

# USER MANUAL

## Telescopes with Electronic Secondary Focusing

### Step 1:

Download and install the Drivers from here:

<http://www.lunatico.es/ourproducts/seletek-armadillo-platypus/moreinfo/firmware-and-software.html>

Please read the user manual of the product:

<http://lunatico.es/seletek/enhelp/>

### Step 2:

Connect the power source (12V – 2A minimum; User provided) and all cables. If power is on, there are green LED lights on, confirming control box is powered.

Connect the cable between the motor and the Platypus box:

- RJ male connector -> secondary motor RJ connector
- DB9 male connector -> Platypus box; Main Port.

RCA cables, should be connected to Heater and Fans exits from back-plate and into 1-4 ports of the Platypus box.

### Step 3:

Open from 'Seletek' App the 'Focuser' program. Its window should look like the one below



**Position:** indicates step count

**Temperature:** temperature read out

**In /Out:** fixed range moving in/out with the preselected value.

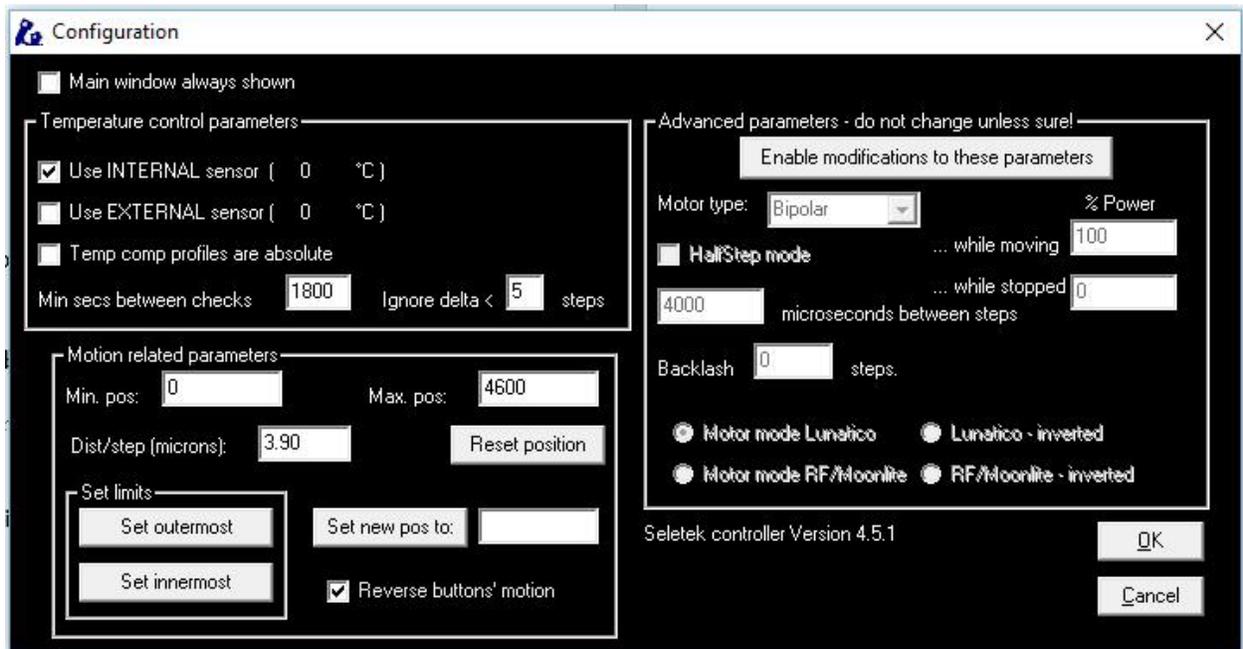
**Cont-IN/Cont-OUT:** continuous movement IN or OUT while buttons are pressed.

