

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.

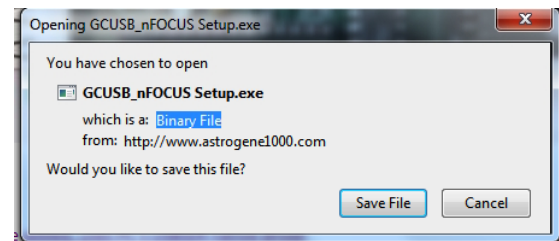


Installation

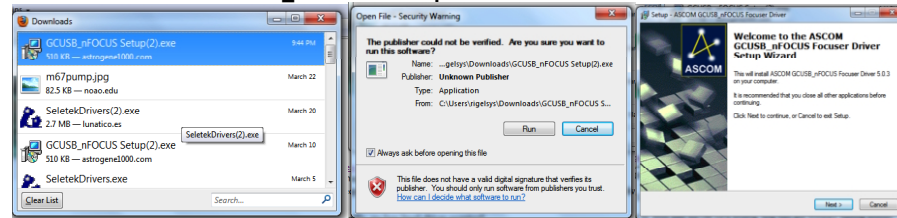
- 1) Download and install the ASCOM platform from <http://ascom-standards.org/index.htm>
- 2) Go to www.astrogene1000.com/products/gcusb_nfocus/gcusb_nfocus.html



- 3) Download "INNO Based installer GC-USB-nFOCUS ASCOM Driver"

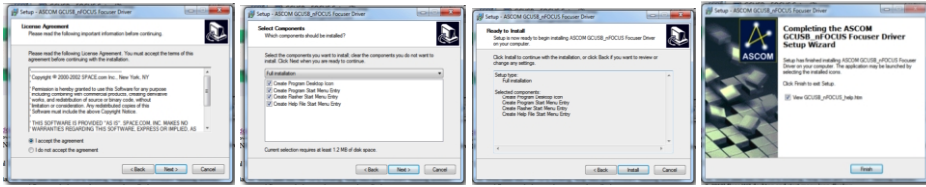


- 4) Double click on the "GCUSB_nFOCUS Setup.exe" in the download screen and run the exe

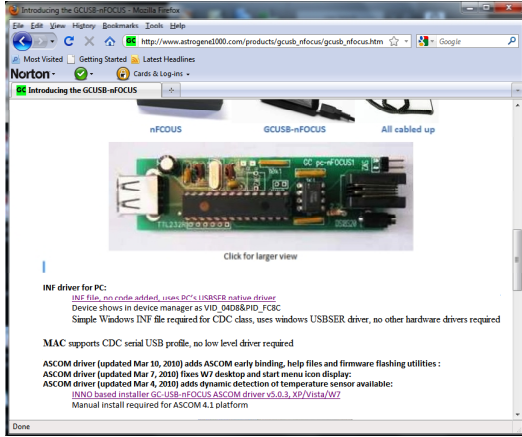


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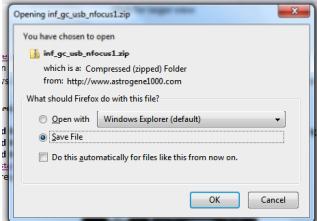
5) Accept license agreement and proceed



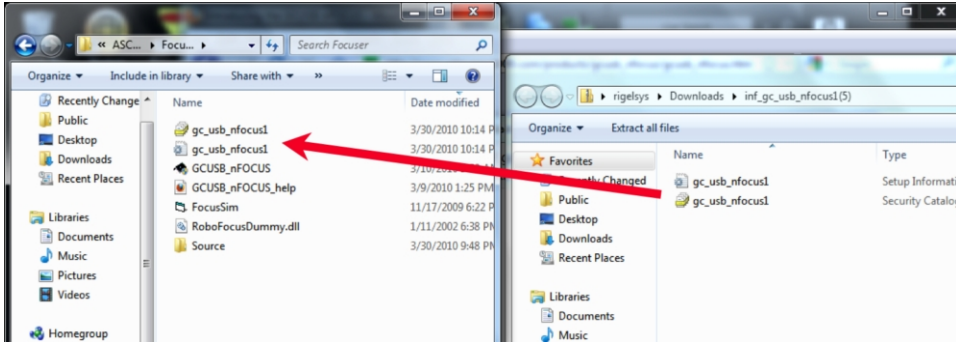
6) Go to www.astrogene1000.com/products/gcusb_nfocus/gcusb_nfocus.html



7) Download and save the "INF file, no code added" zip file, then double click the zip file to unzip.



8) Open the folder where the GCUSB_nFOCUS executable is installed (left side of image below), and drag the "gc_usb_nfocus1" setup information and security catalog files into it.

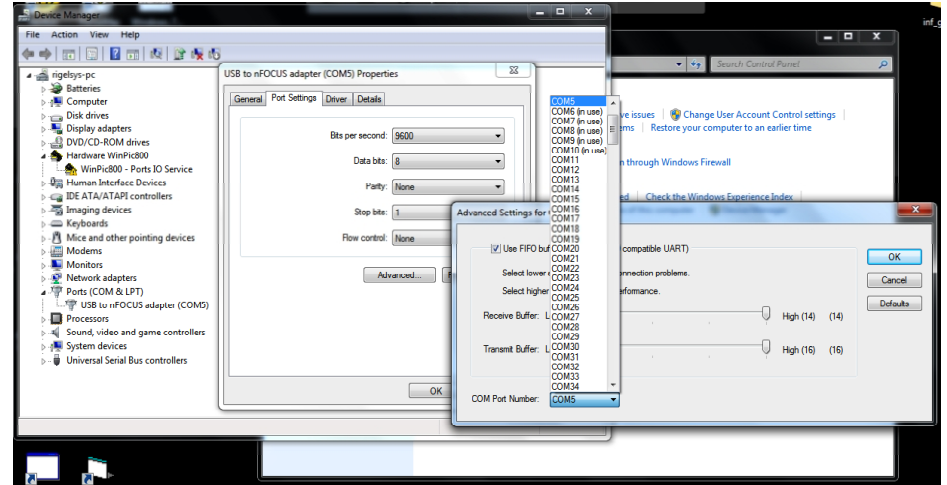


9) Plug the usb-nFOCUS hardware into a USB port and device drive should install. If it doesn't then follow step 10.

