

DEEP SKY DAD FP1 MANUAL v3

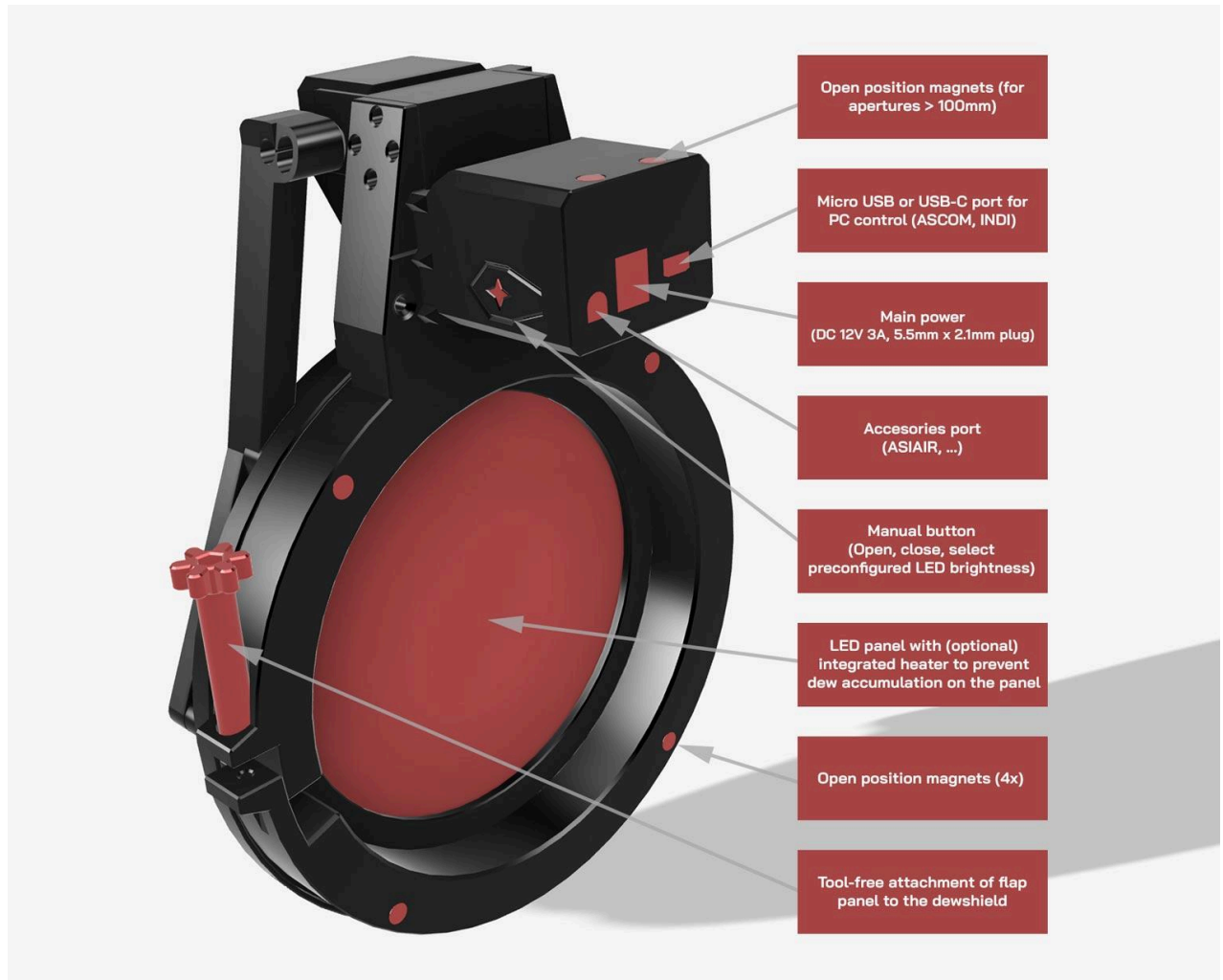


Making flats can be quite cumbersome, especially if you stride towards automation and simplification of the process. Our flap panel makes making flat frames with your refractor telescopes part of an automated routine, without hacks like lcd screens, sky with t-shirt etc.

Intro

Deep Sky Dad Flap Panel enables automation of making flats, protecting your optics from unwanted dust when not imaging and (optionally) preventing dewing issues of LED panel with built in heater.

