Flyduino KISS Flight Controller Manual v1.0

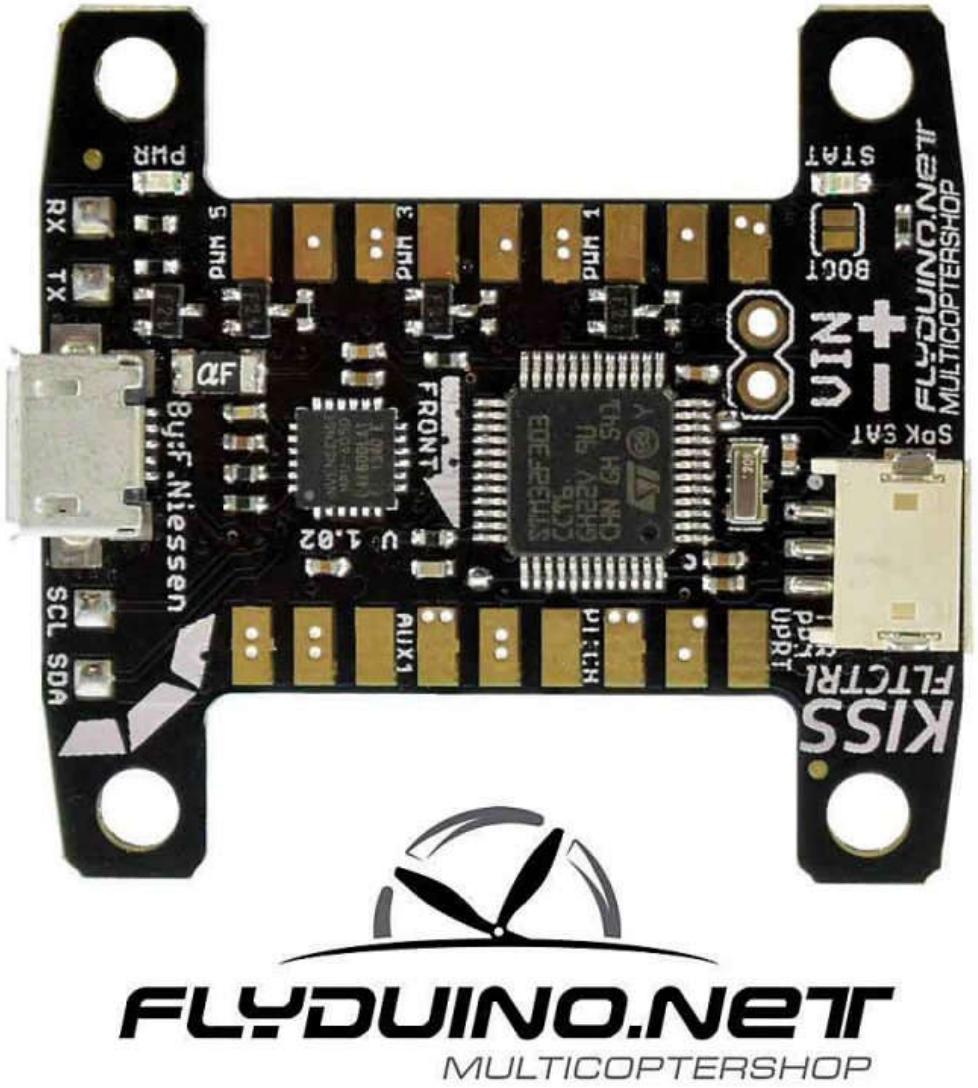


Image: Upper / Top Side

As we felt the need for a modern more simplified 32bit Flightcontroller, we made the KISS FC, which includes a complete own Flight Controll Firmware development who get rid of some old ballast, this took some time, but the result is very pleasing.

The Idea was to simplify some things and due to intensive long term testings of some pretty good Pilots we where able to optimize the code to a point where you hopefully get your quad in the air quite quick.

