Dualsky XHV ESC Setup

Feb 21 2025

As the Dualsky XHV ESC are new to the market the documentation is still catching up with its features and is lacking in a couple of areas. This documents what I have learnt so far with the XHV100 ESC and also uses data supplied by Dualsky and other users on facebook

The Governor mode does not ship as standard yet but can be requested from Dualsky either by email or messenger on their facebook page. They respond quite quickly and will send a copy of the Beta code, currently version 1.22 with Governor app V1.15

Setting the ESC through BLHeli

Currently the documentation doesn't detail how to attach the ESC to the BLHeli app which is available from

http://www.dualsky.com/AjaxFile/DownLoadFile.aspx?FilePath=/UpLoadFile/20241105/BLHeliSuite32_31.10.0.1_Dualsky.zip%20&fileExt=file

To enter the app and connect the ESC

1. Open BLHeli Suite program file. choose BLHeli32 Bootloader USB/COM.

2. Press the mode button on the underside of the ESC, and keep holding it down.

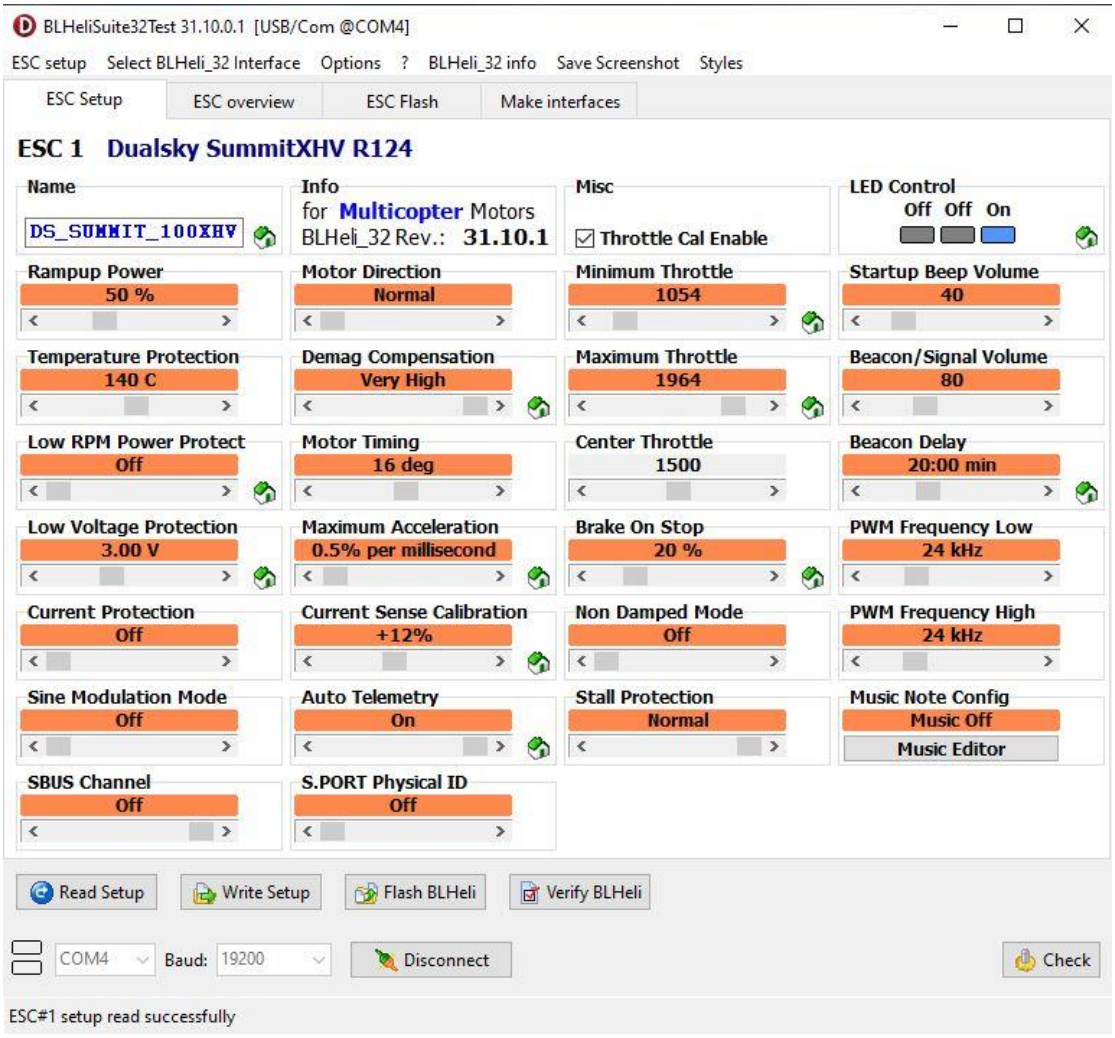
3. Plug Type C to Type C wire or USB to Type C wire to the ESC and PC

