WandererCover V5 Basic

User Manual

2026.11.09



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1. Introduction



The WandererCover V5 Basic is designed for beginner and intermediate astrophotographers. It supports control through ASCOM, INDI, and Skylink, as well as ASIAIR/StellaVita through the AUX input.

The WandererCover V5 Basic is available in seven luminous diameters, from 100 mm to 250 mm. The available sizes are 100 mm, 125 mm, 150 mm, 175 mm, 200 mm, 225 mm, and 250 mm.

Table 1. WandererCover model comparison

	V5 Basic	V4-EC	V4-EC IR	V4 Pro-EC
Luminous diameter (mm)	100-250	80-240	80-240	280-380
Angle measurement	No	Yes	Yes	Yes
Flat panel heater	No	Yes	Yes	No
Infrared remote	No	No	Yes	No
Mounting method	Cable ties	Cable ties	Cable ties	Cable ties or bracket

2. Installation and use

Pass the supplied nylon cable ties through the two slots in the WandererCover. Position the unit on the telescope tube or dew shield, then tighten the ties to secure it (Figure 1). Connect a 12 V DC power supply and use a USB cable to connect the WandererCover to your PC.



Figure 1. Mounting the WandererCover on the telescope

2.1 Driver installation

Download and install the latest version of WandererEmpire from www.wandererastro.com (Figure 2).



Figure 2. Downloading WandererEmpire

2.2 Connecting to N.I.N.A.

Open WandererEmpire and select WandererCover from the left-hand menu (Figure 3).

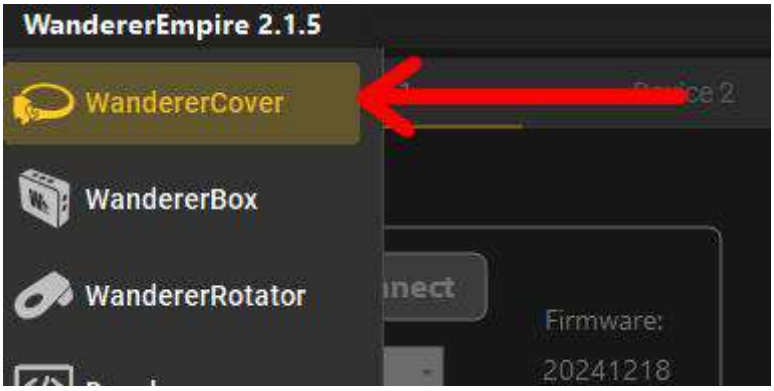


Figure 3. Selecting the WandererCover page

WandererEmpire supports up to three WandererCover devices on one PC. Use a separate device tab for each cover. These tabs are labelled Cover 1, Cover 2, and Cover 3 in the current interface, and correspond to ASCOM devices 1, 2, and 3.

Find the COM port for the WandererCover in Windows Device Manager, where it is normally listed as USB-SERIAL CH340. Select "Select COM Manually" and choose the port from the drop-down list (Figure 4). Click "Connect." WandererEmpire will identify the device and display its model and firmware version.

If you are unsure which COM port to use, clear "Select COM Manually" and click "Connect." WandererEmpire will search the available ports and connect to the WandererCover. Searching may take longer when several COM ports are present. After a successful connection, select "Select COM Manually" and retain the identified port for faster connections.

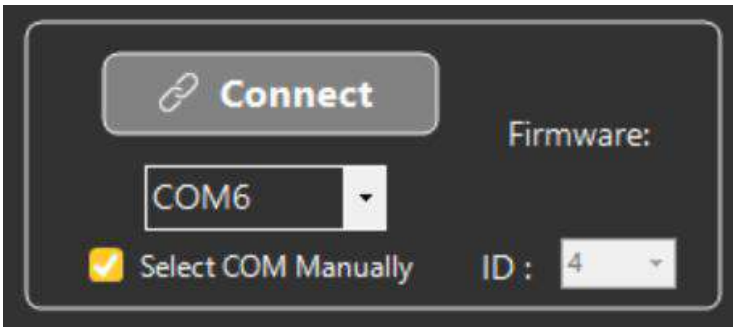


Figure 4. Selecting the COM port

In the Flat Panel section of N.I.N.A., select the ASCOM driver that matches the device tab used in WandererEmpire. For example, select "WandererEmpire Device 1" for Cover 1 (Figure 5). Use the corresponding Device 2 or Device 3 driver for the other tabs.