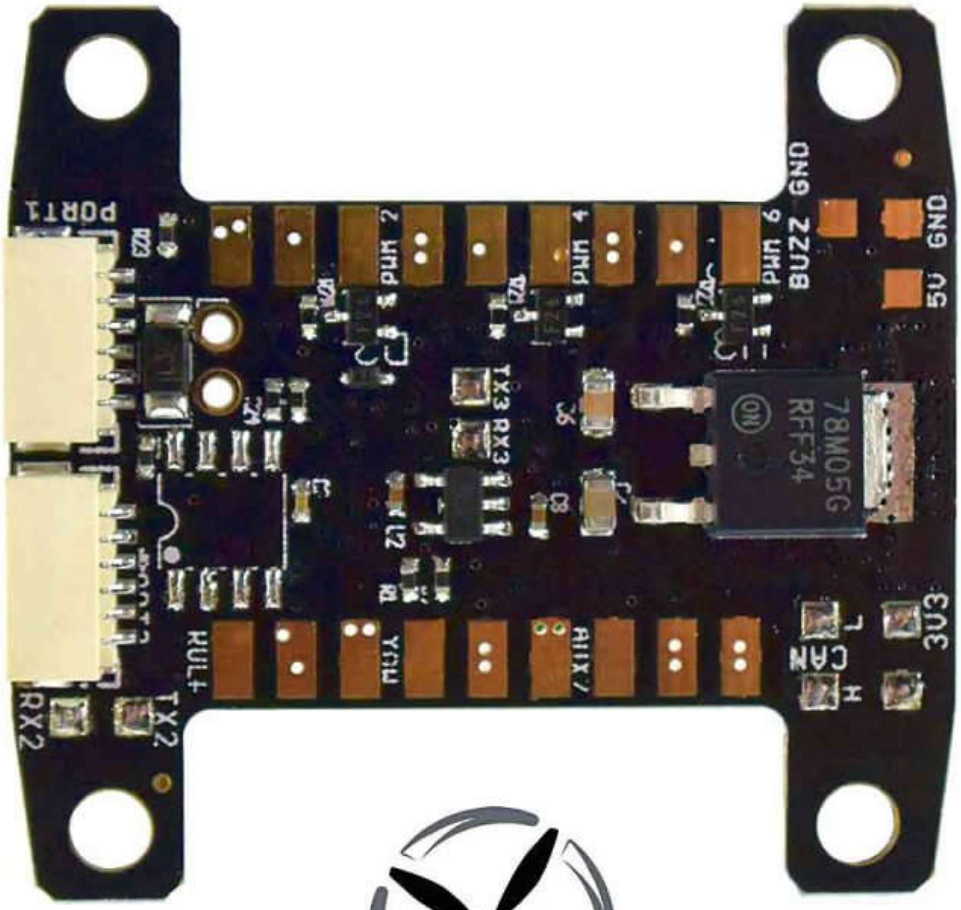


Image: Lower / Bottom Side

Normally you just need to choose your Airframe in the GUI and are able to fly (at least with KISS ESC), otherwise you can download presets of well known Pilots for given configurations and of course can tweak the PID yourself over the GUI.

The software setup side is reduced as far we can, many things are already taken into account for you, if you bring some solid soldering skills you should be able to build your quad pretty quick.

A new feature is also the build telemetry, in combination with our 32bit ESC line its possible to show the live telemetry data via OSD on your FPV live feed or in the KISS FC GUI

This way you get useful informations like the Voltage of your battery, current consumption, ESC temperature and motor RPM.

Other FC firmwares (eg. Cleanflight) can be ported for the use with the KISS FC.