Features



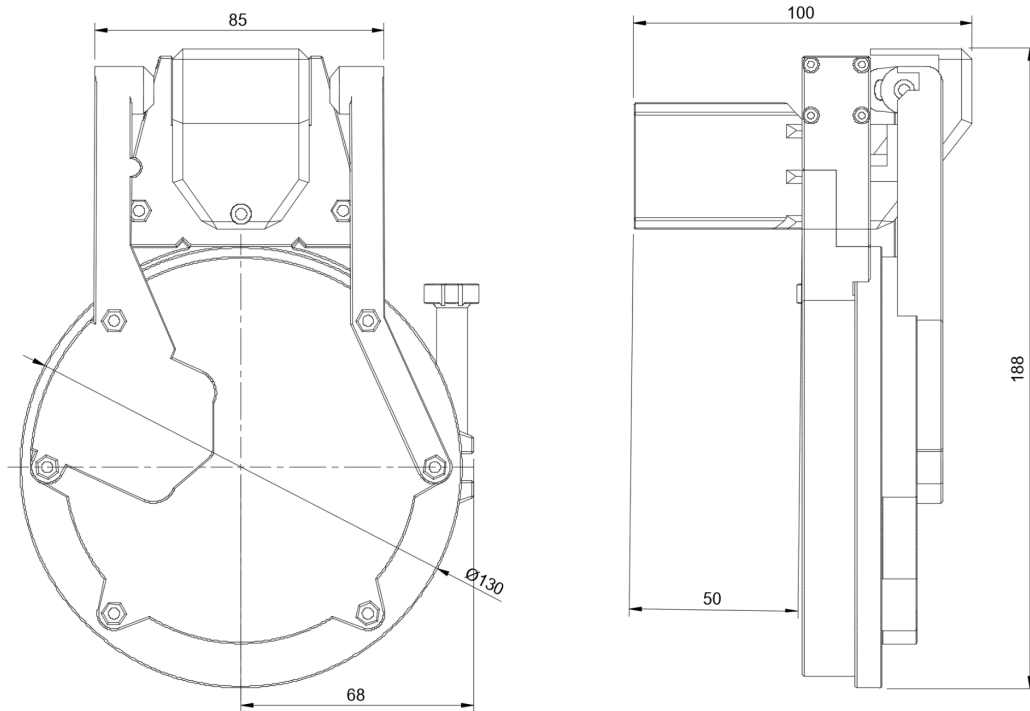
- Compact, lightweight design, tailored for your telescope
- Easy installation (no bolts, 1x hand tightening knob)
- Dimmable LED light
- Servo motor with 270 degrees of motion
- Manual control with button
- Built in magnets, which snap the panel nice and tight when opened/closed
- ASCOM support
- INDI support
- ASI AIR support (**optional**)
- Built-in LED heater to prevent dew accumulation on the LED surface (**optional**)
- PC connectivity: micro USB cable (**included**)
- Power requirements: 12V 3A (**not included**)

Dimensions

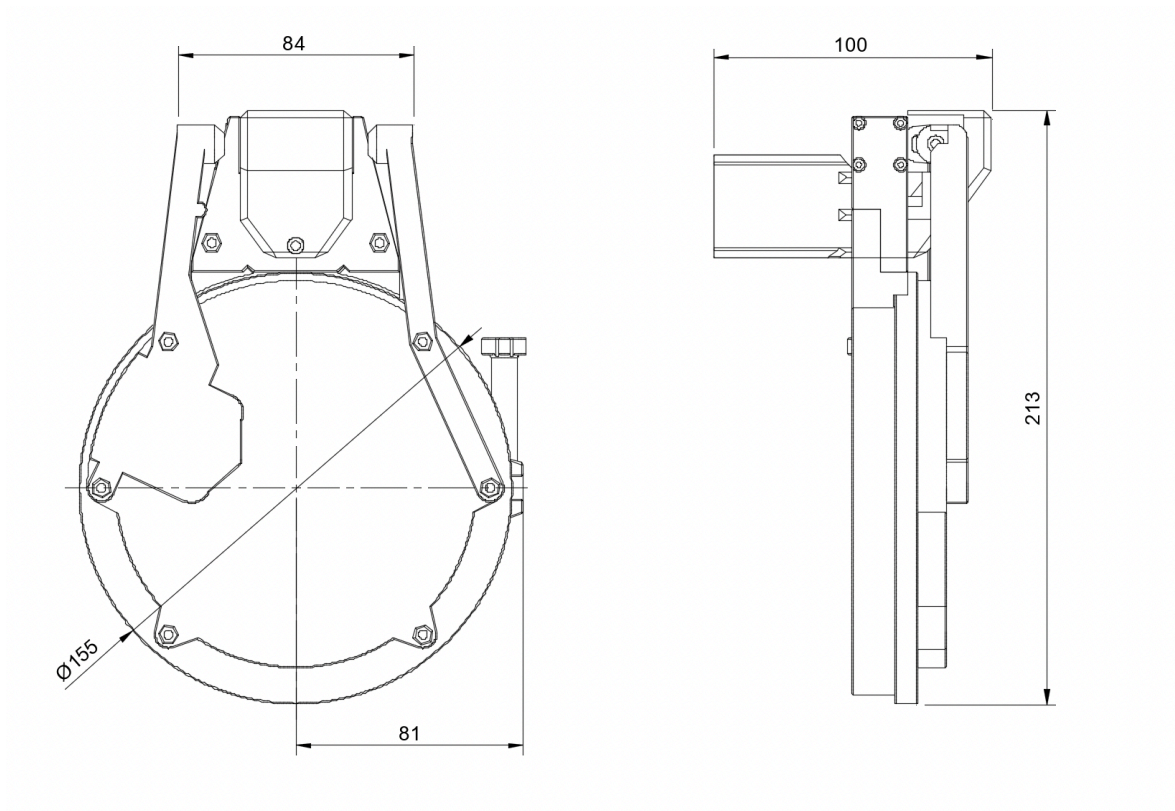
We are currently offering the following 5 different categories of flap panels:

Category	Dimensions (W x H x D in mm)	Min. dewshield diameter (mm)	Max. dewshield diameter (mm)	Effective LED diameter (mm)
FLAP100	133 x 188 x 100	40	103	75
FLAP125	159 x 213 x 100	104	128	100
FLAP150	184 x 238 x 100	129	154	125
FLAP170	204 x 258 x 100	155	175	14
FLAP194	229 x 282 x 100	176	202	169

