Ares F7

FPV RACE FLIGHT CONTROLLER

Quick Reference Manual

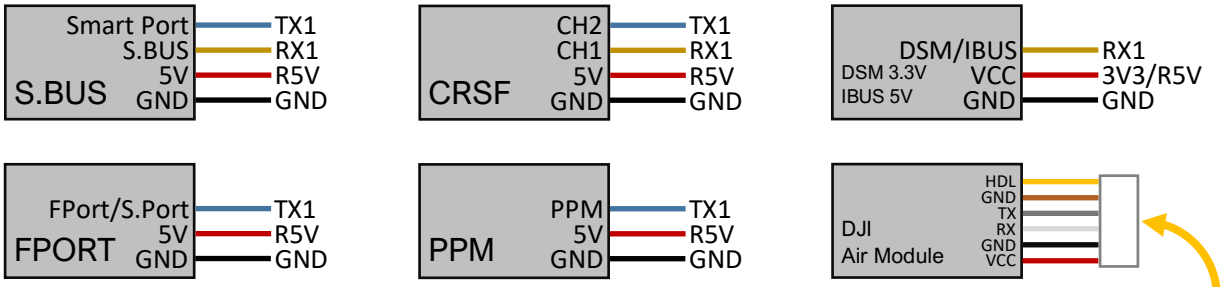
Features

- STM32F722 Cotex-M7 MCU 216MHz with 512KB Flash
- ICM20602 6-axis Gyro & Accelerometer
- BMP280 Barometer
- SLC NAND SPI FLASH 128MB
- Built-in OSD
- Full dc-dc power rails 3.3V/0.5A, 5V/2A and 9V/1.5A
- Core 5V & USB power rails with advanced power mux function
- 9V power on/off can be controlled by transmitter
- Exclusive connector for Ares 60A 4IN1 ESC and DJI FPV Air Unit Module
- 4 default ESC signal channels and up to 6
- 5 UART serial ports
- Cam control rc filter circuit compatible with most cameras
- Dimensions 37x37mm and mounting hole 30.5x30.5mm
- Voltage 3~4S (DJI air module used) or 3~8S