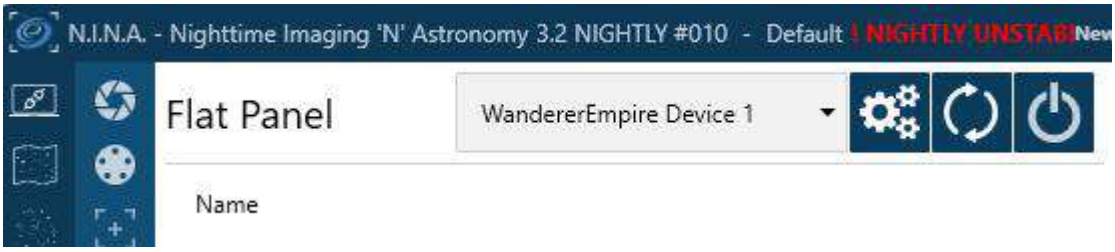


Figure 5. Selecting the ASCOM driver in N.I.N.A.

Click Connect in N.I.N.A. to control the cover and flat panel through WandererEmpire. The reported cover state is Open or Closed.

For subsequent sessions, click Connect in N.I.N.A. to launch WandererEmpire and reconnect using the saved settings.

2.3 Cover and flat panel control

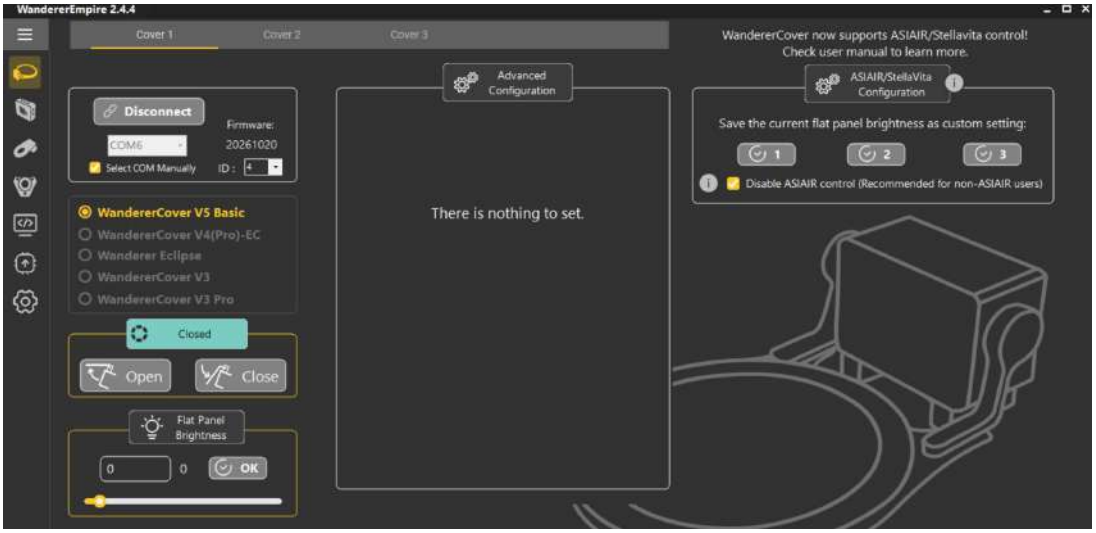


Figure 6. Cover and flat panel controls for the V5 Basic

Click "Open" or "Close" in N.I.N.A. or WandererEmpire to move the cover (Figure 6). The WandererCover V5 Basic uses resistance detection to determine when to stop.