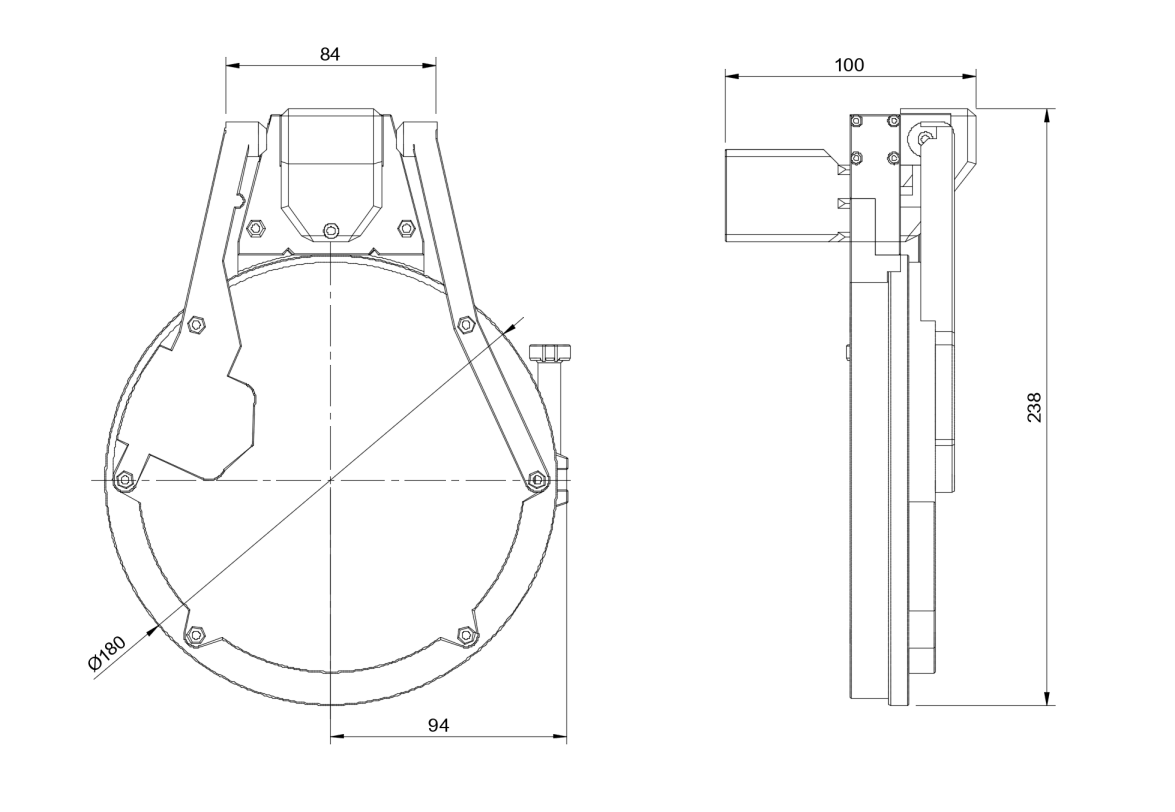
FLAP100



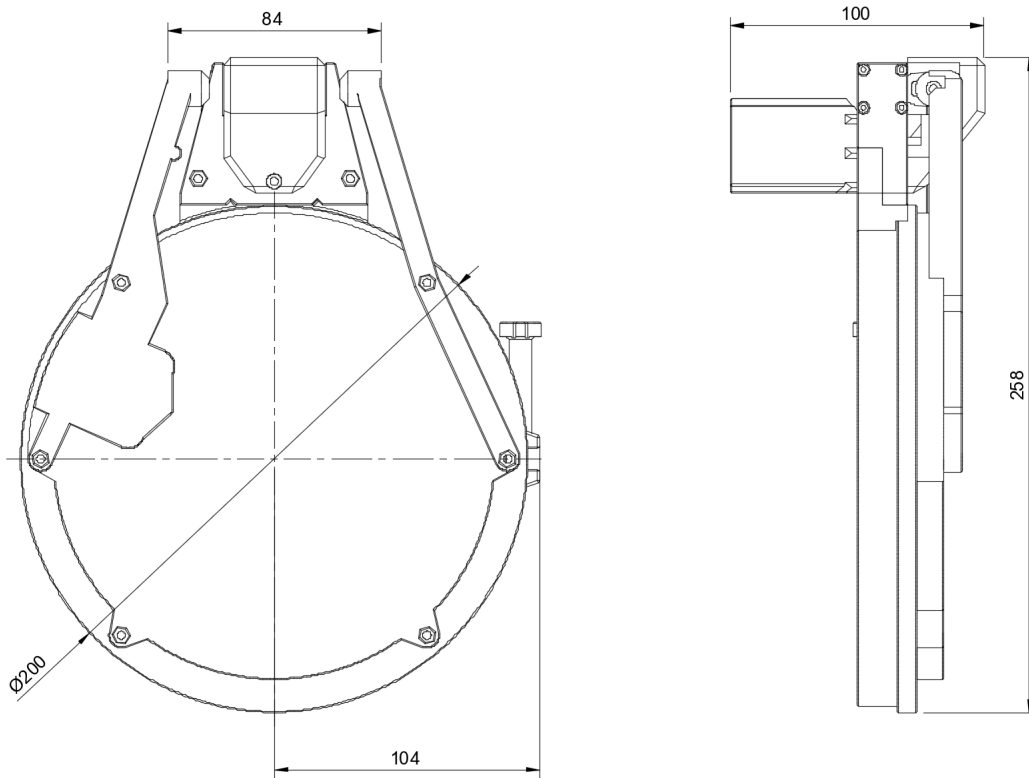
FLAP125



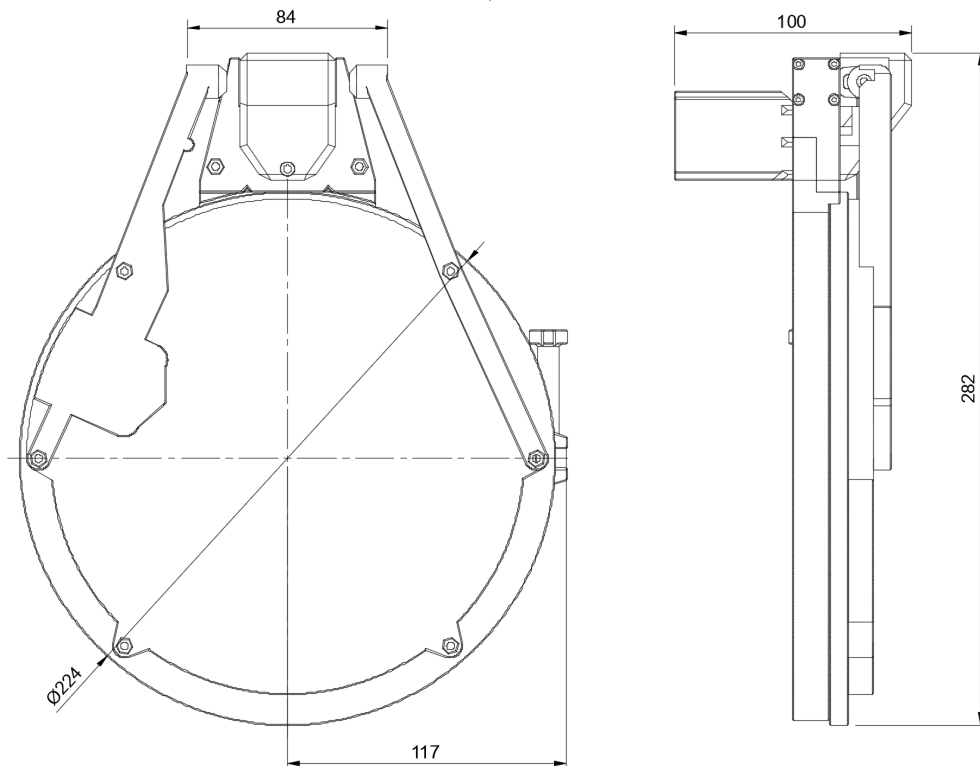
FLAP150



FLAP170



FLAP194



Installation

Installation of the flap panel is simple. Open the panel, slide it on so that the front is in line with the dew shield edge. Secure the flap in place with a hand tightening bolt, **do not overtighten, or plastic may crack!** After that, close the panel before powering it.



FAQ

Basics

What kind of power adapter can I use?

We recommend using a 12V DC power adapter, as the units are fine-tuned for this specific voltage. The socket specification is tip positive, 5.5mm x 2.1mm. If you don't have a 12V adapter available, the units can also operate within a voltage range of 12V to 14V without any issues. The current output of the power adapter should be around 3A, but higher outputs will not damage the unit.

When I connect the flap to the computer, Windows does not recognize it. What can I do?

If you are using Windows 10, the driver will self install. If you are using Windows 7, please install a 32 or 64 bit driver. Should you experience any problems with detection (COM port not visible, no USB device connected chime), try:

- different micro USB cable
- direct connection (without USB hub)
- using USB 2.0 port (instead of 3.0)
- reconnecting the power while USB is already connected

Flap panel does not open/close all the way, what can I do?