4. See red light/green light flashing interval, then release the mode button.

5. Connect the battery power more than 4S to the ESC.

6. Press connect button to connect to BLHeli32 Suit setting program.

7. Press Read button



8. Make any changes you need to and press the Write button to save them to the ESC

I have also found it is possible to enter the BLHeli settings as follows

Open the Governor app and connect the USB C cable, this automatically connects to the ESC

Press the BLHeli Button

Open the BL Heli app

Press connect

Apply power to the ESC (4S or greater battery)

Press read

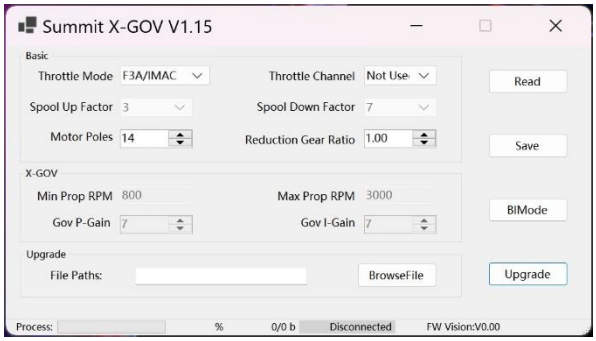
Modify settings as required and press write

You will need to physically disconnect the ESC before running the Gov app again

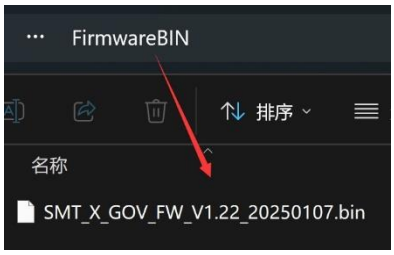
Setting the Gov App

Updating the GOV app is really easy,

Please check the **Summit X-GOV-APP-V1.15(FW 1.22).zip**

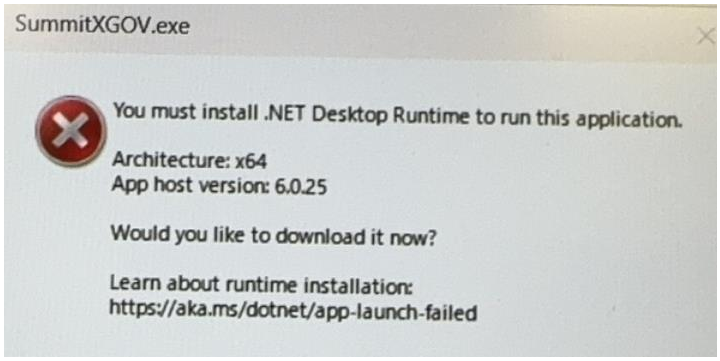


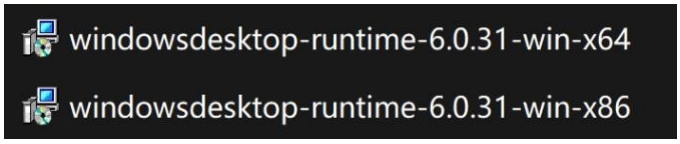
The version of PC software is V1.15(beta).



