

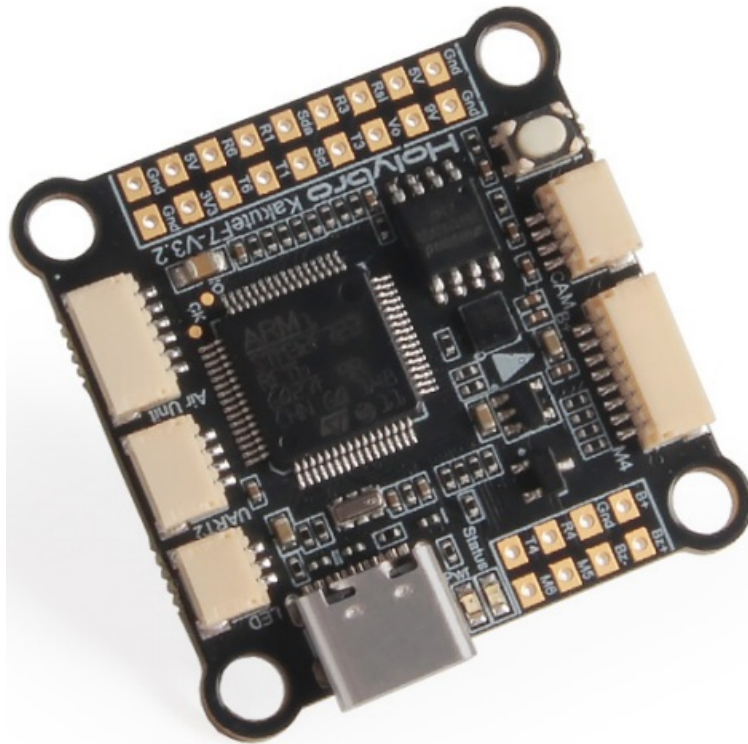
Holybro F722 Kakute Flight Controller User Manual



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Kakute F722 Manual



Overview

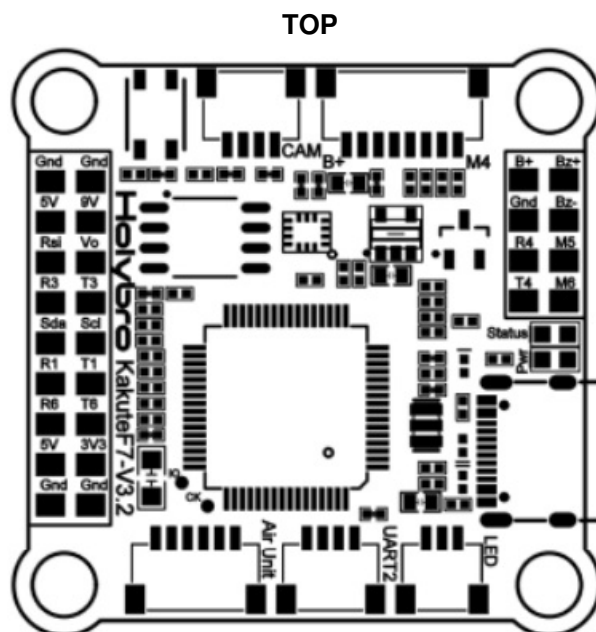
- High-performance STM32 F722 MCU with speeds up to 216MHz.
- ICM42688P gyroscope, independent low-noise power supply.
- Various Ports for quick & easy setup: ESC port, Digital VTX port, Analog VTX port, Receiver port, and LED port.
- Built-in analog video OSD, 16 Mbytes black box,
- High power synchronous rectifier BEC, supports up to 8S input and provides stable 9V/3A & 5V/2A output.

Specifications

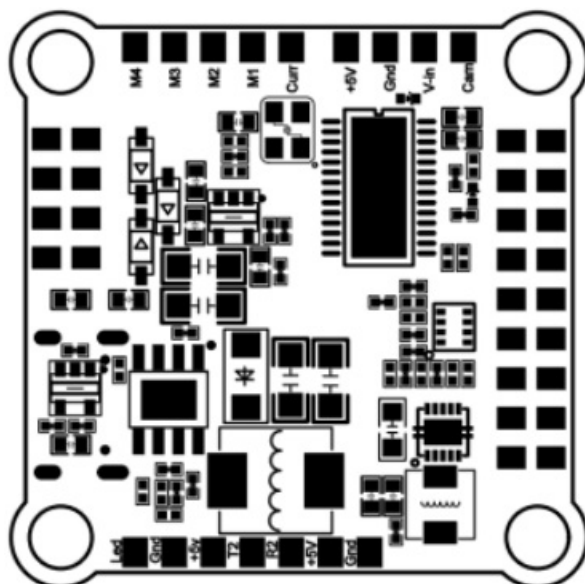
- MCU: STM32F722 32-bit processor, 216MHz, 256Kbytes RAM, 512Kbytes Flash
- IMU: ICM42688-P (SPI)
- Barometer: BMP280
- OSD – AT7456E
- 5x hardware UARTS (UART1,2,3,4,6)
- 7x PWM Outputs (6 Motor Output, 1 LED)
- Onboard 16 Mbytes for Blackbox logging
- Battery input voltage: 3S – 8S
- BEC: 9V/3A, 5V/2A, 3.3V/0.2A
- Connector
 - o 2x JST-SH 8pin port for ESC
 - o 1x JST-SH 6pin port for HD VTX
 - o 2x JST-SH 4pin port for Receiver & Analog Camera
 - o 1x JST-SH 3pin port for LED
- USB Type -C
- Dimensions: 35x35mm
- Mounting Holes: Standard 30.5 x 30.5
- Weight: 8g
- Target
 - o Betaflight Target: KAKUTEF7MINIV3
 - o INAV Target: KAKUTEF7MINIV3