For telescopes with an aperture larger than 125mm, we recommend attaching the flap in a sideways or upward position. This ensures that the magnets can properly reach the LED ferromagnetic sticker when opening. Alternatively, if you want to have it in this position, you could also open/close it when the mount is in a different park position, so the gravity can assist the flap motion.

If the flap fails to close in optimal position, arm calibration might be required. Please follow the instructions in our [Youtube video](#).

How can I upgrade the firmware?

Firmware upgrade is a simple yet delicate procedure. That is why I have put together simple and straightforward step-by-step instructions for installing the latest firmware.

disclaimer

Please follow upgrade instructions very carefully. Deviating from the instructions could cause bootloader issues or in worse case unresponsive unit, for which we are not responsible.

1. Connect the unit directly to the computer (do not use a USB hub). In Device Manager, note the assigned COM port. If the unit is not recognized, refer to the FAQ above for details.
2. Download FP1 Control Panel from and the latest firmware from our website (**software** tab of the product page)

DESCRIPTION

IN THE BOX

SOFTWARE / DOCUMENTS

REVIEWS (0)

SOFTWARE / DOCUMENTS

[Micro USB Serial driver \(Windows 7\)](#)

.NET 5 runtime (for our control panel)

16.02.2024

FP1 Control Panel v1.0.5 (ASIAIR control configuration, button brightness presets)

FP1 Firmware v1.0.5 (ASIAIR cable support, button brightness presets)

14.11.2022

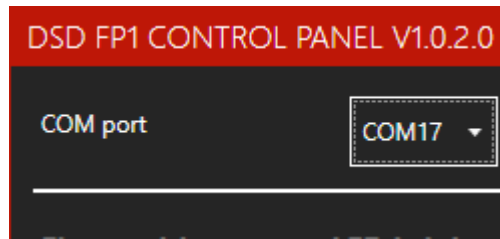
FP1 ASCOM driver v1.0.2 (2 connections on same PC)