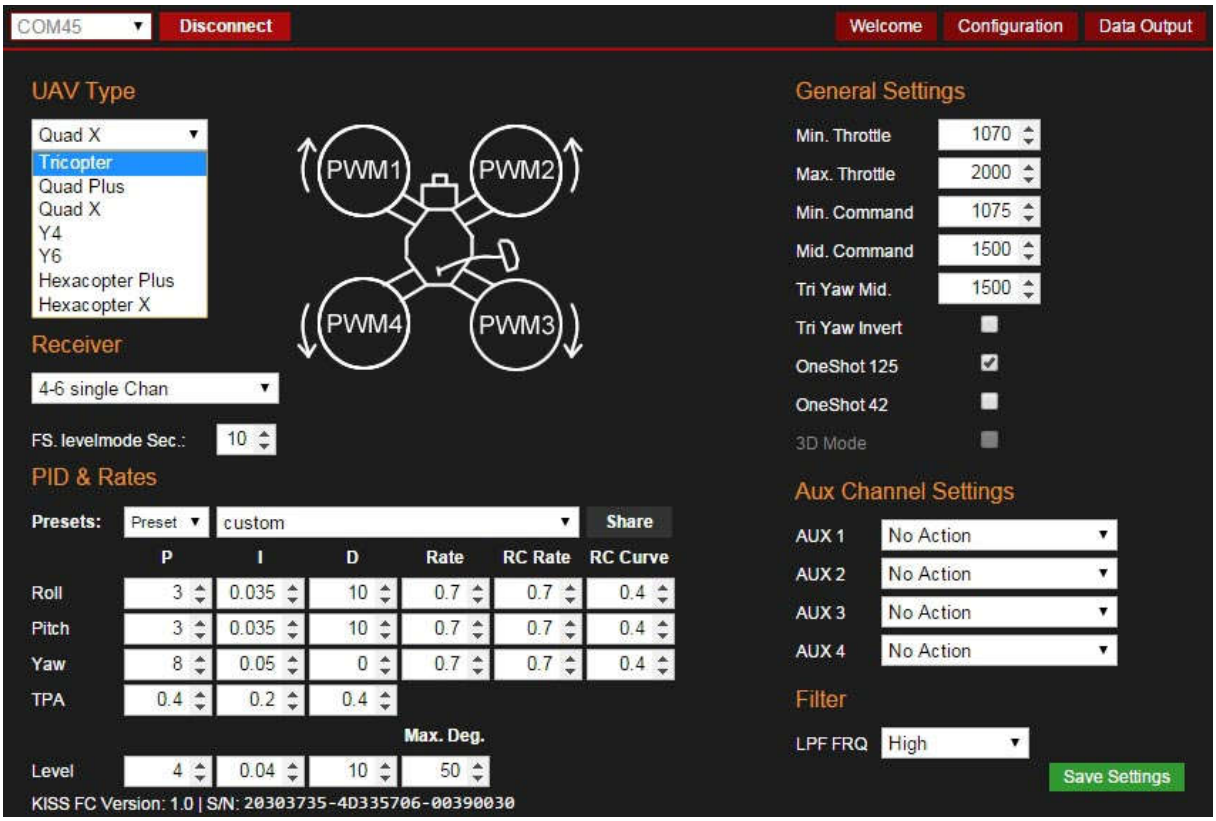
Supported Copter frames:

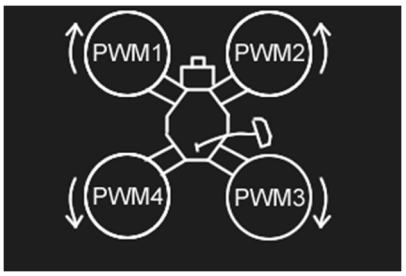
- Tri

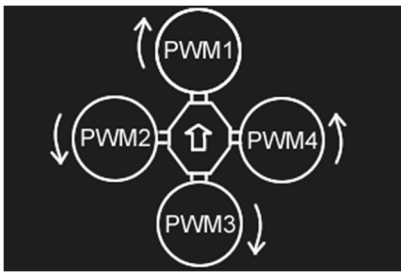
- Y4, Y6

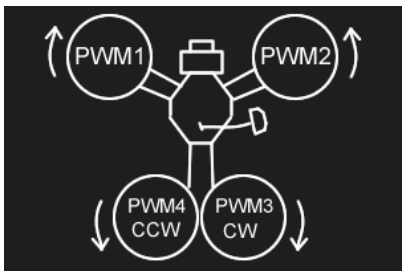
- Quad +/x

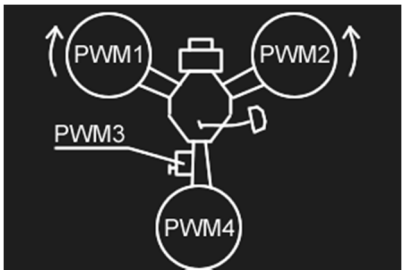
- Hexa +/x

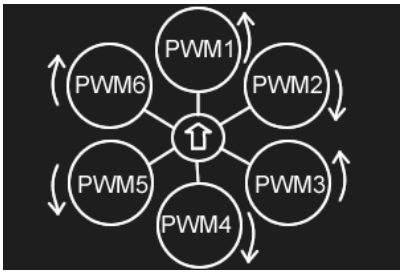


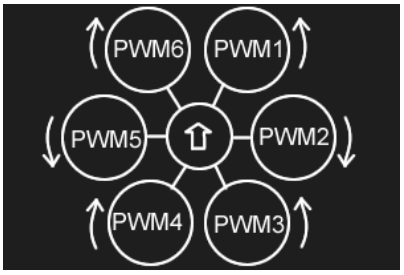












Supported Receiver types:

- Sum Signal (PPM)

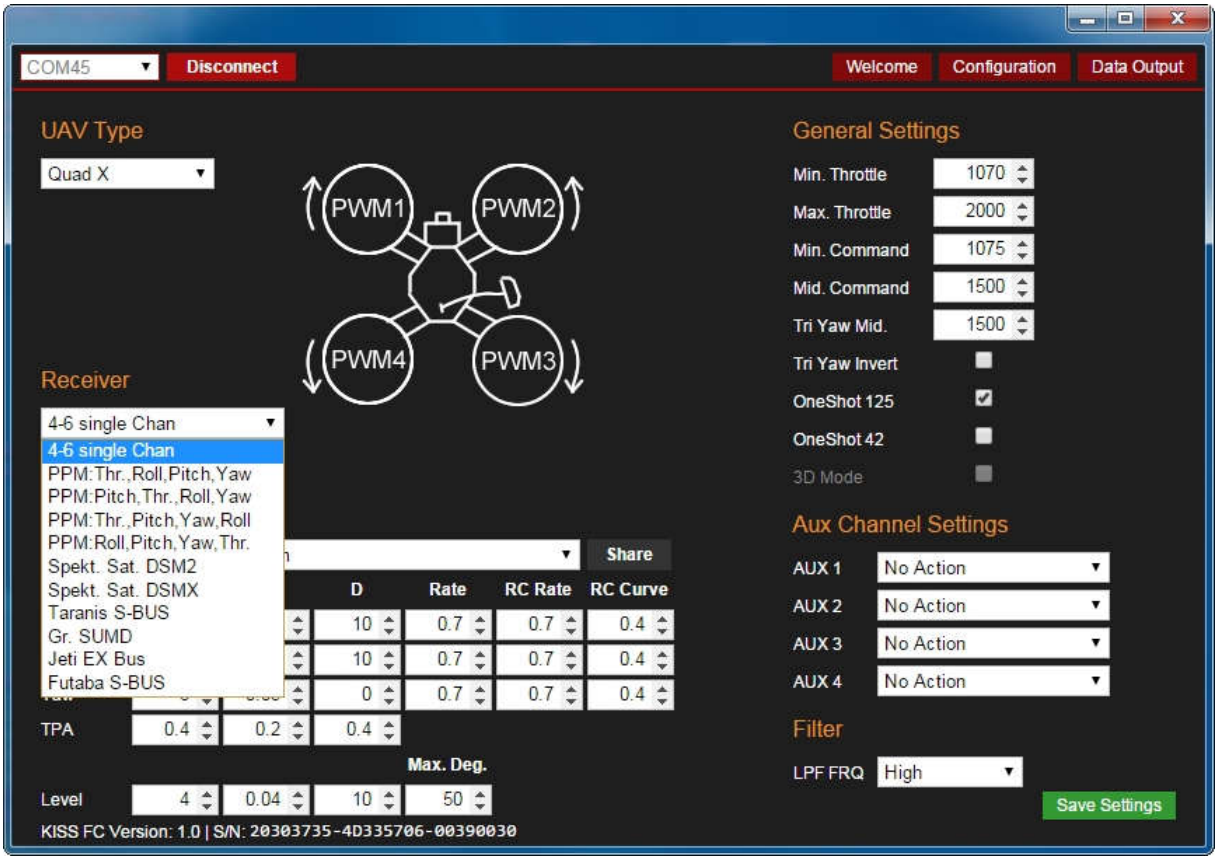
- Spektrum Sat. (serial / DSM2 & DSMX)