Pinout Diagram

Top of board



BOTTOM

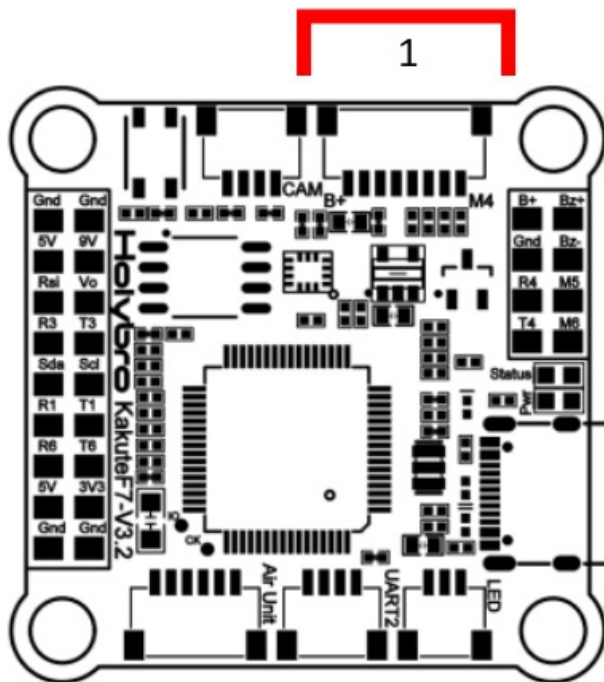


Pin	Function
9v	9v output (2.0A max)
5v	5v output (2.0A max)
Vo	Video output to video transmitter
Vin	Video input from FPV camera
G	Ground
SDA, SCL	I2 C connection (for peripherals)
R1, T1	UART1 RX and TX
R2, T2	UART2 RX and TX
R3, T3	UART3 RX and TX
R4, T4	UART4 RX and TX
R6, T6	UART6 RX and TX
LED	WS2812 addressable LED signal wire
Bz-	Piezo buzzer negative leg
Bz+	Connect buzzer positive leg to 5v pad
3V3	3.3v output (200 mA max)
M1-M6	Motor signal outputs
Rsi	Analog RSSI (0-3.3v) input from receiver
B+	Battery positive voltage (2S-8S)
Curr	Current Sensor Input
Boot	Bootloader button
CAM	Camera Control

Connect the B+ wire in the plug header to a battery voltage source, such as the battery + pad on your PDB or 4-in-

1 ESC. Your PDB or 4-in-1 ESC may have another vBat pad that is specifically designed for powering an accessory like the Kakute F722. It's simpler to use a dedicated pad or wire, rather than soldering to the main battery + pad.

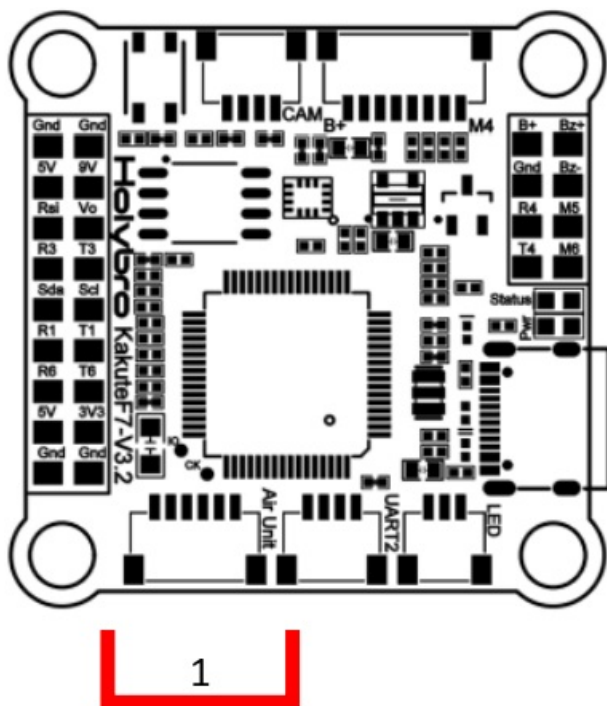
Connect the G wire in the plug header to a Ground source, such as the battery pad on your PDB or 4ni-1 ESC.