22.10.2022

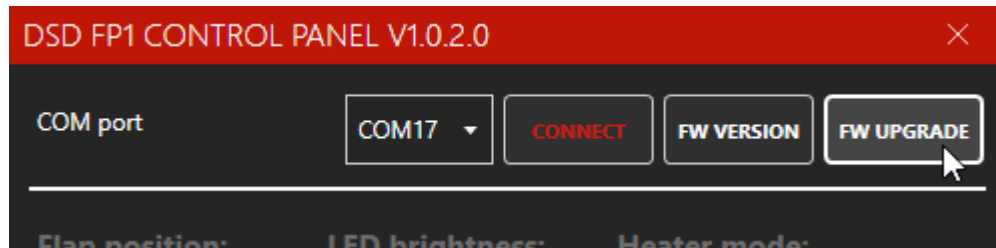
FP1 Firmware v1.0.4 (FT button support)

3. Start control panel as administrator and enter following settings

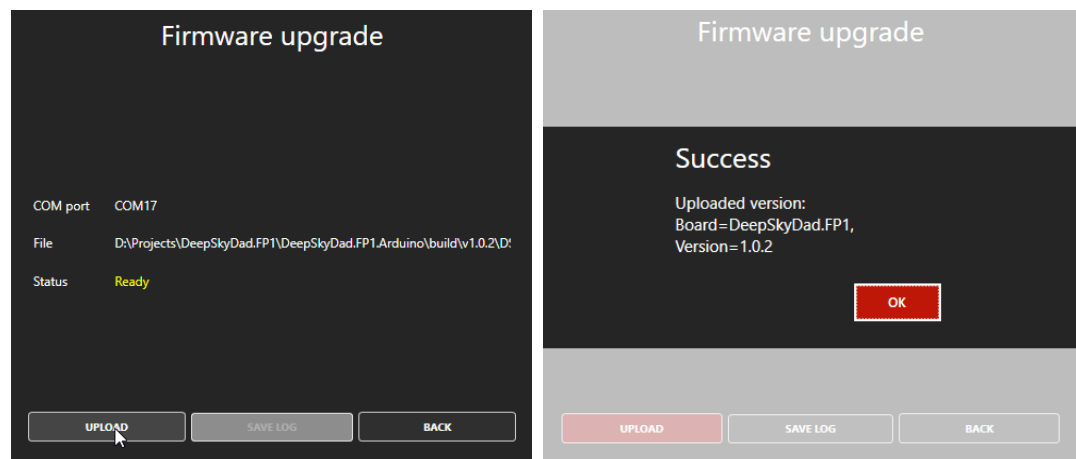
- a. COM port – choose com port that you have written down



- b. Click »FW UPGRADE« and select .dsd file



- c. Click upload and the process will begin. After upload is finished, you will get a confirmation popup



4. If the upload fails, an error message will appear. For example, if you are connected to the unit in another program and try to upload the firmware, you will receive an "Access is denied" message. If you encounter a timeout error, try unplugging the power and then retrying the upgrade process.

USB cable remote control

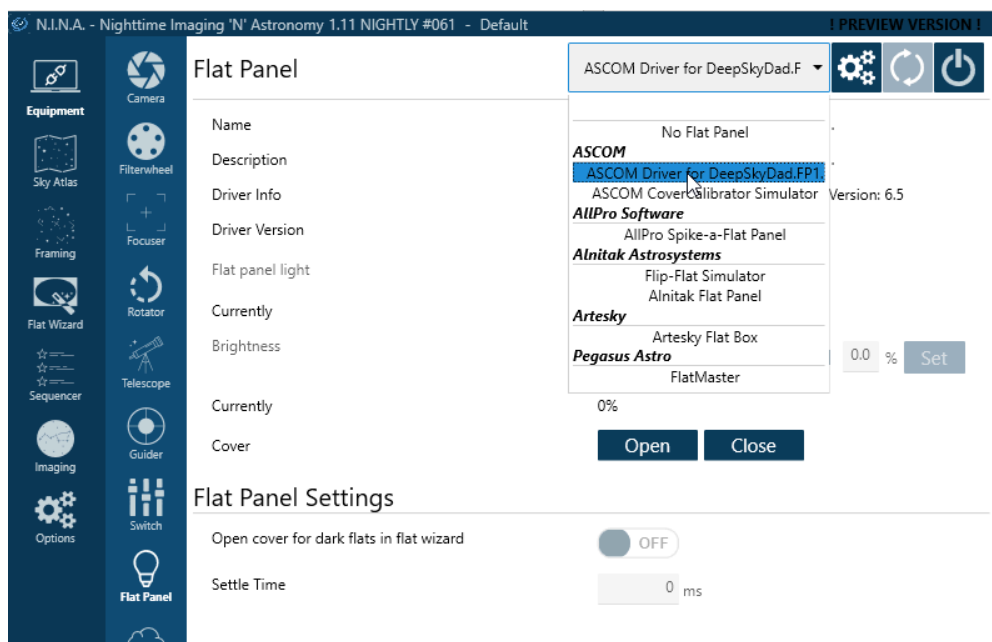
When you connect the flap panel to your PC via USB cable, you can remotely control it via ASCOM (SGPro, N.I.N.A, Voyager, APT,...), INDI or FP1 Control Panel.

ASCOM (Windows)

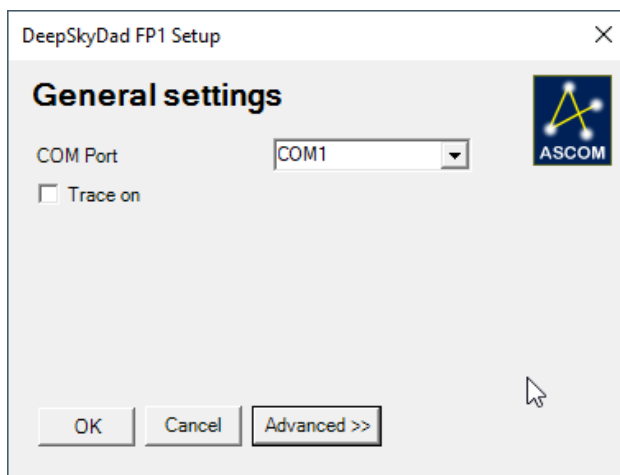
In Windows, we recommend you to use the ASCOM Cover Calibrator driver for control. This requires ASCOM Platform 6.5, which introduced the Cover Calibrator device. This way, you can automate our flap in any of the popular astronomy softwares (N.I.N.A, APT, SGPro, Voyager,...). We will use N.I.N.A. for a short demonstration below.