- Futaba / Taranis SBUS

- Jeti ExBus

- Graupner SumD / SumO

- classic RX with single Channels



There are 8 Receiver inputs: 4 for the sticks and 4 AUX channels 1-4

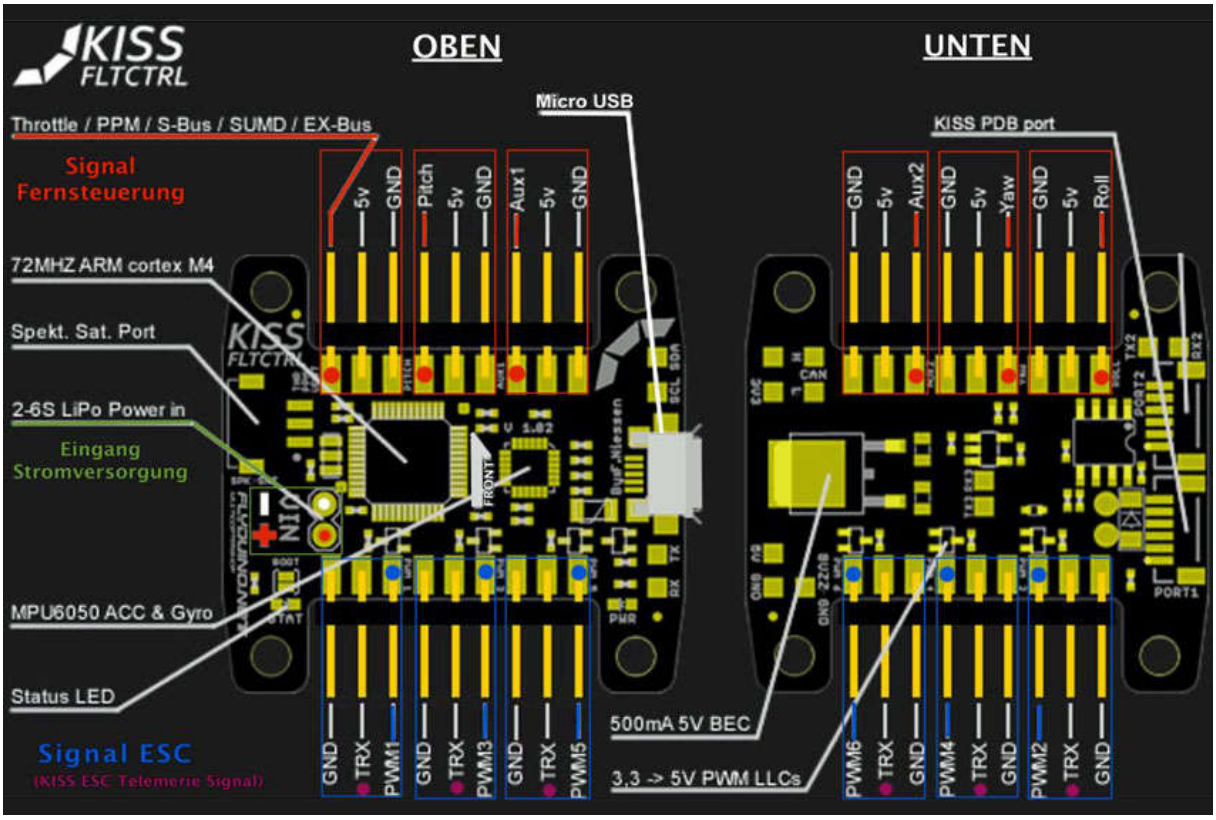
Other Features

MCU: STM32F303CCT6
IMO: MPU6050
Weight: 4.6g
Mounting Holes: 3x3cm pattern with 3.2mm holes (compatible with most frame types)
Voltage: 2-6S (direct, max. 5s recommended)

