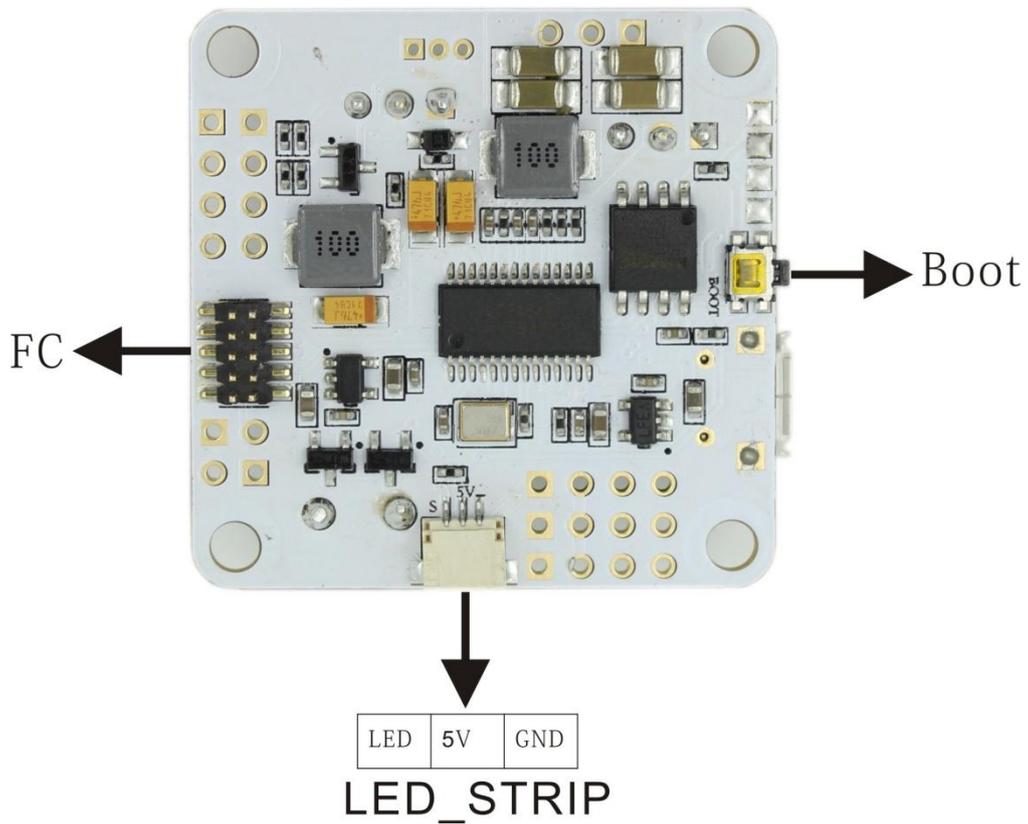
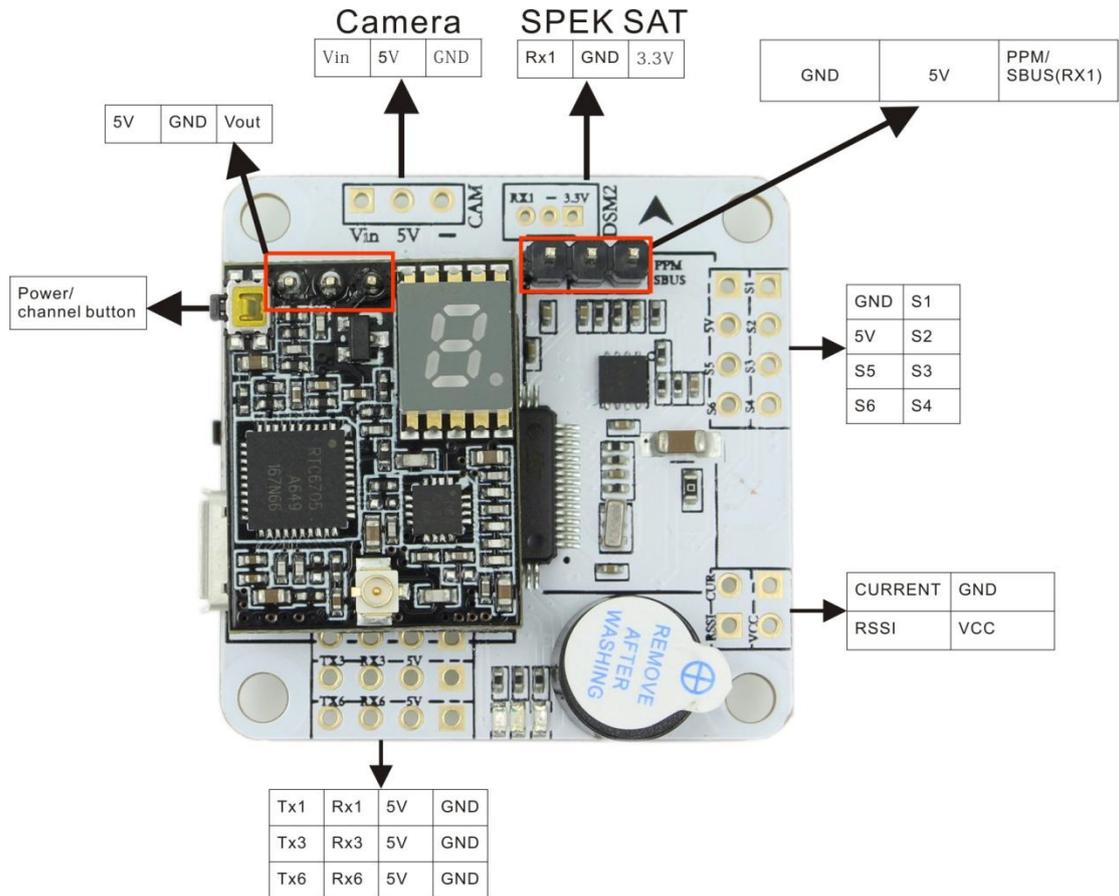