Basic usage

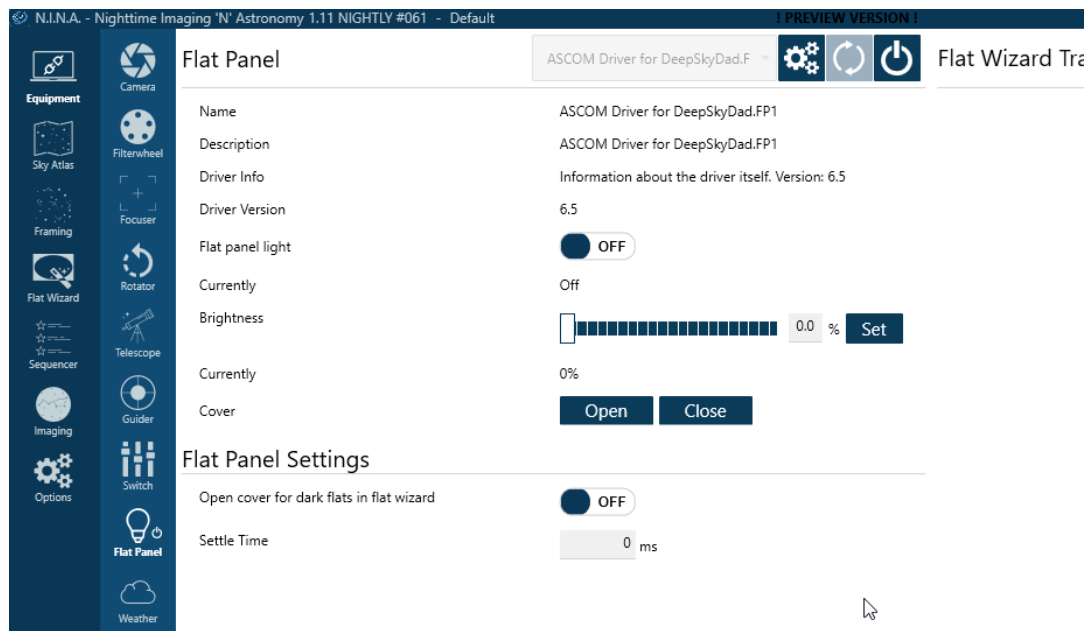
1. Download, unzip and install latest version of ASCOM driver from our website
2. Open N.I.N.A, navigate to *Equipment* -> *Flat Panel*
3. Select *ASCOM Driver for DeepSkyDad.FP1*



4. Open ASCOM settings and select correct COM port



5. Click OK and connect to the flap

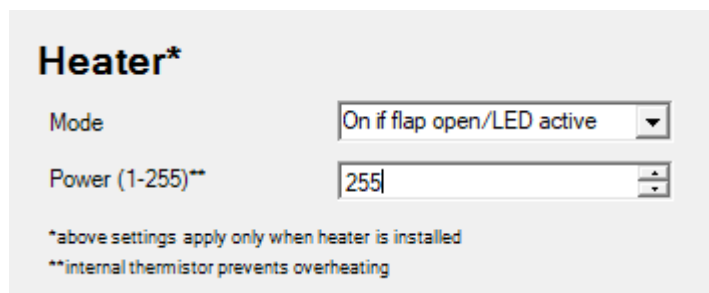


6. And you are ready to automate your flaps! You can open/close the panel, control LED brightness etc.

Built in heater (optional)

If you also purchased optional built in heater to prevent dewing, you can choose heating mode and power in advanced ASCOM settings

1. Open ASCOM settings, click Advanced
2. On the right side you have 2 sections. Heater and System. We are currently interested in Heater, which contains 2 input fields:
 - a. Heater mode
 - i. **Off** – heater is off at all times
 - ii. **On** – heater is on at all times*
 - iii. **On if flap open/LED active** – heater is on when flap is opened or LED light is on*
 - b. Heater power – power of heater output. We recommend you leave this setting at default (255 - maximum).

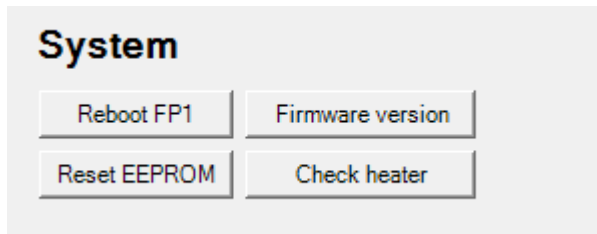


3. Selected heater settings are applied **when you connect to the flap next time.**

**heater contains built in thermistor, which constantly measures temperature and prevents overheating, should you forget to turn heater off*

System controls

1. Open ASCOM settings, click Advanced
2. On the right side you have 2 sections. Heater and System. We are currently interested in System, which contains 4 buttons:
 - a. Reboot FP1 – resets the unit
 - b. Firmware version – currently installed firmware version (in case you have ASCOM connectivity issues, click this button)
 - c. Reset EEPROM – resets unit settings to factory defaults
 - d. Check heater – checks whether heater is present