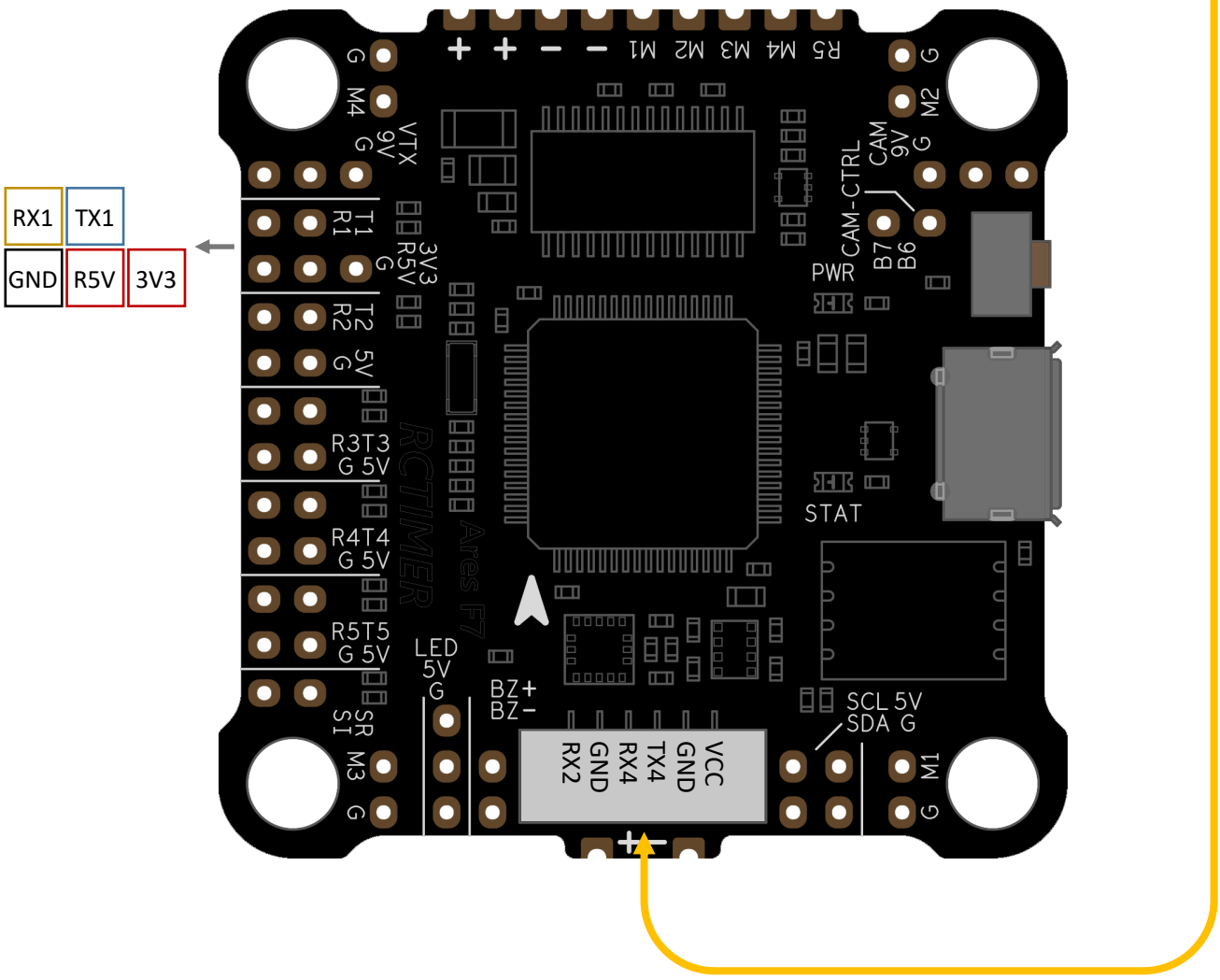
Wiring Diagram

Receiver

- Only the R5V pad can be powered via USB. To ensure easy debugging when the battery is not connected, the 5V wire of receiver must be connected to R5V instead of other 5V pads.
- Please follow the diagram on this page to connect the desired type of receiver.



