compensation. Manual movement is disabled If "Apply Backlash on Temp Comp" is chekced then apply backlash if moving "IN", else if moving "OUT"

Temperature

Current Temperature: As read from temperature probe (if attached).

Delta T: For a change of Delta T, move "Steps/DeltaT"

Steps/DeltaT: Number of "steps" to move if "Delta T" temperature change is detected

Centigrade: Check box to report temperature in Centigrade, otherwise temperature will be displayed in Farenheit.

Comp Backlash: Move this number of pulses to compensate for backlash in DC motor gears.

 # readings to average: Read the temperature probe this number of times, average the readings, and display the result as the temperature and use when applying temperature compensation.

For more information visit
http://www.rigelsys.com