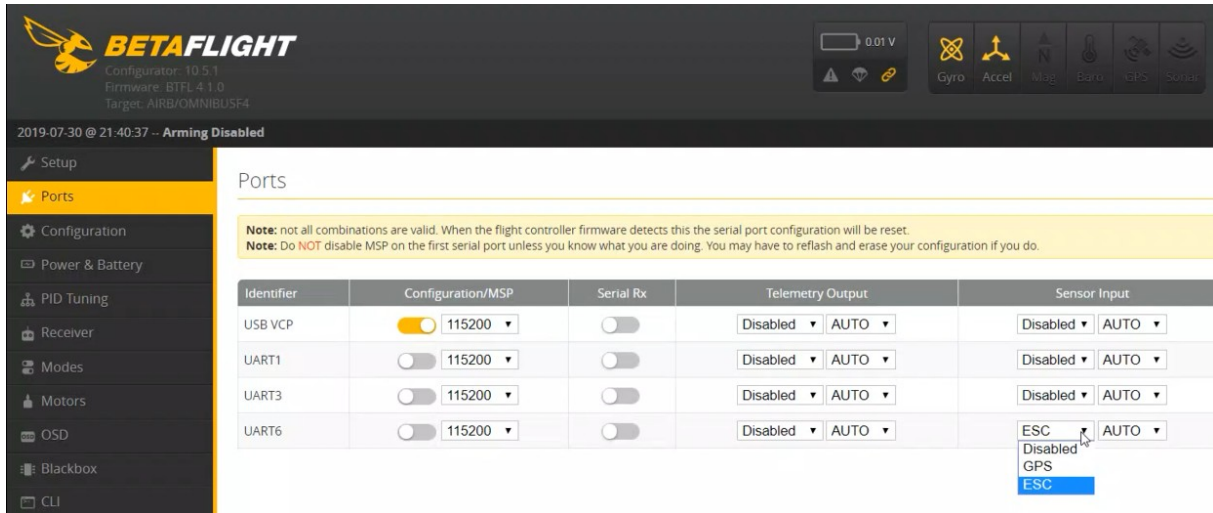


## Step by Step guide for Betaflight Passthrough to FETtec ESC.

### 1. Ports

- ESC TLM has to be connected at the **TX** pad of one UART of your Flightcontroller
- The Sensor Input of the used UART has to be set to „ESC“



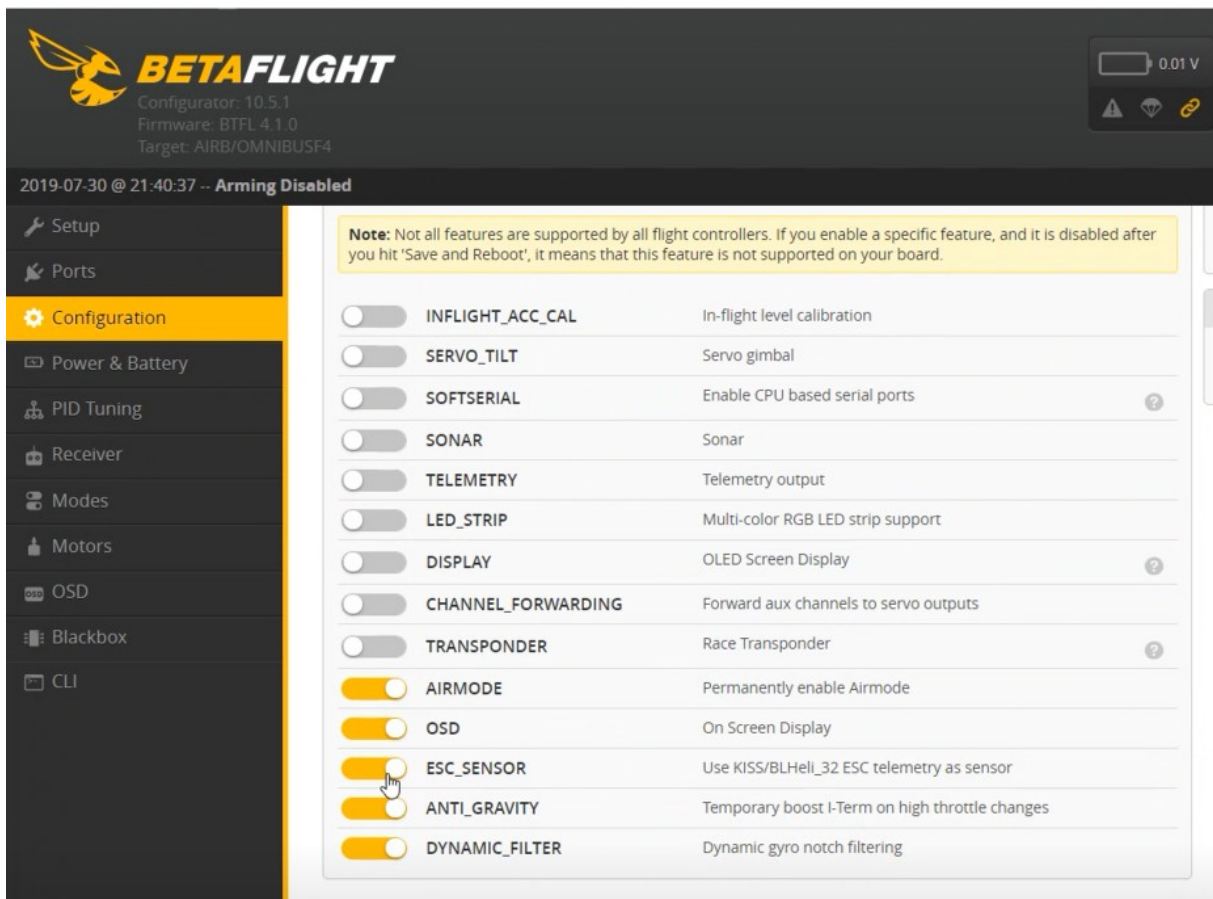
The screenshot shows the Betaflight Configurator interface with the 'Ports' tab selected. A note at the top states: 'Note: not all combinations are valid. When the flight controller firmware detects this the serial port configuration will be reset. Note: Do NOT disable MSP on the first serial port unless you know what you are doing. You may have to reflash and erase your configuration if you do.'