**GOTO:** moves the motor to the desired step value

**Profiles:** certain focusing profiles can be created

**Configuration:** advanced configuration settings.

Click on the **Configuration** button and introduce the parameters as found in the window below:



During first configuration, these values might need to be setup correctly. For this to happen, after you modify all parameters like in the window above, press **OK** button to return and use following steps:

- in **Main Seletek Focuser** window, push the **Cont-IN** button until the secondary mirror casing is moved **away** completely from the primary (brass cylinder is retracted entirely inside spider's holder/hub).
- If the **position** value reaches 0 (zero) and the casing hasn't reached end of travel, click back **Configuration**. Enter a value into the box near the **Set new pos to** button (i.e. 200) and click button for confirmation. Click OK in the window that appears asking to confirm change and OK for closing **Configuration** window.
- Repeat first step by pressing **Cont-IN** button until secondary's casing reaches end of travel inwards. Repeat first two steps until casing has reached limit of movement. There'll be a distinct sound from the stepper when reaches end of travel.
- Once end of travel is achieved, enter the value 20 (twenty) in the window between **In** and **Out** buttons and click **Out**. This operation is needed to ensure that end of travel via software control is different than its mechanical counterpart, protecting the stepper motor.
- Click the **Configuration** button once more and in the **Set new pos to** window, enter 0 (zero) value. Click OK.  
Now, the software knows that when it reaches this position, end of travel is reached and no further mechanical movement is done. Click OK to exit.
- Check now the travel of the secondary casing by entering several positions in the **GOTO** window, in the **Main Seletek focuser**. End of OUT travel should be set correctly. If set properly, all will work OK, if not, you may need to check again the settings and repeat the above steps.
- One can save the focusing configuration once this procedure is complete and IN /OUT limits are set.

Notes:

- One can revert the motion direction (IN/OUT) per convenience, by clicking and enabling/disabling **Reverse buttons' motion** option in **Configuration** window
- One can enable the stepper to make half steps (finer motion) by enabling/disabling **Halfstep Mode** option, in **Advanced Parameters**

# DEW AND FAN CONTROL

For heater band/fans control, there are 4 RCA plugs, which can be adjusted manually *and* from the computer.

The power knob (**Potentiometer**) found in the upper side of the controller box, will always be the “master power” setting for the heater bands. You can see how it affects the blink of the activity LED. This will set the absolute maximum power the bands/fans will be receiving. By altering its position manually, you can see that fans will spin faster or slower, depending on the amount of voltage received. **Both fans and heaters** will receive same amount of power/voltage by using/controlling the box manually, via the master knob thus influencing spin of the fans and heating of the bands!

Using the “**PinByPin Third**” program, you can further limit the power to the heater bands, in 10% increments, via computer interface. For this a cable shall be provided that allows control of fans and heaters at the same time.

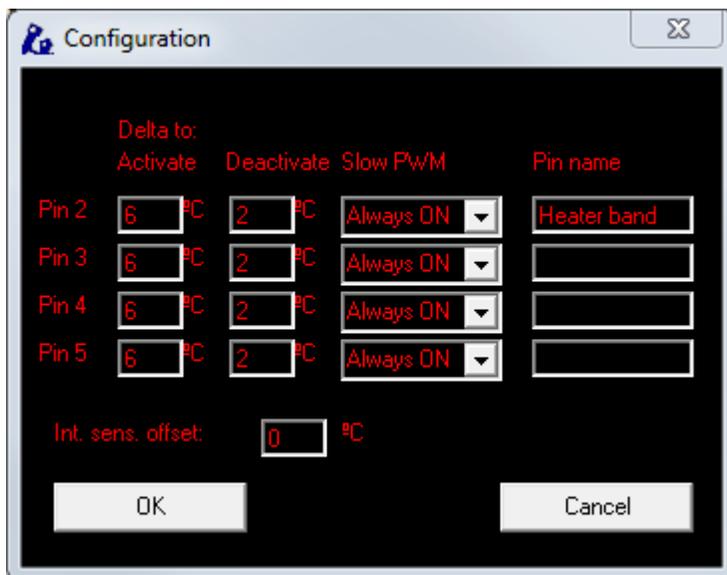
DB9 end shall be connected to the Third port and RCA male connectors to Fans and Heater plugs found on back plate.