10) Open **Device Manager**, click on **Other Devices**, click on **USB nFOCUS** device, pick **Driver** tab and select **Update Driver**. On next screen, select "browse local disk" and let it go to town!

11) Driver is installed ☺ so select **Close**.

12) Open **Device Manager** and Select **PORTS (COM & LPT)**. **USB to nFOCUS adapter (COM#)** is displayed, with **COM** port assigned. You will need to know this COM port to setup the **GCUSB-nFOCUS** application. **You must change the COM port assignment by clicking on the USB to nFOCUS adapter, 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.** For backwards compatibility, valid values are 1-16.

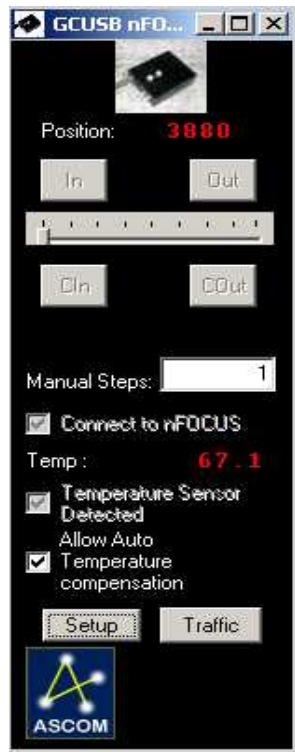


13) Ready to go ☺ Use the shortcut on your desktop to activate the **GCUSB-nFOCUS** application.

Connecting to FocusMax

- 1) Make sure your account has ADMIN privileges.
- 2) Join the Yahoo FMaxUG, download and install the latest version of FocusMax (3.5.0 as of this writing). Start Focusmax. If it doesn't start and produces an error message about log files, then you need to create the directories that it's expecting for data, image, and log files. Open the focusmax HELP file which talks about the directories, they may not be where help file states. Run the ASCOM PROFILER and under focuser, select focus max and read the profile file. In it you will find where FocusMax thinks the directories are. Go to those locations and create the data, image and log file directories. Then you should be able to start FocusMax and inside of FocusMax change the path to where you really want those directories. Any problems, ask the FMaxUG.
- 3) Right click on the gcusb_nFOCUS shortcut and check the properties / compatibility tab and make sure the "run in compatibility ..." and "run with admin..." check boxes are **NOT** checked.
- 4) Start the gcusb_nFOCUS application, plug in the gcusb_nfocus hardware, and "connect" to the hardware. Run CIN/COUT to move motor to confirm hardware is working. Minimize the gcusb_nfocus app to the dock.
- 5) Right click focusmax shortcut and check properties/compatibility tab and make sure the "run in compatibility ..." and "run with admin..." check boxes are **NOT** checked.
- 6) Start focusmax and pick the system tab, select gcusb_nFOCUS and connect.
- 7) Select the focuser tab. Correct focus position and temperature should be displayed. Maximize the gcusb_nFOCUS app from the dock and compare to it's value.
- 8) Click on "jog" at the top of the focusmax focuser tab and jog the motor in/out to verify focusmax is working with nfocus.
- 9) Ready to go ☺

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).

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

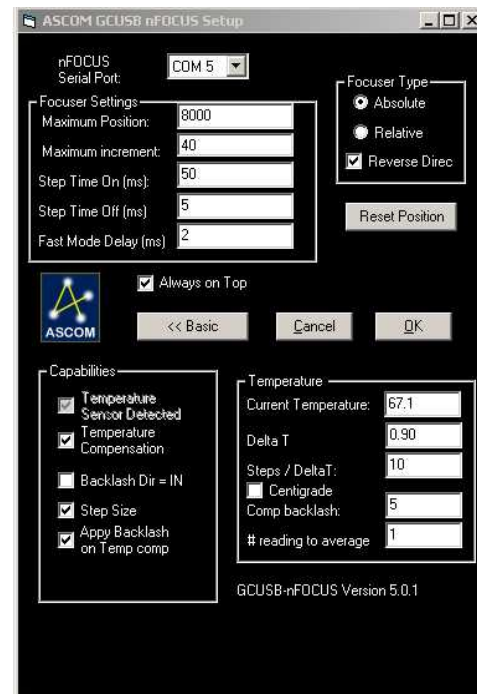
Setup

Select to display usb-nFOCUS setup screen.

Traffic

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

Setup Window



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 checked 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 Fahrenheit.

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.

5 Year limited warranty: Rigel Systems, 26850 Basswood Ave, Rancho Palos Verdes CA, 90275 warrants to the original consumer purchaser of its product that the product will be free of defects in material or workmanship 5 years from the date of purchase under normal use. During this warranty period, **Rigel Systems** will, at its option, repair or replace the product without charge for parts or labor when delivered to **Rigel Systems** with proof of the date of purchase and a statement of the problem with the product. Shipping and handling charges to **Rigel Systems** are your responsibility. This warranty does not apply if the product has been altered or repaired by anyone other than **Rigel Systems** or has been subjected to purchaser abuse, accident, negligence or damage subsequent to purchase including battery damage to product. This warranty excludes incidental or consequential damages resulting from the product or use of the product. The product is not a toy. Keep away from children.

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