With the cover closed and stationary, set the flat panel brightness from 1 to 255 in N.I.N.A. or WandererEmpire. Set it to 0 to turn the light off. The light turns off during movement and remains off while the cover is open.

Disconnect the main power supply and USB cable before moving the panel by hand. After reconnecting, run a complete Open or Close operation in WandererEmpire to update its reported state.

3. Control with ASIAIR/StellaVita

The WandererCover V5 Basic can be controlled through its AUX input using the switchable 12 V DC output of a ZWO ASIAIR Plus or ToupTek StellaVita.

This function is not enabled by default, connect the WandererCover to your PC by USB and open its page in WandererEmpire. Under "ASIAIR/StellaVita Configuration," clear the "Disable ASIAIR control" checkbox (Figure 8) to enable the function.

Connect the main power input to a continuous 12 V DC supply. Connect the AUX input to a switchable 12 V DC output on the ASIAIR Plus or StellaVita. Set that output to full 12 V and use its on/off switch (Figure 7). The instructions below refer to this as the selected DC output. Keep the main power supply on throughout operation.

When configuration is completed in WandererEmpire, **you no longer need the USB connection.**

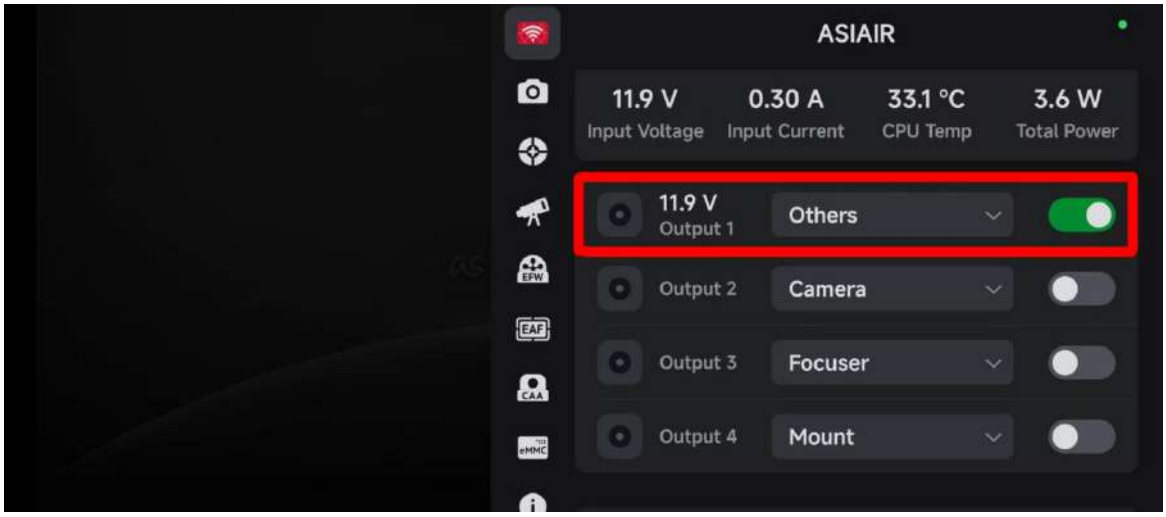


Figure 7. Switching the DC output connected to AUX

Open the cover. With the cover closed, turn the selected DC output off and leave it off for more than 5 seconds. Keep it off until the cover is fully open.

Close the cover. With the cover open, turn the selected DC output on and leave it on for more than 5 seconds. Keep it on until the cover is fully closed.

Adjust the flat panel brightness. With the cover closed and stationary, turn the selected DC output off and back on in less than 5 seconds. Each short off/on cycle advances one step through Off, Custom 1, Custom 2, Custom 3, and back to Off. The default preset values are 1, 50, and 255.

After a restart. The WandererCover waits for a change at the AUX input before moving. If the selected DC output is already in the required state, switch it briefly to the opposite state, then switch it back and follow the timing above.