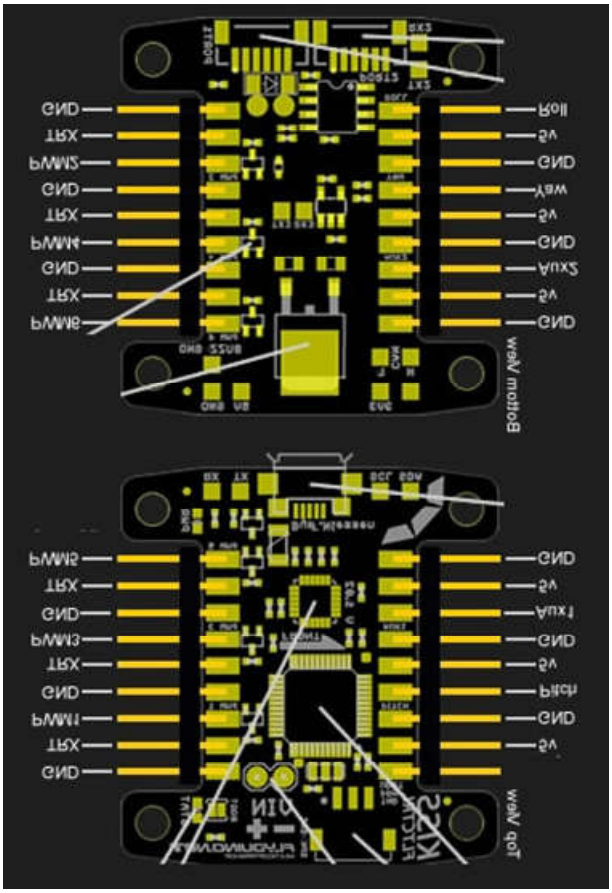
The needed USB driver usually will be installed when you connect the FC for the first time.
It may take several minutes before you can use the FC and connect it to the GUI.

Connections

You can find the connection diagram / pinout on the Welcome page of the GUI. **TRX** = Telemetrie In