Exclusive cable in package

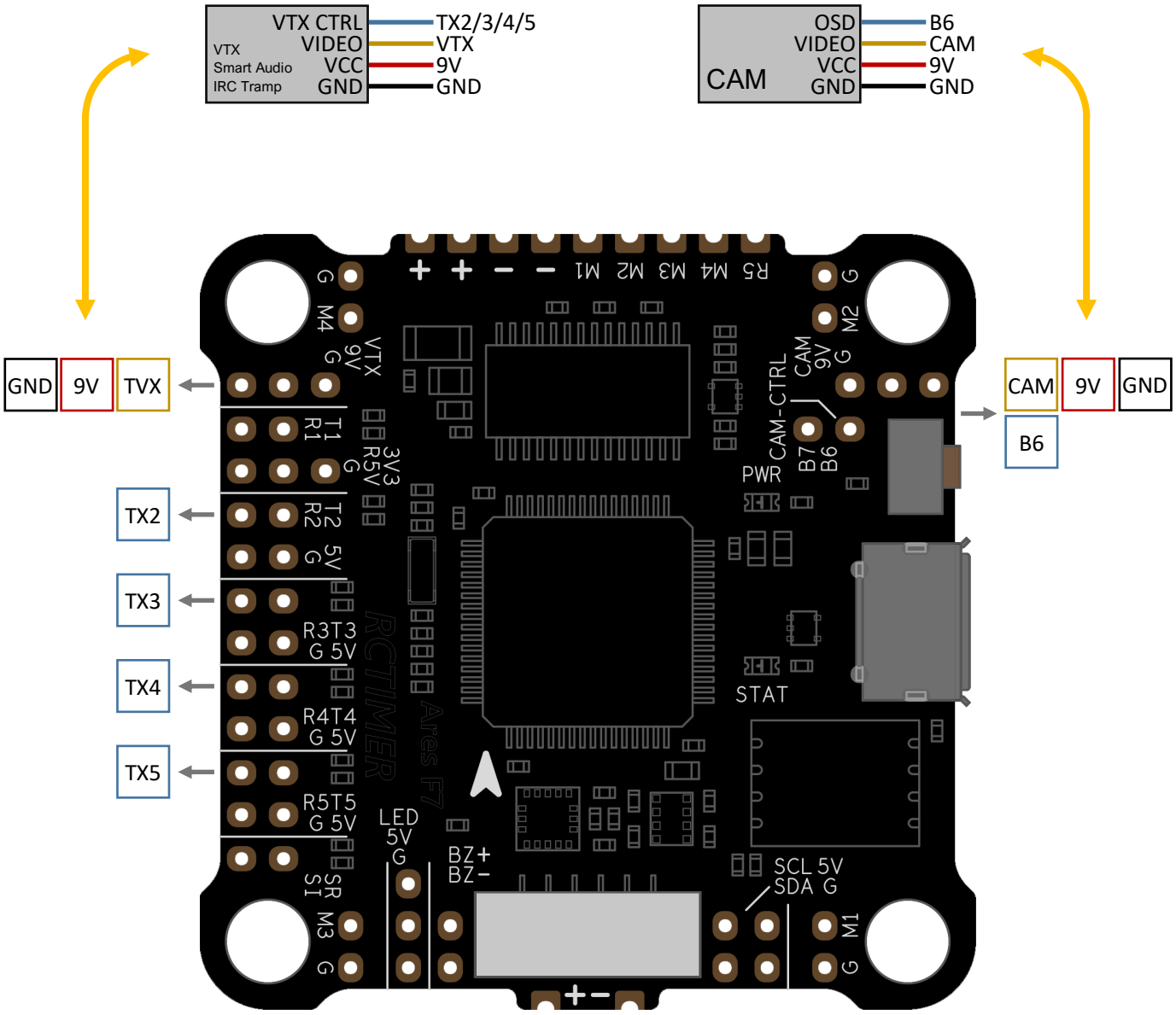


TOP VIEW

Wiring Diagram

Camera & Video TX Module

- Most CAMs and VTXs supports a wide voltage range. For better low-pass filtering performance, please connect their power wires to the 9V pads.
- The 9V remains ON in the initial state, it can be controlled ON/OFF by a PINIO function through the user1 mode switch.

