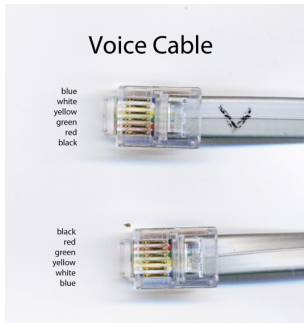


usb-nFRAME Mono STEPPER Instructions

Hardware Connection

- 1) Connect nFRAME DC MOTOR to usb-nFRAME using supplied VOICE cable. Do not use DATA cables. VOICE cables can be identified by looking at the ends of the cable. Color of wires are reversed comparing one end to the other.



- 2) Connect usb-nFRAME to external 12V DC using supplied power cable -- nFRAME STEPPER will not work without 12V DC connected
Do NOT connect ANALOG motor to As may result in damage to nFRAME electronics
- 3) Connect usb-nFRAME to PC usb port using supplied USB cable. Use Windows Device Manager to identify/modify COM port assignments.

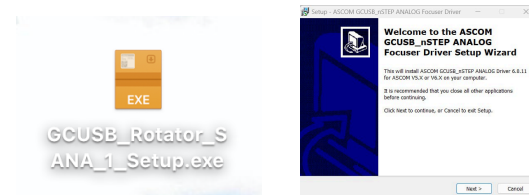
Before Installing Software

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

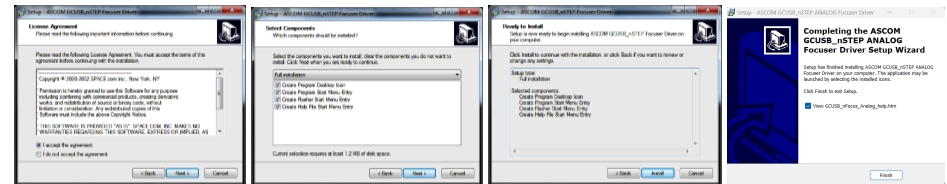
Driver signature enforcement should only be disabled if you are positive that you need it to be disabled. Driver signature enforcement can be re-enabled by simply rebooting.

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 usb-nFRAME link and at bottom of usb-nFRAME page there is a link to download the usb-nFRAME software, or go directly to http://www.astrogene1000.com/products/firmware/nframe/GCUSB_nFRAME/GCUSB_Rotator_SANA_1_Setup.exe
- 3) Double click on the "**GCUSB_Rotator_SANA_1_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.

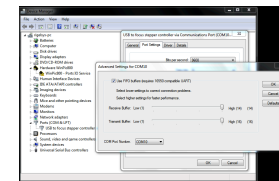


- 4) Accept license agreement and proceed.



- 5) Plug the **usb-nFRAME** 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 setup the **usb-nFRAME** application.

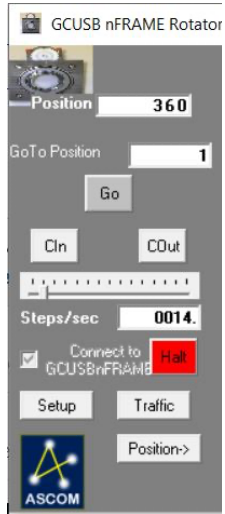
If desired, you may change the COM port assignment by clicking on the USB to focus controller, select the Port Settings tab, select Advanced and selecting a "virgin" COM Port Number (one that doesn't say "in use") to avoid problems with settings from other applications.



- 7) Download: [msstdfmt.zip](#) (contains 1 file, msstdfmt.dll) Extract to C:\Program Files (x86)\Common Files\ASCOM\Rotator Then open an admin command prompt and register the dll
regsvr32 "C:\Program Files (x86)\Common Files\ASCOM\Rotator\msstdfmt.dll"

Ready to go ☺ Use the shortcut on your desktop to activate the **wifi-nFRAME** application.

nFRAME Control Window



Position:

Angle in degrees where the driver thinks the focuser is. Position will change as the nFRAME rotates..

GoTo Position:

Go to desired angle upon pressing GO

Clin/Cout:

Move as long as button held down.

Steps/sec Slider

Steps/sec to excute Cin/Cout. Can be set by sliding the slider, or entering a value. Range is limited by **Max Rate** set in **Setup Window**.

Steps/Sec:

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

Connect to nFRAME:

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

Setup

Select to display usb-nFRAME setup window.

Traffic

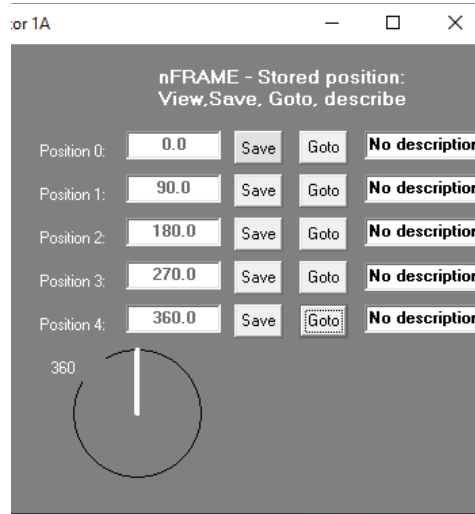
Select to display ASCOM usb-nFRAME command traffic with usb-nFRAME hardware.

Position Button

Select to expand window to display the Stored Position / Internal Temperature Compensation features.

usb-nFRAME Instructions

nFRAME Stored Position



Lets user make change major elements with large differences in focal plane easily by focusing once and then saving the position with annotation for later 'GoTo' when this element is used.

Save

Saves the current position

Goto

Moves the focuser to the saved position

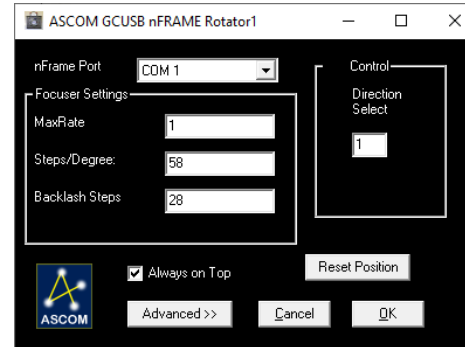
Description

Lets the user label the position for ease of operation.

Position Dial

Displays angular position as value and dial in degrees.

Setup Window



nFRAME Focuser:

Set to Comm port as shown in device manager for GCUCB-nFRAME identified.

MAX Rate:

Range 4-15- The quickest stepping rate allowed. **Factory setting is 4**. Faster than that, pulses are too short for stepper coils to activate properly.

Steps/Degree:

Factory setting is 59.23 deg/step. Can be specified to two decimal points, tweak to assure that a 360 degree rotation comes all the way around to same position as 0 degrees.

Backlash Steps:

Factory setting is approx. 1/2 of steps/degree.

Direction Select;

Set in factory to 0. To reverse direction (between clockwise and counterclockwise rotation) **set to 3**.

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.

1 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 1 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>