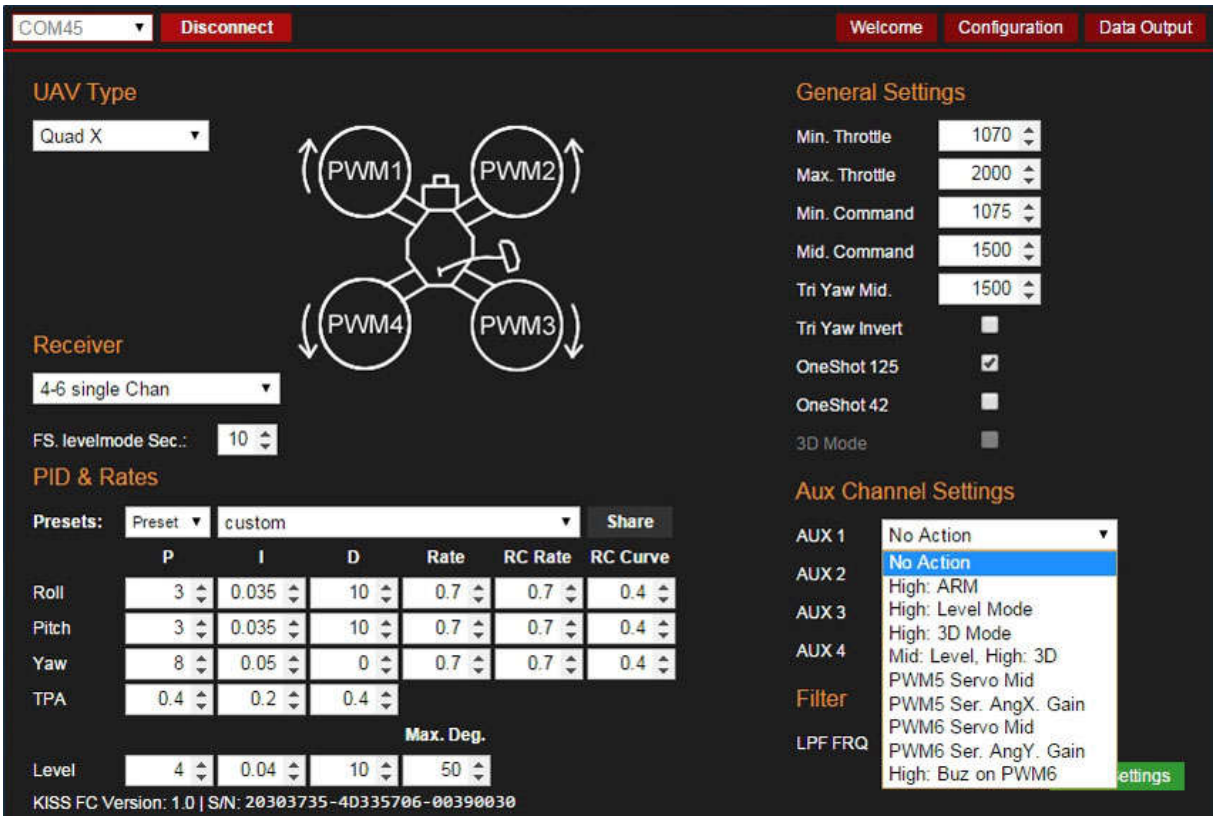


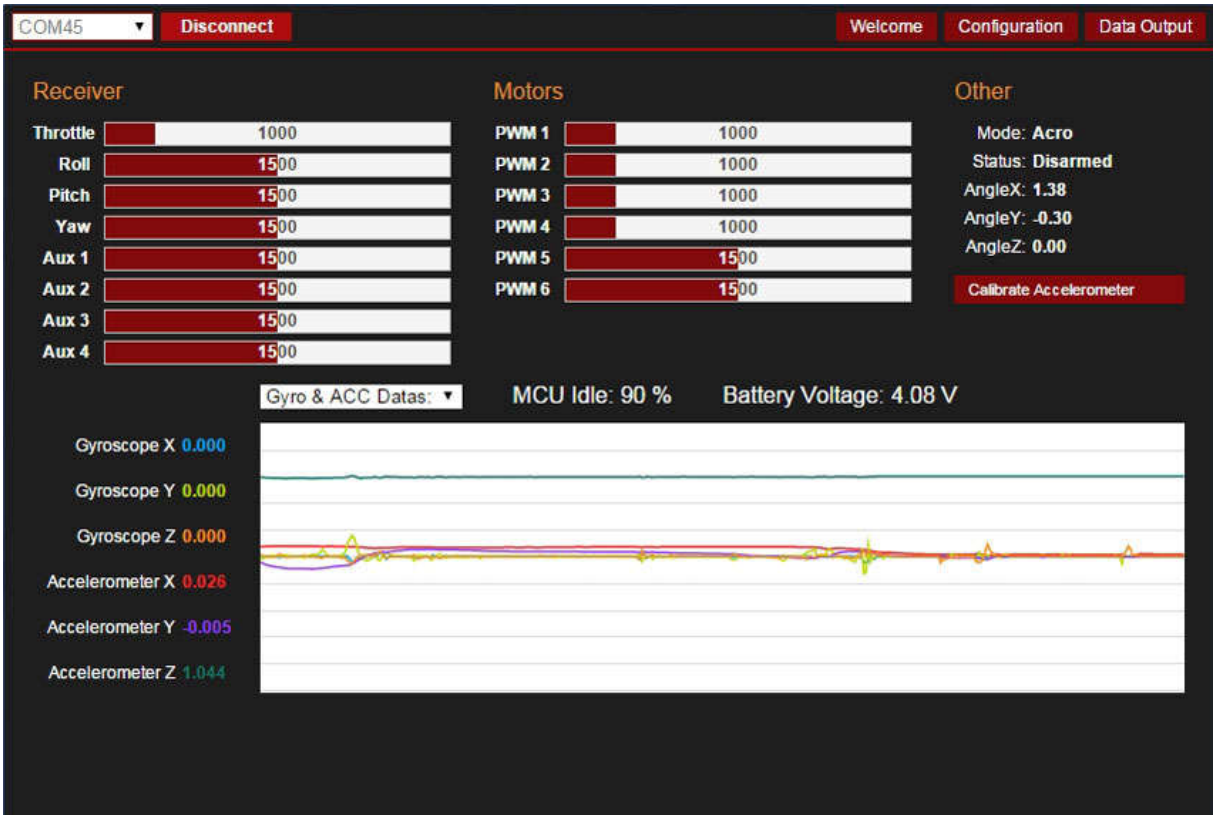
There are 6 PWM outputs for 2-6 Motors or Servos



GUI (Grafical User Interface)

The GUI consists of 3 pages: The „Welcome“ page with all connections, the „Configuration“ page for the settings and „Data Output“ for Sensorgraphs.