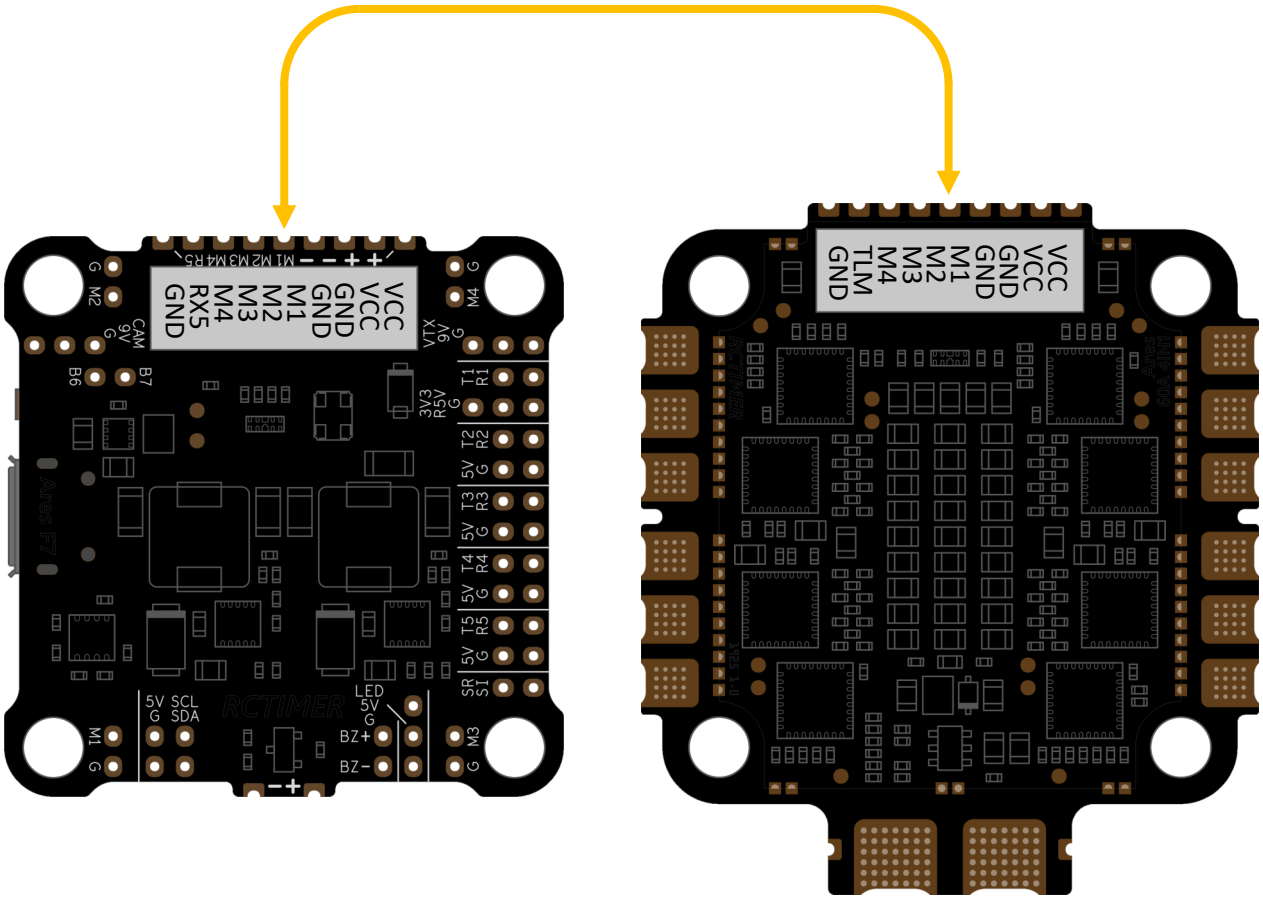


TOP VIEW

Wiring Diagram

ESC - Ares 4IN1 ESC

- An exclusive 10p cable for the ESC included in the package use to connect the two white connectors on the back of them in front. In this case, It is not necessary to use the rear half-hole pads to supply power.
- The telemetry output wire is connected to the RX5 by default.
- You can also solder wires to the 9 half-hole pads in their front, but this is not necessary.