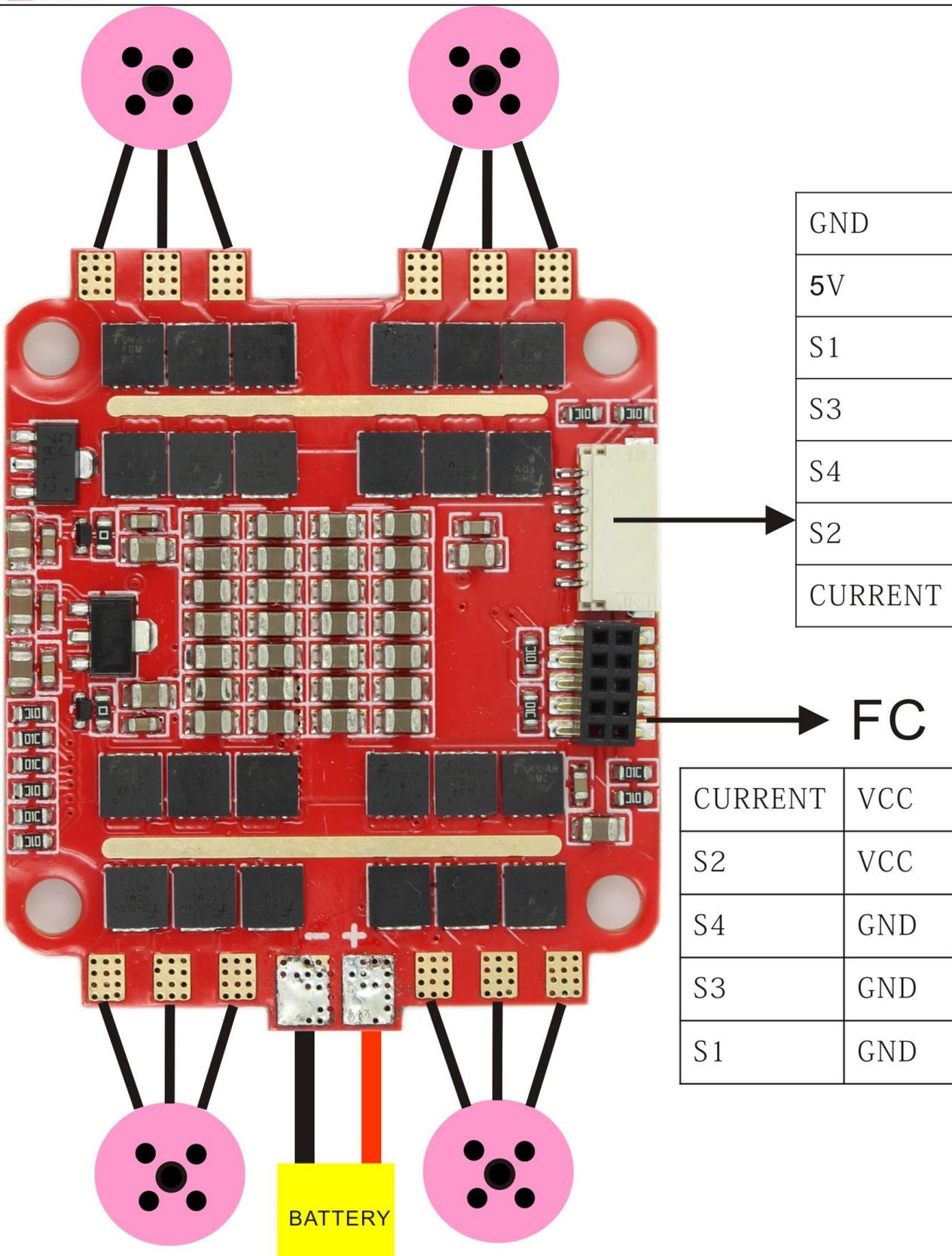