Identifier	Configuration/MSP	Serial Rx	Telemetry Output	Sensor Input
USB VCP	<input checked="" type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO
UART1	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO
UART3	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO
UART6	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	ESC   AUTO

The 'Sensor Input' dropdown for UART6 is open, showing options: ESC, Disabled, GPS, and ESC (highlighted).

### 2. Configuration

- Activate ESC Sensor.



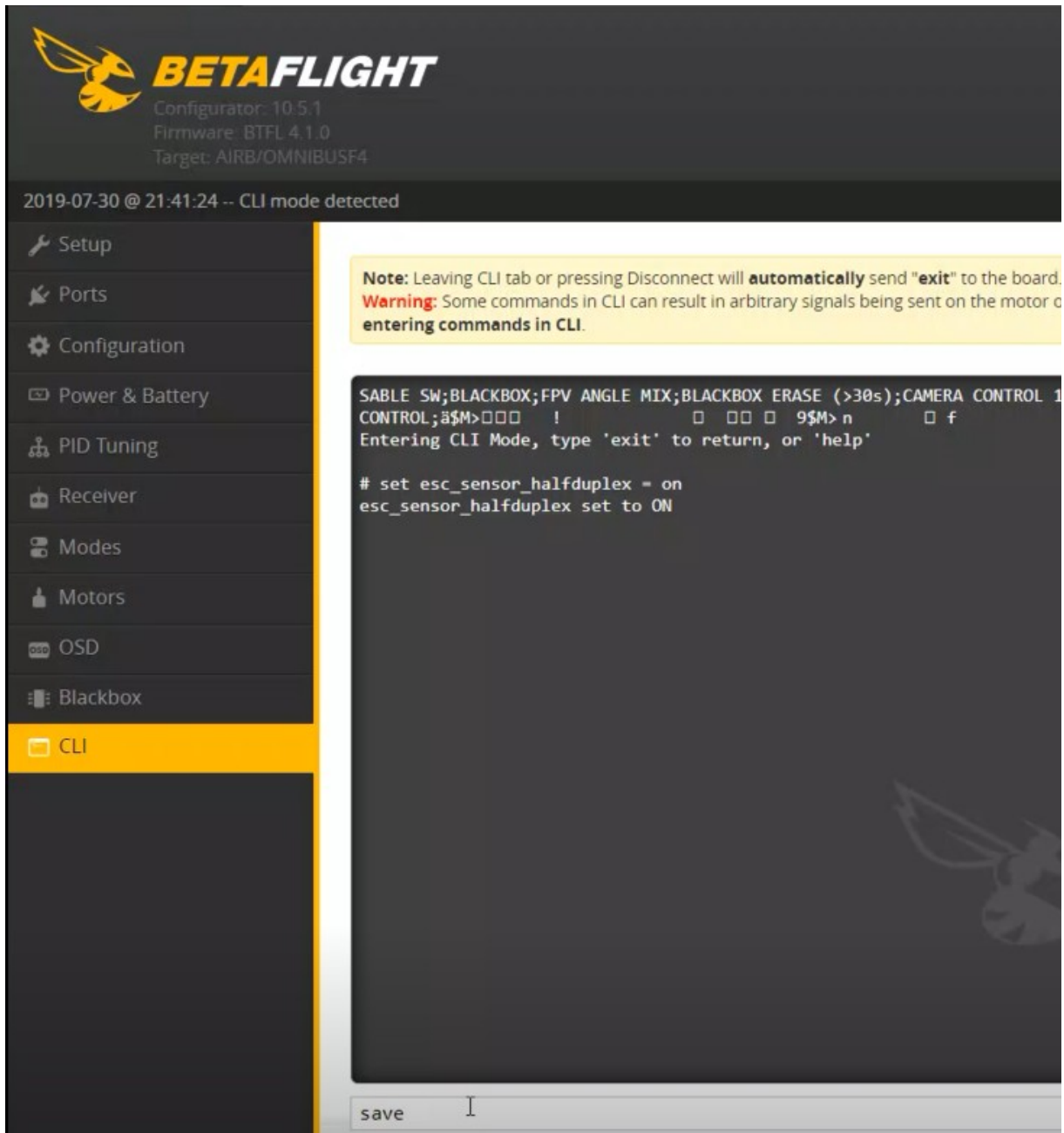
The screenshot shows the Betaflight Configurator interface with the 'Configuration' tab selected. A note at the top states: 'Note: Not all features are supported by all flight controllers. If you enable a specific feature, and it is disabled after you hit 'Save and Reboot', it means that this feature is not supported on your board.'