The version of **Summit Firmware is FW V1.22**

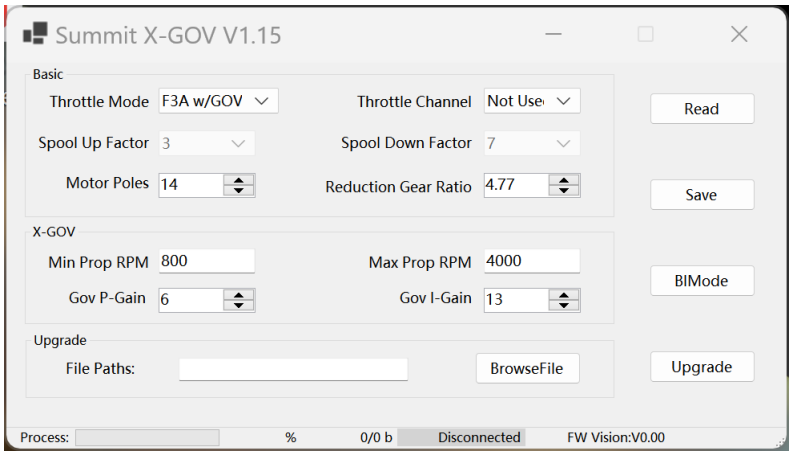
It is placed in the FirmwareBIN directory of the software, please update it first.





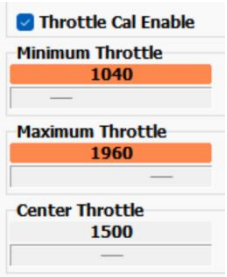
To run this software, you may need to install Windows.NET 6 runtime. This is a common file of Window, 54MB in size, which is easy to find on the internet.

Once installed you will come to this screen when you run the app



- Throttle Mode F3A w/GOV
- Throttle Channel Not Used (Read the throttle data from the bus when the PWM throttle channel is not connected;)
- Spool Up Factor 3 (default)
- Spool Down Factor 7 (default)

In the BLHeli app set the pulse range for your transmitter and also tick autocalibrate enable



Before the first time you use GOV mode, reset the transmitter throttle range and perform throttle channel calibration (only once)

Caution: Please perform throttle channel calibration in F3A/IMAC mode instead of GOV mode (which can be dangerous).

As per the warning above, do the throttle calibration in the F3A/IMAC mode setting within the GOV app, throttle calibration is documented in the ESC instructions.

turn on radio and set throttle to high position

power up the ESC

after hearing the relevant beeps move throttle to low

Reconnect the ESC to the Gov mode app and select Gov mode

The following parameters are for the CRS3000 MKII/MKIII & CRS3500 MKIII(AE)

- Motor Timing 16 degrees (default for 100XHV)
- ESC Frequency 24KHz and up (default)
- Motor Poles 14
- Reduction Gear Ratio 4.77
- Min Prop RPM 800 RPM at 1200µS pulse
- Max Prop RPM 4000 RPM at 1800µS pulse
- Gov P-Gain 6 of 20
- Gov I-Gain 13 of 20

Note that the Governor mode is only active between throttle pulses of 1200µS and 1800µS so it is advisable to set the max throttle travel at around 70% depending on your radio make or wherever outputs a 1800µS

pulse. Having pulses below 1200µS allows to set a failsafe 0 throttle condition. Or to land without the governor mode enabled

I have been used to using a lower throttle RPM speed as my minimum with a different ESC so will be experimenting with this as time allows but it would be useful if others could let everyone know what mi9n/max RPM parameters and throttle curves / flight modes they have implemented.

As more data and pilots use the ESC then hopefully we can keep this small document relevant

Hope this helps make setting up a little easier

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Below: See GOV in action with Jeti's Log feature, which helps to optimize Gain P&I values