F4 Magnum Manual - V1.0

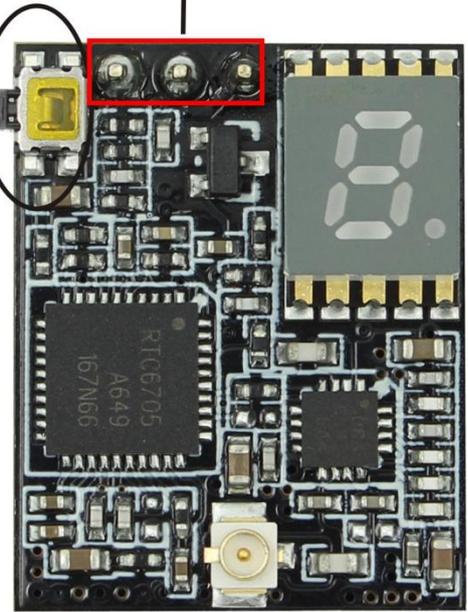
(OMNIBUSF4 Firmware)





Note: Please be careful when soldering battery lead to prevent short circuit!

Power / Channel Button



1. Select Power

Long press the button for 10 seconds to switch high / low power at any time. When the selected power is 200mW, the LED dot "." will be on, when the selected power is 25mW, the LED dot "." will be off.

2. Select channel / frequency group

1) Select frequency group -- long press the button for 2 seconds to enter frequency group selection, and then short press the button to select a F,R,A,B,E or H frequency group. Long press for 2 seconds to exit frequency group selection.

2) Select channel -- When it is out of frequency group selection, please short press to select the 1-8 channels within the selected frequency group.

3) Frequency group and channels are switched and shown on digital display, changes by every 2 seconds.

FR \ CH	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8	
F	5740	5760	5780	5800	5820	5840	5860	5880	MHz
R	5658	5695	5732	5769	5806	5843	5880	5917	MHz
A	5865	5845	5825	5805	5785	5765	5745	5725	MHz
B	5733	5752	5771	5790	5809	5828	5847	5866	MHz
E	5705	5685	5665	5645	5885	5905	5925	5845	MHz
H	5362	5399	5436	5473	5510	5547	5584	5621	MHz

Features

Flight controller (OMNIBUSF4 Firmware)

- STM32F405 MCU
- MPU6000 accelerometer/gyro (connected via SPI)
- On-board OSD
- On-board Buzzer
- Integrated 5V/3A BEC
- Integrated LC Filter
- Dedicated PPM/ Sbus receiver input
- On-board high-capacity black box flight log recorder