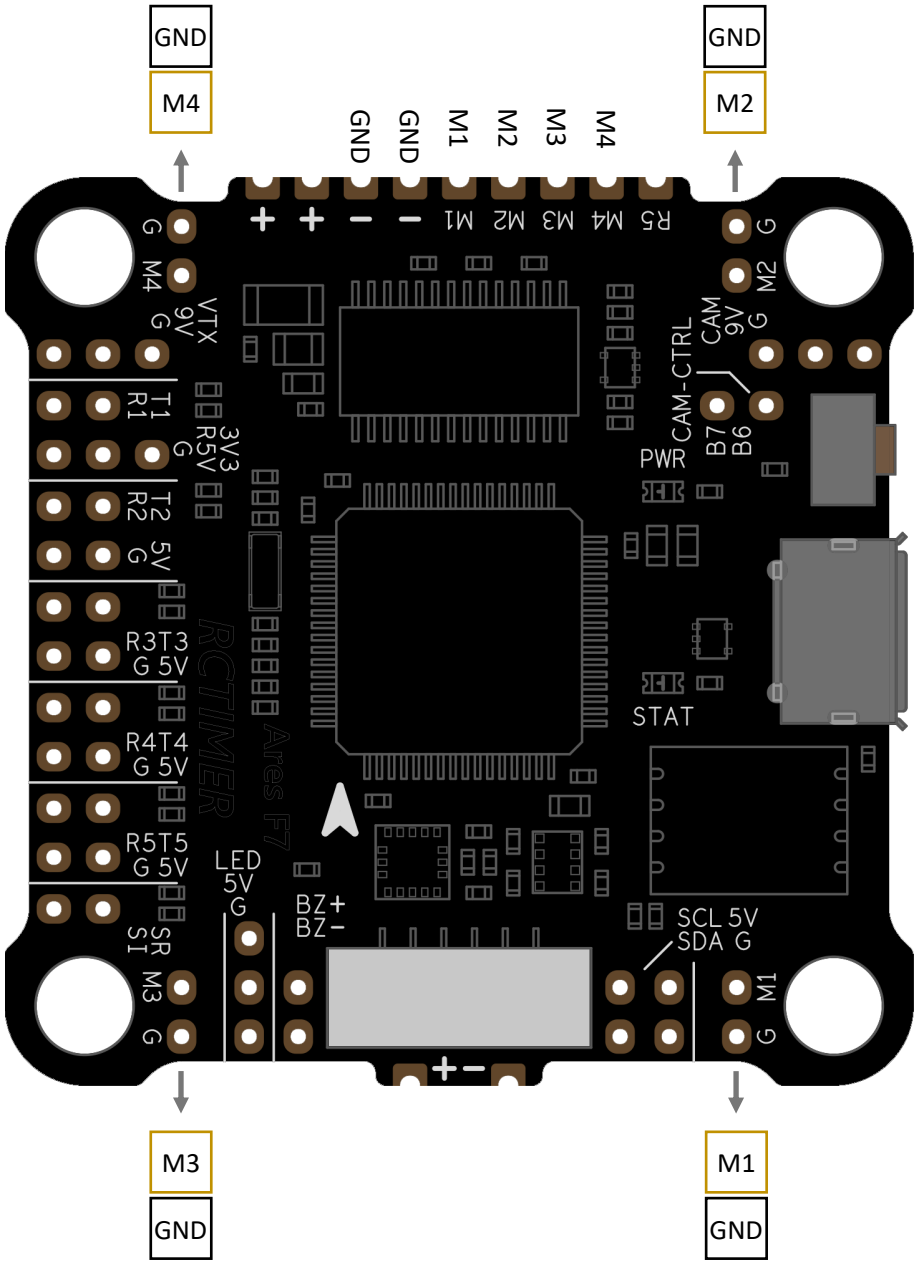


BOTTOM VIEW

Wiring Diagram

ESC - other ESCs

- Separate ESC
  - The ESC signal pads in the four corners are the same with the front half-hole pads.
- 4IN1 ESC
  - A 10p single plug cable included in the package use to connect 4IN1 ESC to the white connector on the back of FC in front. Refer to the previous page for connector location.