<input type="checkbox"/>	INFLIGHT_ACC_CAL	In-flight level calibration
<input type="checkbox"/>	SERVO_TILT	Servo gimbal
<input type="checkbox"/>	SOFTSERIAL	Enable CPU based serial ports
<input type="checkbox"/>	SONAR	Sonar
<input type="checkbox"/>	TELEMETRY	Telemetry output
<input type="checkbox"/>	LED_STRIP	Multi-color RGB LED strip support
<input type="checkbox"/>	DISPLAY	OLED Screen Display
<input type="checkbox"/>	CHANNEL_FORWARDING	Forward aux channels to servo outputs
<input type="checkbox"/>	TRANSPONDER	Race Transponder
<input checked="" type="checkbox"/>	AIRMODE	Permanently enable Airmode
<input checked="" type="checkbox"/>	OSD	On Screen Display
<input checked="" type="checkbox"/>	ESC_SENSOR	Use KISS/BLHeli_32 ESC telemetry as sensor
<input checked="" type="checkbox"/>	ANTI_GRAVITY	Temporary boost I-Term on high throttle changes
<input checked="" type="checkbox"/>	DYNAMIC_FILTER	Dynamic gyro notch filtering

The 'ESC\_SENSOR' toggle is highlighted with a mouse cursor.

### 3. CLI

- Command: `set esc_sensor_halfduplex = on`
- Command: `save`



The screenshot shows the Betaflight configurator interface in CLI mode. The top header displays the Betaflight logo and version information: Configurator: 10.5.1, Firmware: BTFL 4.1.0, Target: AIRB/OMNIBUSF4. Below this, a timestamp reads "2019-07-30 @ 21:41:24 -- CLI mode detected". A left-hand sidebar contains a menu of configuration options, with "CLI" highlighted in yellow. The main area features a yellow warning box: "Note: Leaving CLI tab or pressing Disconnect will automatically send 'exit' to the board. Warning: Some commands in CLI can result in arbitrary signals being sent on the motor outputs. Be careful when entering commands in CLI." Below the warning is a terminal window showing the following text: "SABLE SW;BLACKBOX;FPV ANGLE MIX;BLACKBOX ERASE (>30s);CAMERA CONTROL 1 CONTROL;ã\$M>□□□ ! □ □ □ 9\$M>n □ f Entering CLI Mode, type 'exit' to return, or 'help'". The terminal also shows the command "# set esc\_sensor\_halfduplex = on" and its output "esc\_sensor\_halfduplex set to ON". At the bottom of the terminal, the word "save" is entered, followed by a cursor.

#### 4. FETtec Configurator

Remove Propeller and supply power to ESC + FC (current limiting via smoke-stopper is advised)

Chose Betaflight Passthrough, your correct COM Port and click Connect.

The GUI should report the following message (the Port numbers can be different) and click **Continue**.