ESC

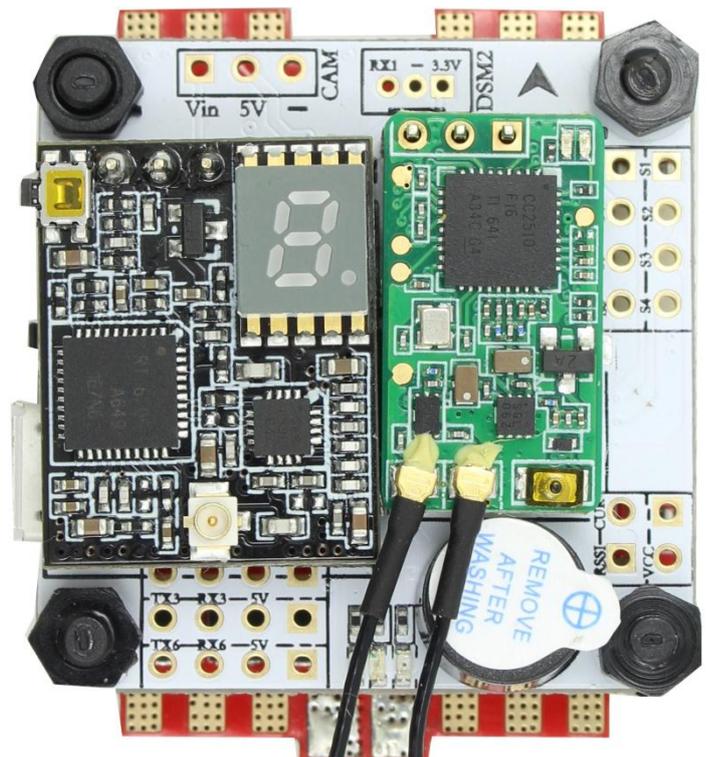
- Continuous current 30A
- Supply voltage 2-4S Lipo
- EFM8BB21F16G MCU
- BLHeli-S firmware, support DSHOT, MULTISHOT, ONESHOT125
- Top quality MOSFET
- 3oz high TG PCB board
- On-board current sensor

VTX

- Frequency band: 5362-5945MHz
- Channel: 48
- Transmit power: 13dBm/23dBm (25mW/200mW)
- Supply voltage: 4.5V-5.5V
- Antenna port : 50Ω

Receiver XM+

- Dimension: 21.5*12*2.3mm (LxWxH)
- Weight: 1.6g
- Number of Channels: Up to 16CH from SBUS (CH1~CH15 for PWM, CH16 RSSI for FC)
- Operating Voltage Range: 3.7~10V
- Operating Current: 30mA@5V
- Operating Range: Full range
- With RSSI output on board: Analog 0~3.3V
- Firmware upgradeable
- Compatibility: Frsky D16 mode