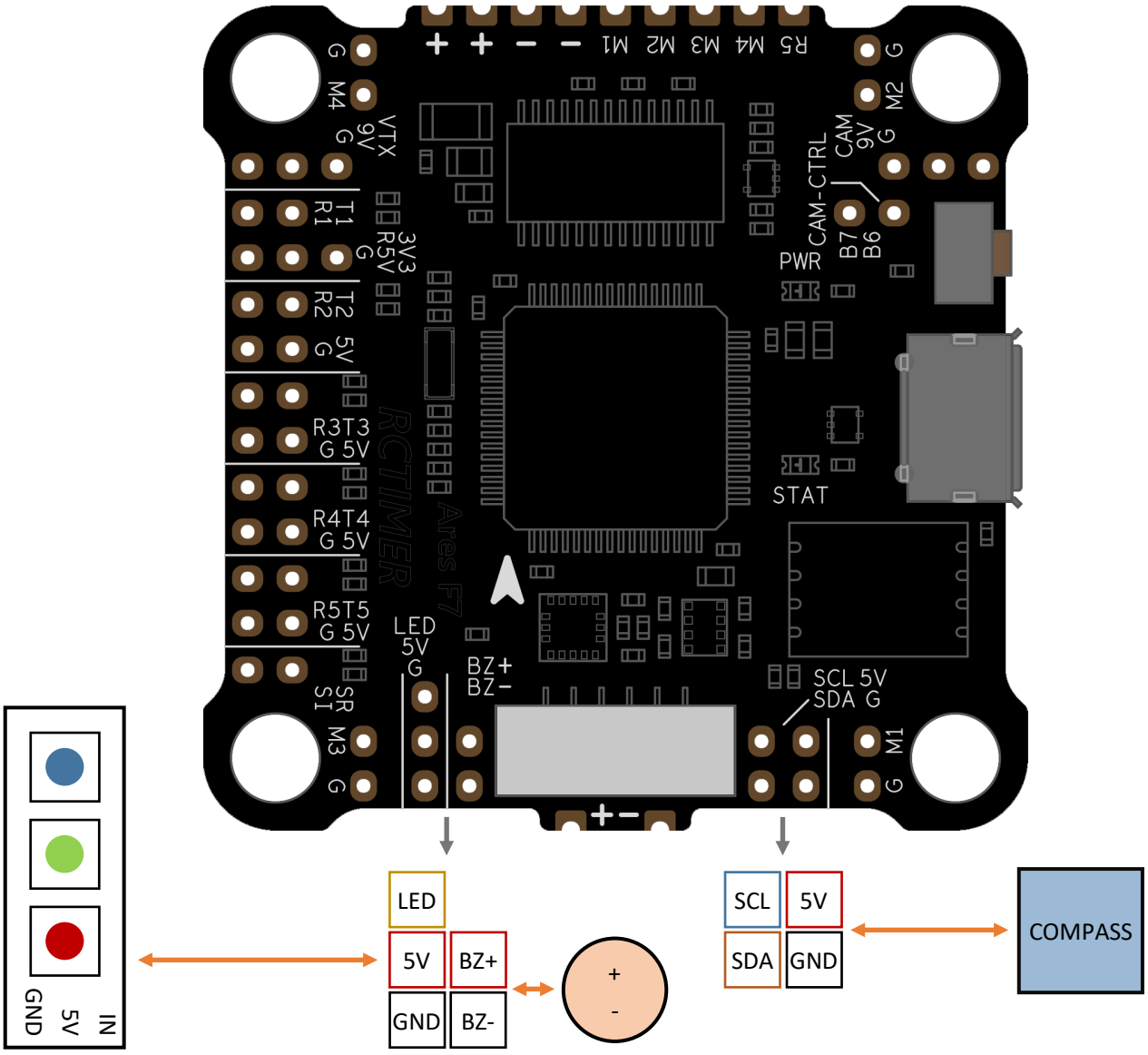
TOP VIEW

Wiring Diagram

LED strips , Buzzer and Compass

- The IN pad of the LED strips needs to be connected to the LED output pad of the FC.
- Use a 5V active buzzer to connect to the BZ + and BZ- pads and be careful not to reverse them.

  BZ + means output 5V voltage.