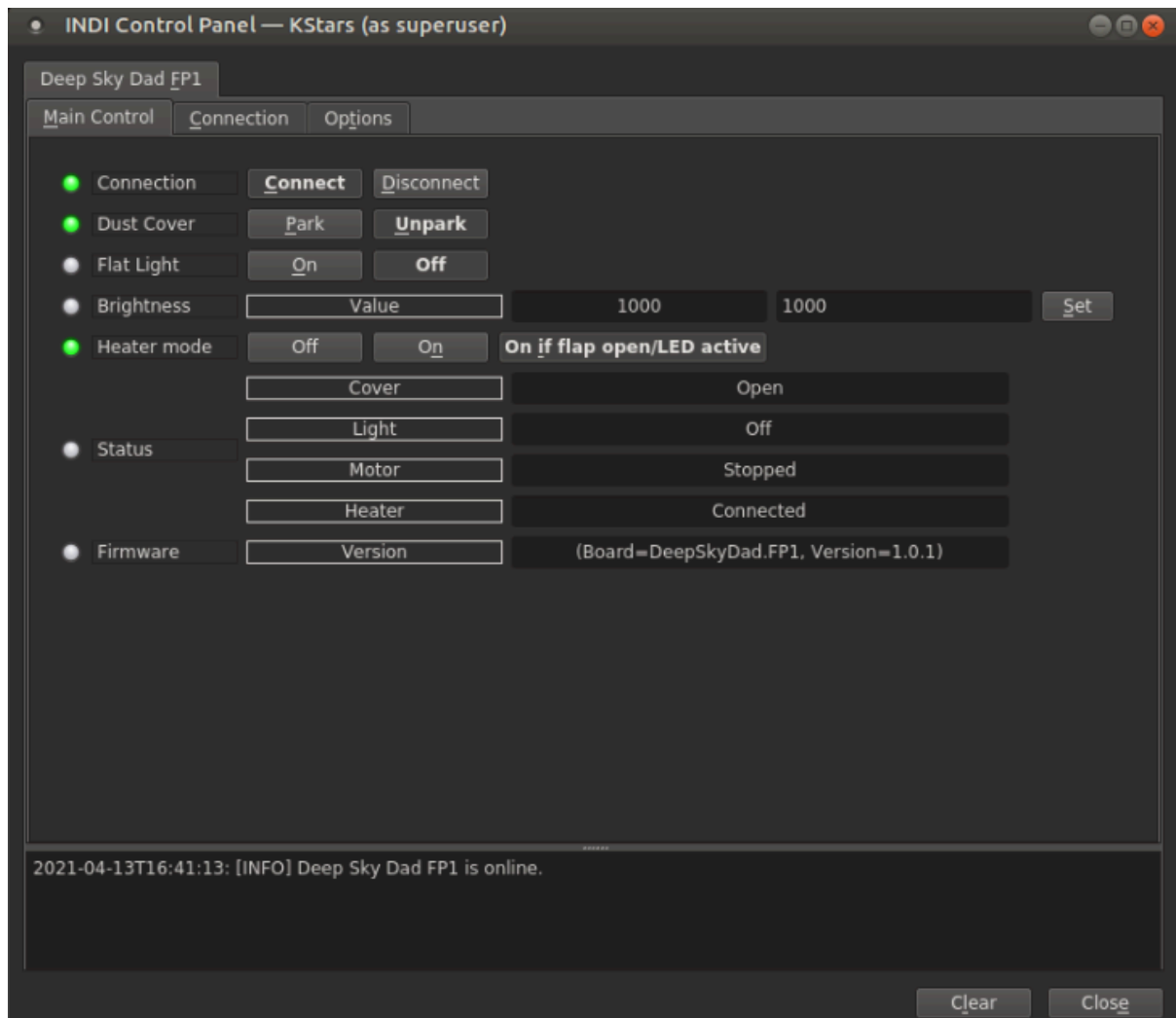


INDI (Linux)

In Linux, you can control our flap panel with Deep Sky Dad FP1 INDI driver.

Basic usage

Select the correct ttyUSB device (e.g. ttyUSB0) and click connect. You can park/unpark the flap and control the LED brightness (0-4096). Statuses are displayed below the button interface.



Built in heater (optional)

If you also purchased optional built in heater to prevent dewing, you can choose heating mode in INDI Main Control tab:

- Off** – heater is off at all times
- On** – heater is on at all times*
- On if flap open/LED active** – heater is on when flap is opened or LED light is on*

**heater contains built in thermistor, which constantly measures temperature and prevents overheating, should you forget to turn heater off*

FP1 Control Panel (Windows)

If you wish to control our panel without 3rd party software, you can do so in Deep Sky Dad FP1 Control panel:

You can control flap position, LED brightness (0 is off), heater mode and configure brightness presets for manual button and ASIAIR control.

ASIAIR cable remote control

ASIAIR cable is an accessory designed to seamlessly integrate with the ZWO ASIAIR (**ASIAIR PRO and ASIAIR PLUS only**) for effortless control of your Deep Sky Dad FP1 flap panel directly from the ZWO ASIAIR app. You can also check our demonstration in our [Youtube video](#).