Save custom brightness levels. In WandererEmpire, close the cover and set the flat panel brightness to a value from 1 to 255. Under "ASIAIR/StellaVita Configuration," click one of the preset buttons labelled 1, 2, or 3 to save the current value (Figure 8). The WandererCover retains these settings after a restart.

To disable AUX control, select "Disable ASIAIR control" in WandererEmpire. This setting takes effect immediately.

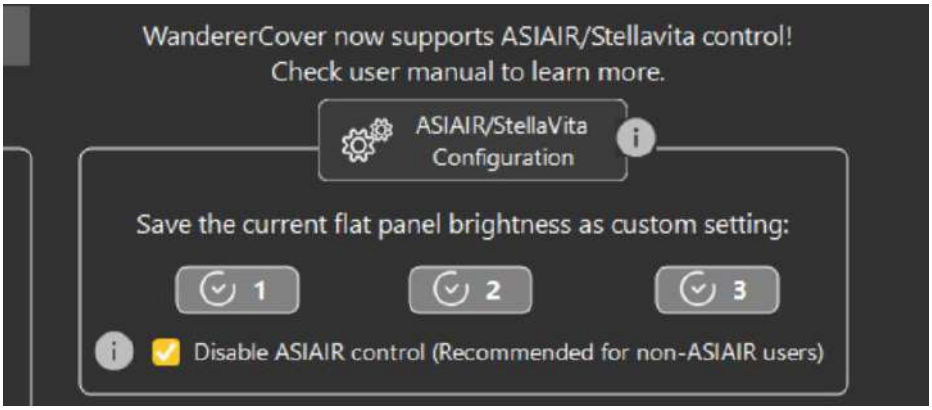


Figure 8. AUX control and brightness presets in WandererEmpire

4. Firmware updates

Open the firmware update page from the left-hand menu in WandererEmpire (Figure 9). Disconnect the WandererCover in the software before starting the update.