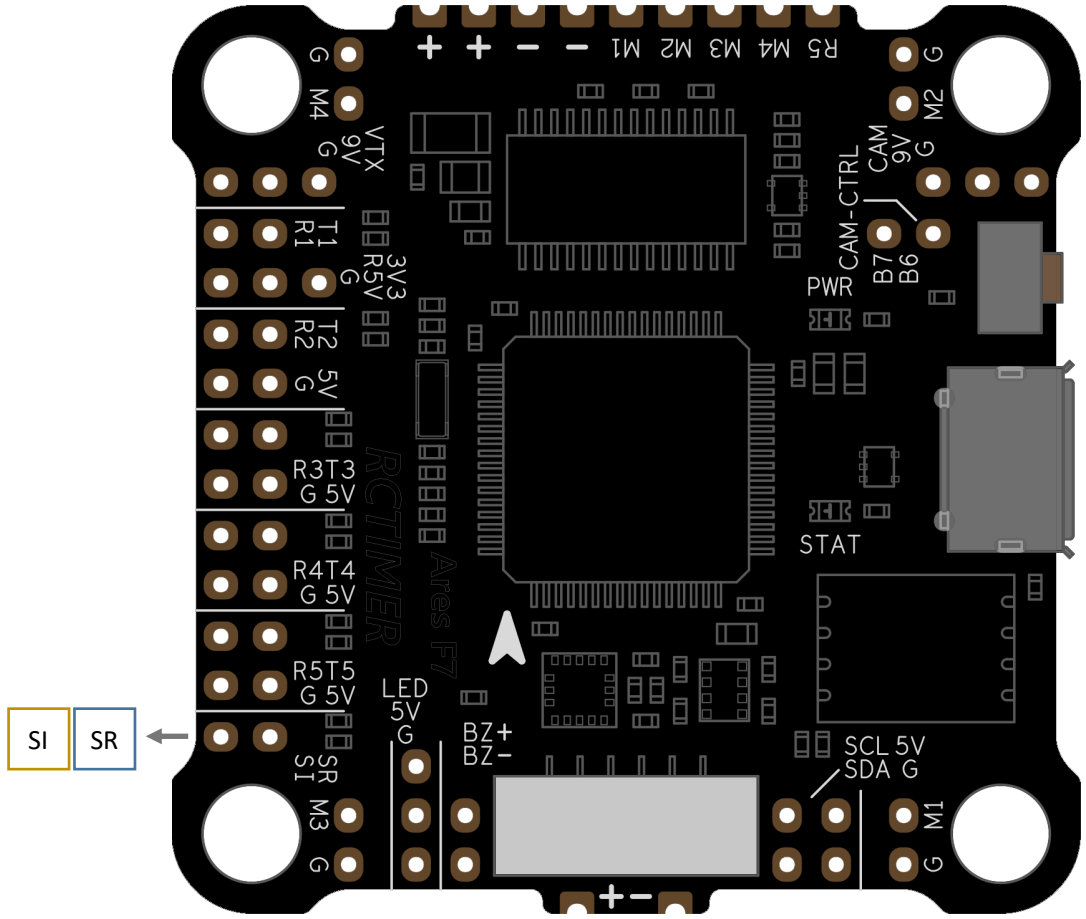


TOP VIEW

Wiring Diagram

RSSI, current and voltage sensor

- The RSSI pad mark SR compatible analog signal.
- The current sensor that needs to be used must first know its output ratio and the signal wire is connected to the SI pad. The default ratio of Ares F7 is 366.
- Ares F7 is powered directly by the battery so it does not have a signal input pad. The onboard voltage divider is configured to 110.