Basic usage

Your FLAP must use firmware version v1.0.5 or higher for ASIAIR control cable compatibility. You can download firmware and Control panel here:

- [FP1 Control Panel v1.0.6 \(ASIAIR control configuration, button brightness presets\)](#)
- [FP1 Firmware v1.0.5 \(ASIAIR cable support, button brightness presets\)](#)

If you haven't been using our Control panel before you might also need following:

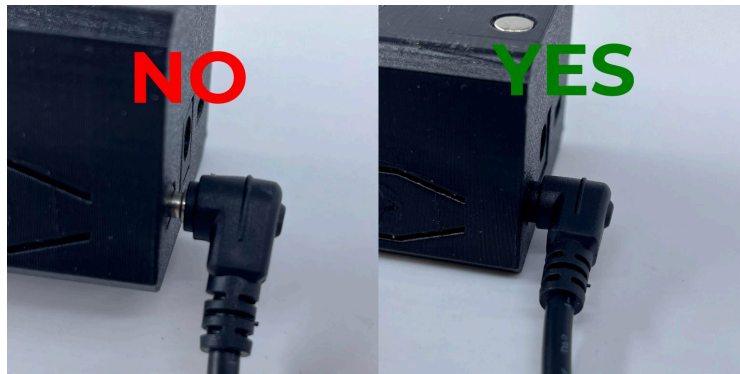
- [Micro USB Serial driver \(Windows 7\)](#)
- [.NET 5 runtime \(for our control panel\)](#)

Brief Explanation of Control Behavior via ASIAIR cable (we highly recommend you check out our demonstration [Youtube video](#)):

Behavior	Main power DC port	ASIAIR cable DC port
Flap closed, LED on (DC port slider brightness control)	ON	ON
Flap opened, LED off	ON	OFF
Flap off	OFF	ON/OFF

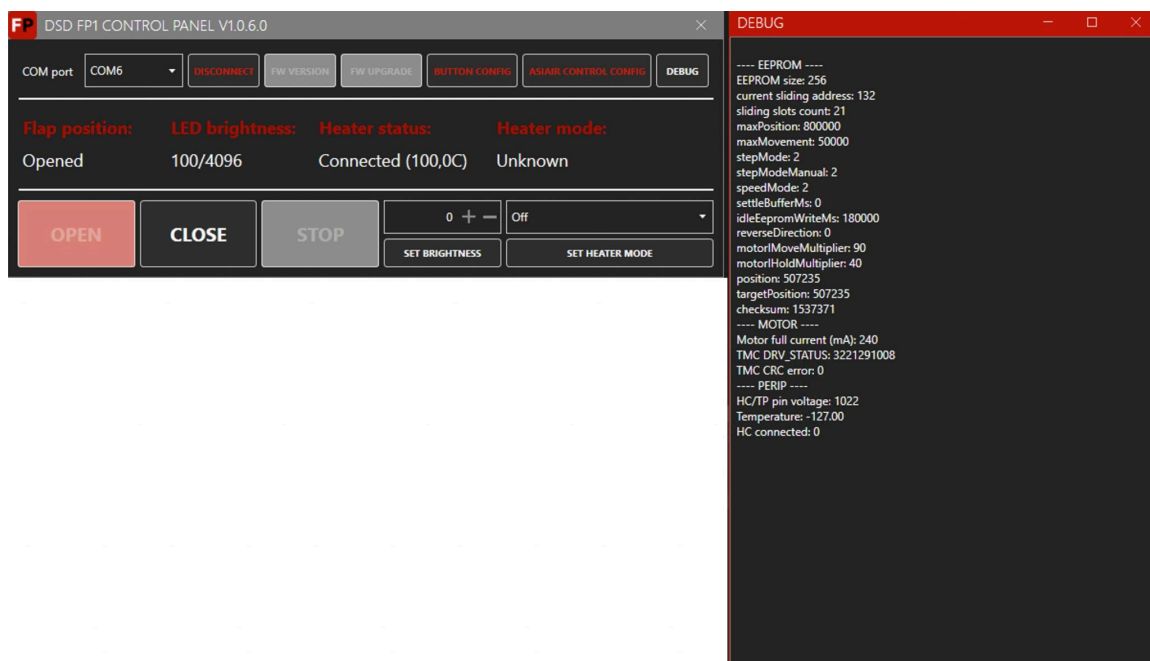
In case you are experiencing problems with your ASIAIR cable, please perform the tests listed below and send us the results to info@deepskydad.com

- Unplug the ASIAIR cable and check main flap panel power is connected to DC input
- Short press manual button on the flap panel. Does LED brightness change? (It should)
- Long press the manual button on the flap panel. Does the flap panel open/close? (It should)
- Plug in the ASIAIR cable DC plug to the control port on ASIAIR and audio jack plug to the flap panel. Push the audio jack connector all the way in (this is crucial, if the connector is not pressed all the way in, connection with ASIAIR will not be established)



- Short press manual button on the flap panel. **Does LED brightness change? (It should not)**
- Long press the manual button on the flap panel. **Does the flap panel open/close? (It should not)**
- Change value of control port on ASIAIR to 100%. **Does the flap panel close and LED turn on? (It should)**

If above tests fail to resolve the issues, connect the flap panel via USB cable to the Windows PC (while leaving ASIAIR cable connected). Run [Deep Sky Dad FP1 control panel v1.0.6](#) or higher. Connect to the flap panel COM port and click “DEBUG” button in the upper right corner. **Copy the debug log and include it into the troubleshooting email.**



Manual control

Manual operation is possible via a built-in button.

- Single press of button iterates through brightness presets
- Long press opens/closes the panel
- If you press the button again while moving, the flap stops at current position

Warranty and returns

All our products have a 2 years warranty. We will replace any malfunctioning units in this period free of charge. Warranty does not apply to any malfunction caused by improper usage (wrong power supply,) or physical damage to the unit.

The customer covers return shipping costs when sending back the unit for repair or replacement. If the unit was purchased via dealer, the dealer is responsible for customer service.