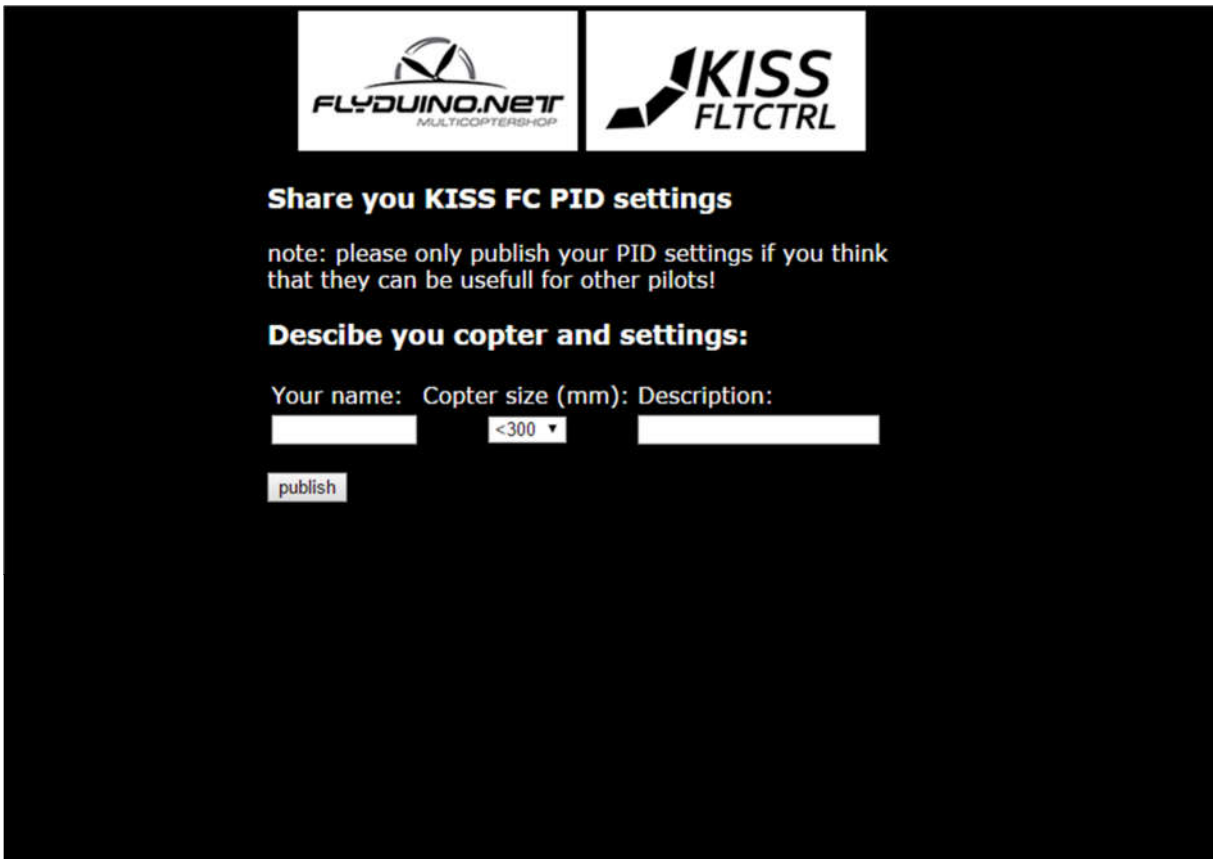




Installation & Setup

Just plug in the FC via Micro USB connection to your PC. Drivers should be installed automatically on WIN7-10.
After the installation is complete, unplug the FC from the USB, plug it in again and hold the FC firm and level for at least 5 seconds!
The green LED will be lit constantly while the blue LED will blink, indicating the Gyro calibration. It will be solid afterwards and go off when the calibration is completed und the FC is ready to go.
Then start the Chrome GUI and select the COM port for the connection. If no port is shown, the driver installation might have failed. Sometimes on first connection, the GUI doesn't switch to the Configuration page. In that case click on „Disconnect" and then on „Connect" again.

The default PIDs should be good enough for a start. However if you want to tune the FC to the max and squeeze the last bit of performance out of it, you will need to fine tune the settings.
A great feature of the GUI is the "Share" button, where you can submit your PIDs with other users. This can be a good starting point for beginners with similar setups. Please don't abuse that function!



The whole Flyduino team wishes you great success and a lot of fun with this new FC!

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