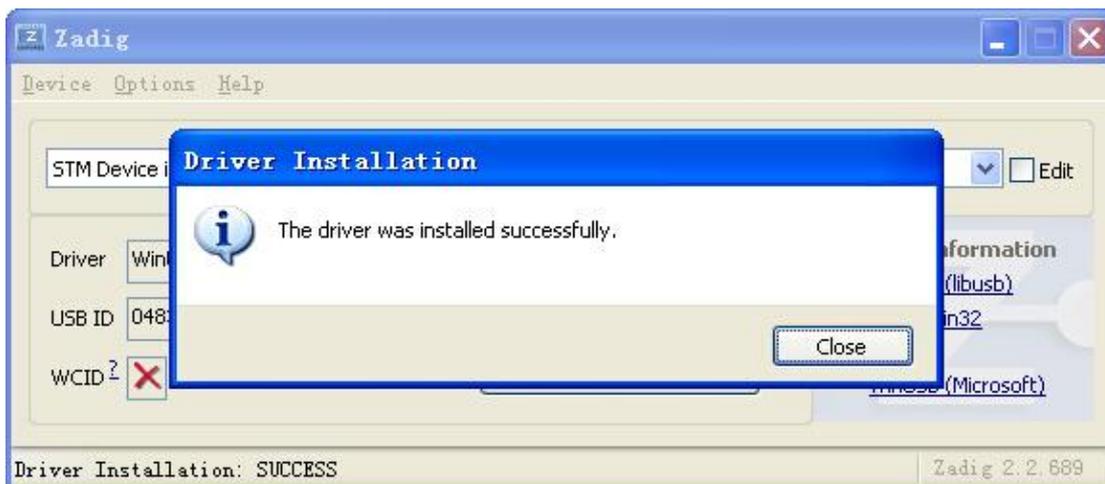
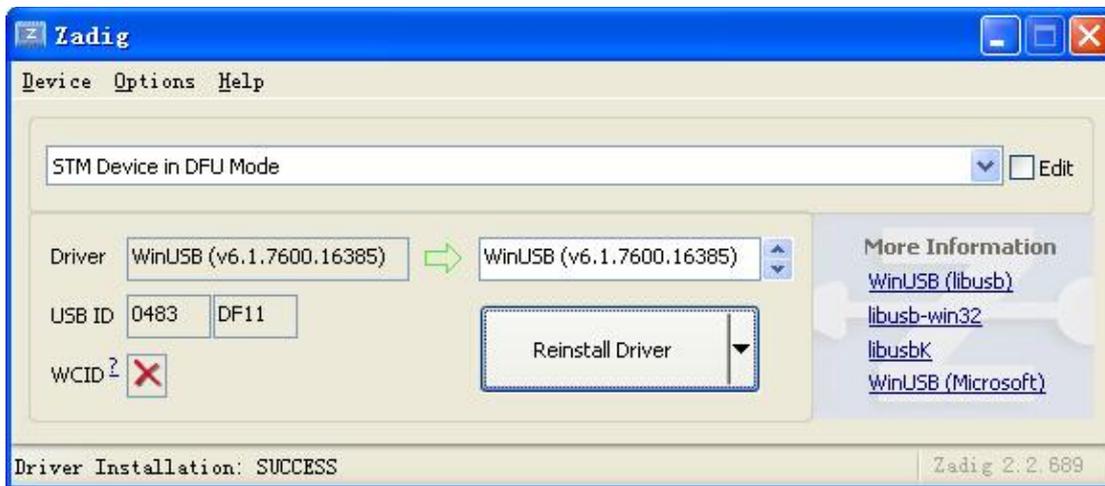
Via Device Firmware Upload (DFU, USB) -windows

Required Software:

- A OMNIBUSF4.hex file (for flashing).
- Zadig USB driver installation -> <http://zadig.akeo.ie/>
- Betaflight Configurator

Flashing steps:

- Place the board into DFU mode by shorting out (soldering or screwdriver) the boot pins on top of the board .Your device will be detected as a STM Device in DFU mode (or STM BOOTLOADER).
- Load up Zadig USB driver and select the STM DFU or STM BOOTLOADER device (if it is not listed please confirm step 1, and / or select "Options / View All Devices" in the Zadig menu. Install the WinUSB driver.



Virtual Communications Port

The F4 Magnum utilises the STM32 Virtual Com Port (VCP). This allows the UARTs on board to be utilised whilst the USB is connected. This requires the STM VCP driver to be installed in order for the VCP to be recognised.

The STM32 VCP driver can be downloaded here --> <http://www.st.com/web/en/catalog/tools/PF257938>

NOTE: Once you download and run the installation it has **not** installed the driver, merely unpacked the choice of drivers. Locate the installation directory and then run the EXE file pertaining to your system.

e.g. C:\Program Files (x86)\STMicroelectronics\Software\Virtual comport driver\Win8\ <- will have two files present. One for 64 bit systems and one for 32 bit systems.

• Betaflight Configurator

The screenshot shows the Betaflight Configurator 3.1.1 interface. Key elements include:

- Top Bar:** Board name (OMNIBUSF4), firmware version (3.1.7), and a 'Connect' button.
- Left Sidebar:** Navigation menu with 'Firmware Flasher' selected.
- Main Configuration Area:** Settings for board, firmware, and flashing options. A red box highlights the 'Manual baud rate' set to 256000.
- Warning Section:** A red banner with important flashing instructions.
- Recovery Section:** A yellow banner with steps to restore communication if flashing fails.
- Bottom Buttons:** 'Flash Firmware', 'Load Firmware [Online]', and 'Load Firmware [Local]'.
- Status Bar:** Shows system metrics like 'Port utilization: 0%', 'Packet error: 0', and 'Cycle Time: 0'.