Pins used by the heaters/fans RCA are numbered 2 to 5.

\*Pin 2 of Third port is assigned to computer control of the heater bands.

\*Pins 3 to 5 can be used to power cooler fans or other devices.

It is suggested to name that pin so it reflects its actual usage, just go to configuration:

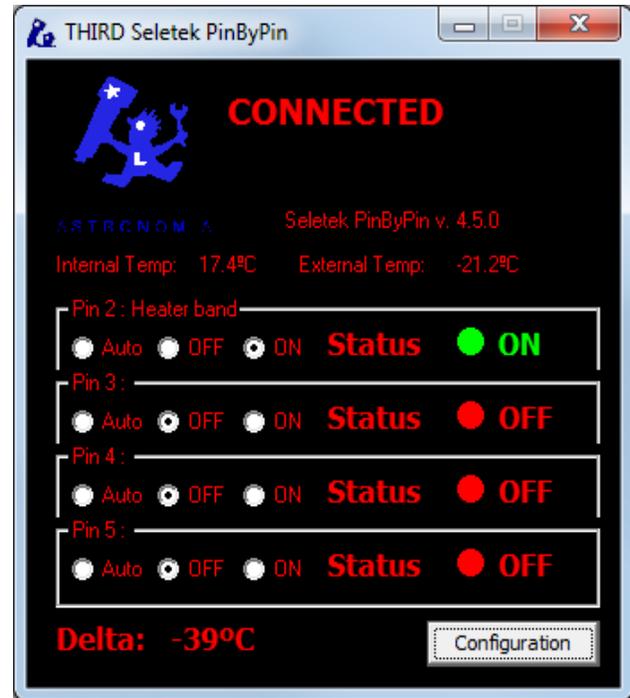


To allow normal usage of the heater bands with no PC control, this will work by cutting power, so from the PC program we'll specify how much time the power will be **negated** to the bands.

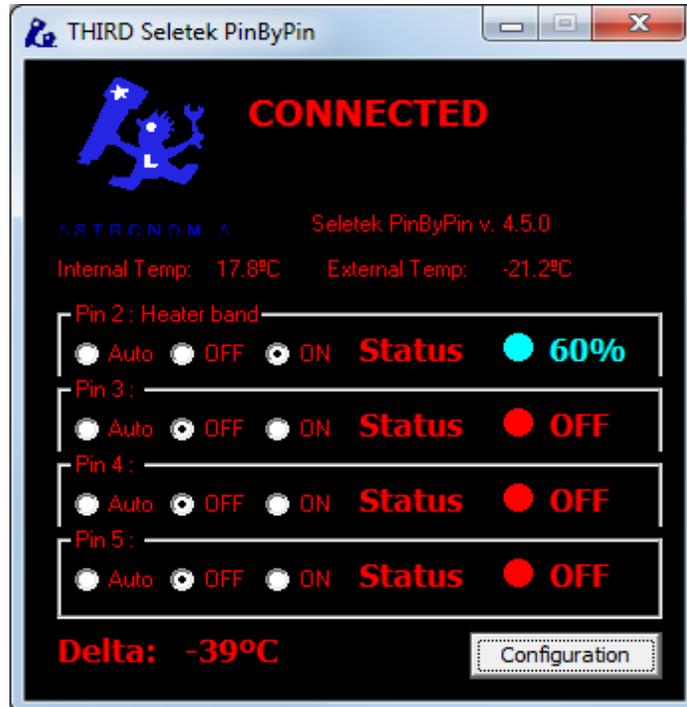
So, in “Always ON” mode as selected here, the “PinByPin Third” window will look like this:

... and the power will be cut to the bands.

You'll notice the activity LED will go off. Of course, you can select “OFF” in this window, and the opposite will be true, the bands will get 100% of the power.



Then you can adjust this in 10% increments, with 90% meaning “90% of the time no power”, and 10% “10% of the time no power”, with the setting we can see here:



... power will be cut to the bands 60% of the time – so they'll operate at 40% of the power selected with the master knob.