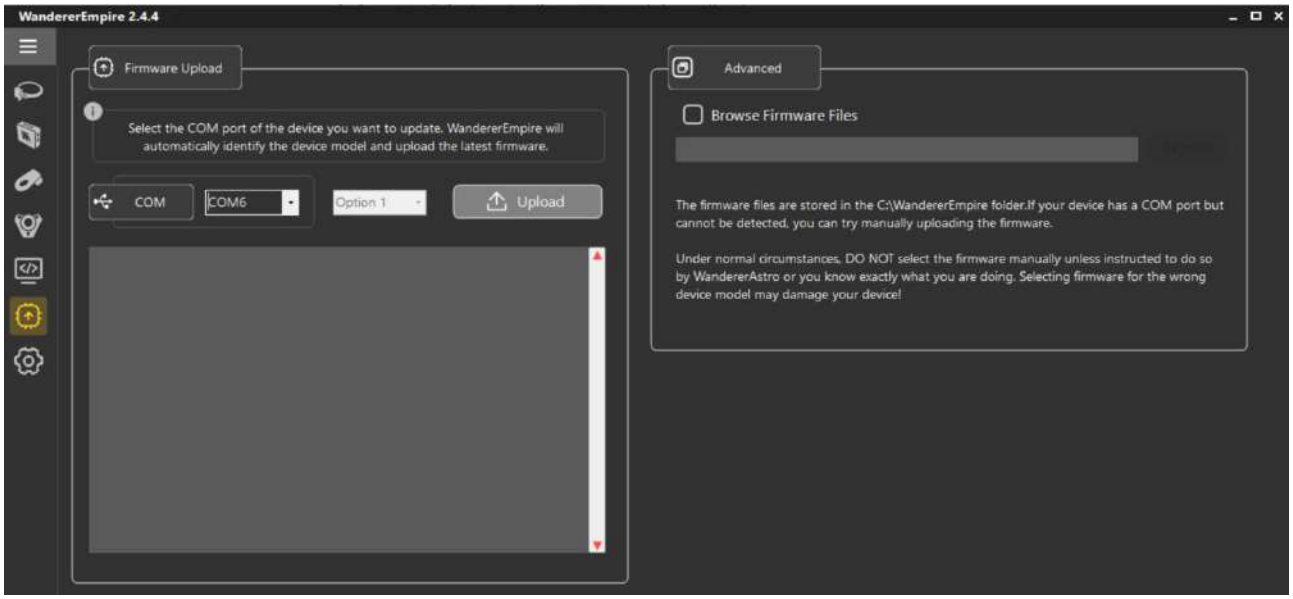


Figure 9. The firmware update page

Select the COM port for the WandererCover and leave the upload setting at "Option 1," then click "Upload" (Figure 10). WandererEmpire will identify the connected model and select the appropriate firmware automatically. Keep the power and USB cable connected until the update finishes. Wait for the completion message before reconnecting the device in the software.



Figure 10. Selecting the COM port and starting the upload

5. Specifications and dimensions

Table 2. WandererCover V5 Basic specifications

Luminous diameter (mm)	100	125	150	175	200	225	250
Weight (g)	265	292	323	356	396	436	478
USB	USB 2.0 Type-B						
Power supply	12 V DC, 0.8 A (14 V maximum)						
Opening or closing time	Approximately 8 s						
Maximum luminance	2280 cd/m²						
Minimum luminance	18 cd/m²						
Spectral range	400-720nm+						
Reference exposure at f/7 Gain 0, brightness 1	2.5s(L) 30s(R) 10s(G) 4.5s(B)						
Reference exposure at f/7 Gain 100, brightness 1	0.8s(L) 10s(R) 3.3s(G) 1.5s(B)						
Reference exposure at f/7 Gain 0, brightness 255	0.02s(L) 0.27s(R) 0.09s(G) 0.038s(B) 8.9s(Sii 3nm) 6.2s(Ha 3nm) 2.7s(Oiii 3nm)						
Reference exposure at f/7 Gain 100, brightness 255	2.8s(Sii 3nm) 2s(Ha 3nm) 0.93s(Oiii 3nm)						

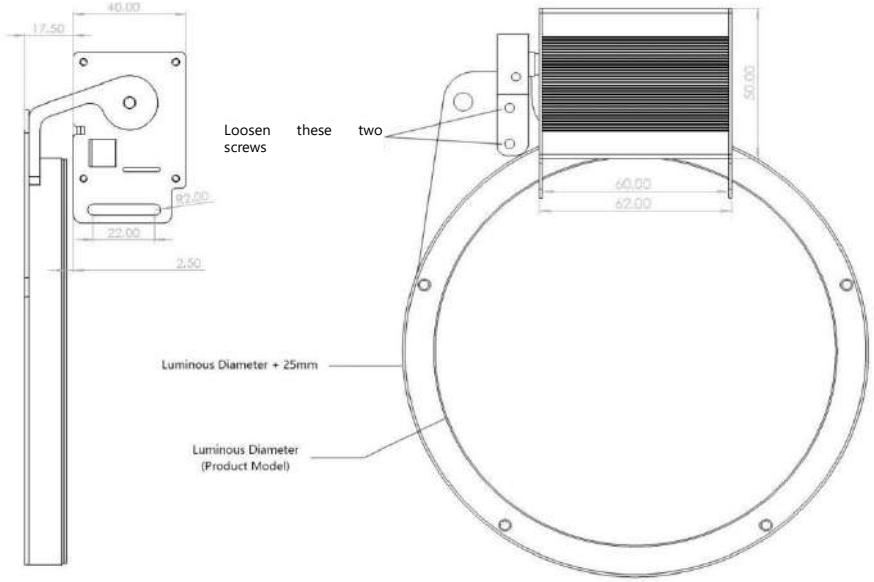


Figure 11. Dimensions and panel adjustment points (mm)

6. FAQs

Which luminous diameter should I choose?

Choose a luminous diameter slightly larger than the outside diameter of your telescope tube or dew shield. For example, a tube or dew shield with an outside diameter of 138 mm requires the 150 mm model.