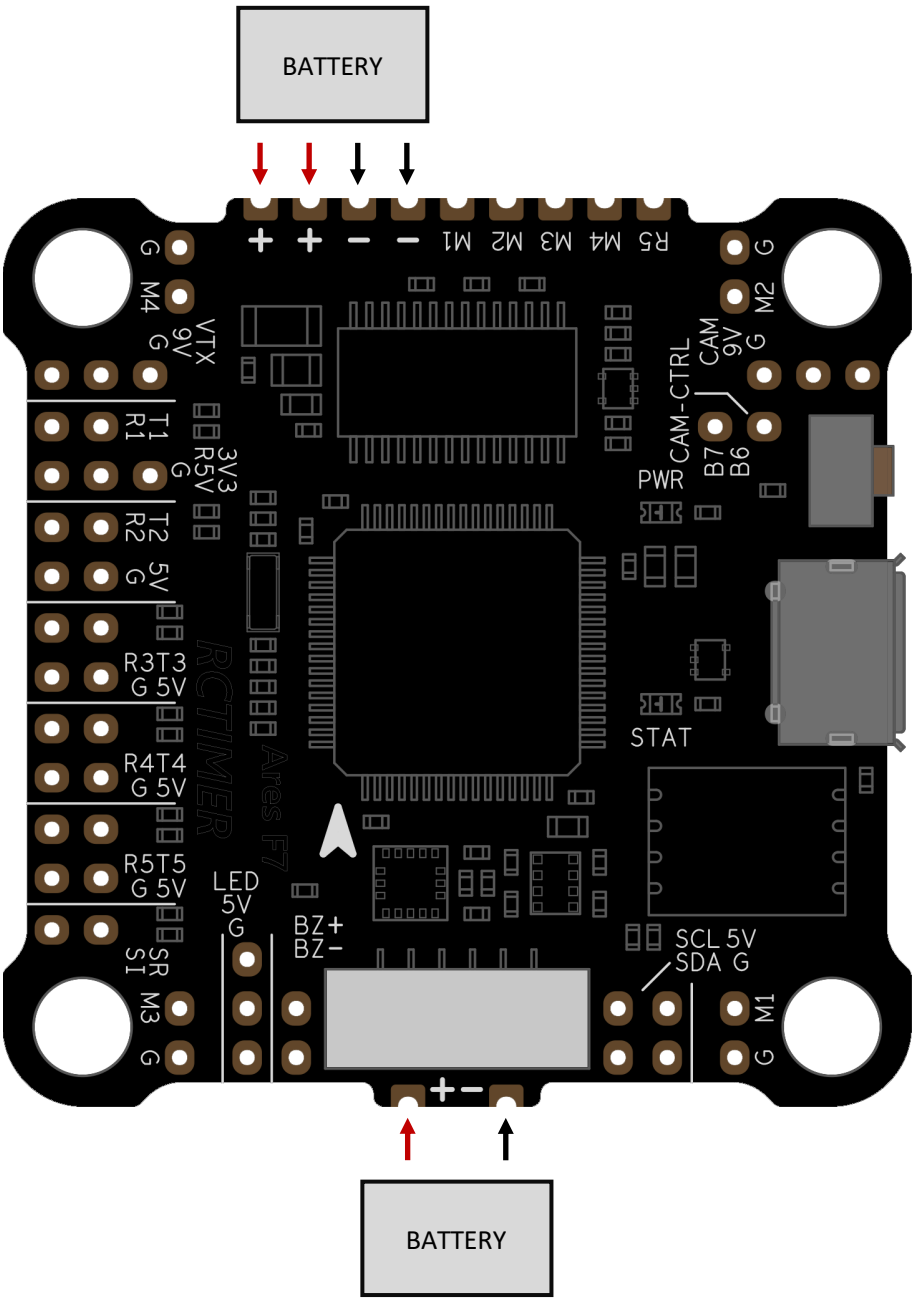


TOP VIEW

Wiring Diagram

Power supply

- Ares F7 supports 8 ~ 40V direct input voltage, due to the limitation of DJI Air module and the stability of BEC output voltage, 3 ~ 4 cells is usually recommended.
- Ares F7 has 3 pairs of power and ground pads onboard, In the case of using Ares 4IN1 ESC in combination, the rear pads do not need to be connected.
- Only R5V pads can provide 5V to power a receiver with only USB power supply.



TOP VIEW