1. Pin8→Pin1

Pin8	Battery positive voltage (2S-8S)
Pin7	R4 (for ESC telemetry)
Pin6	Ground
Pin5	Current Sensor Input
Pin4	M1
Pin3	M2
Pin2	M3
Pin1	M4

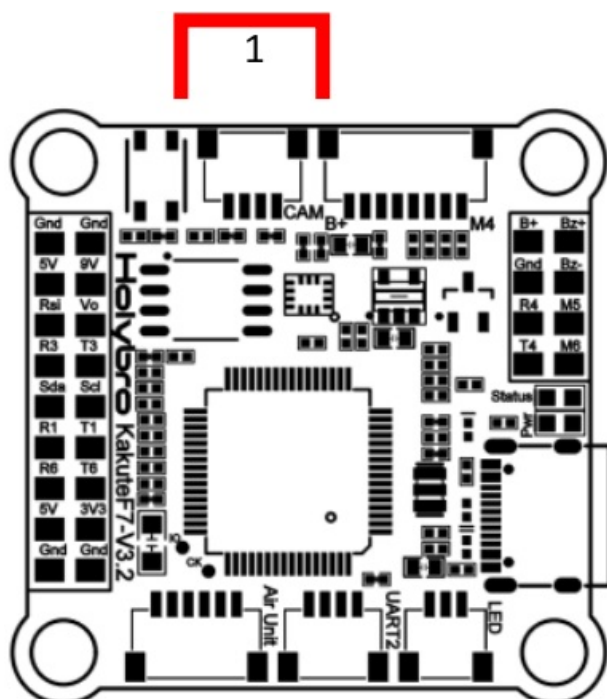
This port is used for external digital image transmission equipment.



1. Pin1→Pin6

Pin1	9V power out (3A)
Pin2	Ground
Pin3	T1
Pin4	R1
Pin5	Ground
Pin6	R6

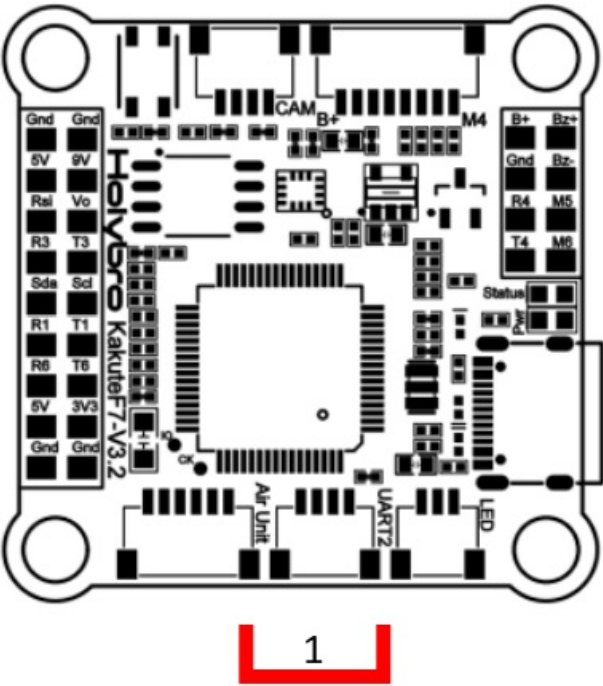
Analog Camera Connector



1. Pin4→Pin1

Pin4	Camera Control pin
Pin3	Video input from FPV camera
Pin2	GND
Pin1	Camera 5v power supply

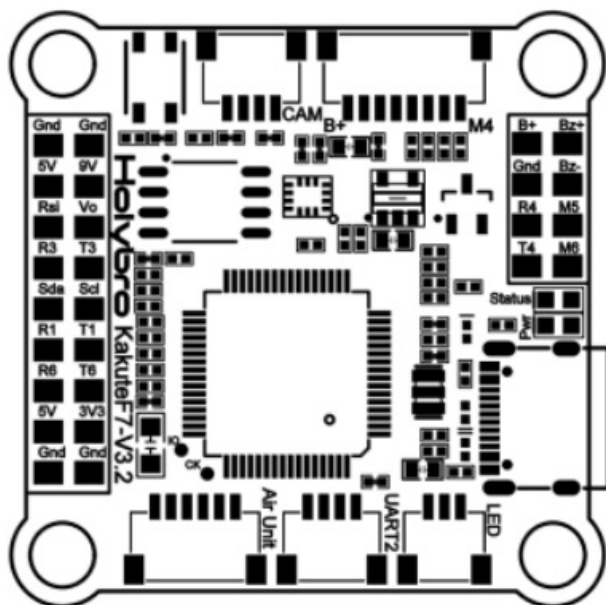
UART2 Connector Receiver



1. Pin1→Pin4

Pin1	GND
Pin2	Receiver 5v power supply
Pin3	UART2 RX
Pin4	UART2 TX

LED Connector




1. Pin1→Pin3

Pin1	GND
Pin2	LED 5v power supply
Pin3	WS2812 addressable LED signal wire



Documents / Resources

	Holybro F722 Kakute Flight Controller [pdf] User Manual F722 Kakute Flight Controller, F722, Kakute Flight Controller, Flight Controller, Controller
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References

- [User Manual](#)