FC Pilotix H743-WING V3 Advanced

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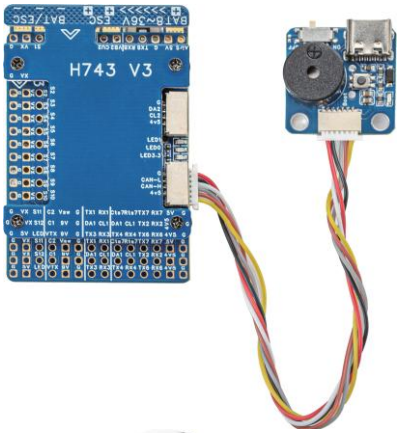
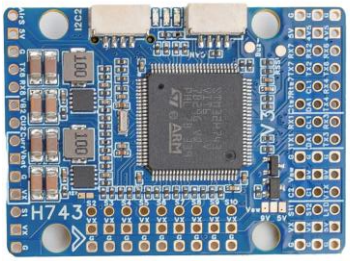
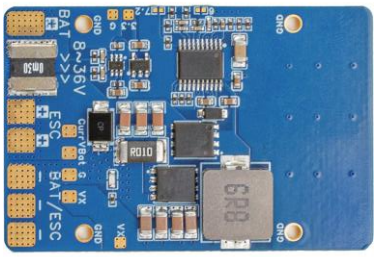
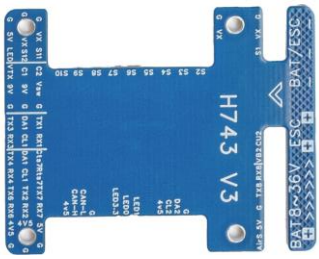








Product	
Name	FC Pilotix H743-WING
Model	V3 Advanced
SKU	6056
FC Specifications	
FC Firmware	ArduPilot (ChiBiOS): MATEKH743 - 4.2.0 stable or newer INAV: MATEKH743 - 5.0 newer
Microcontroller Unit	STM32H743VIT6, 480MHz , 1MB RAM, 2MB Flash
IMU - Inertial Measurement Unit (Accelerometer and Gyroscope)	ICM42688-P (SPI1-1st) & ICM42688-P (SPI4-2nd)
Barometer	Infineon DPS310 (I2C2)
OSD	AT7456E (SPI2)
Blackbox	MicroSD card slot (SDIO)
UART	×7 (1,2,3,4,6,7,8) with built-in inversion.
PWM	×13 outputs (including “LED” pad)
I2C (Inter-Integrated Circuit)	×2 Bus for external sensors
CAN (Controller Area Network)	×1 High-speed bus for advanced peripherals
ADC (Analog-to-Digital Converter)	×6 (VBAT, Current, RSSI, Analog AirSpeed, VB2, CU2)
LED	×3 LEDs for FC STATUS (Blue, Red) and 3.3V indicator (Red)
Expansion port	×1 (SPI3) Breakout - for additional SPI device
USB	USB on Beep Extender with Type-C (USB2.0)
Camera	Dual Camera Inputs switch
PDB (Power Distribution Board)	
Input voltage range	8 - 36V (3 - 8S LiPo) w/TVS protection
ESC power pad	×2
Current Senor	220A, 3.3V ADC (Scale 150 in INAV, 66.7 A/V in ArduPilot)
Sense resistor	90A continuous, 220A peak
BEC (Battery Eliminator Circuit)	
5V output	5.15V Continuous current 2A, 3A Peak (Designed for Flight controller, Receiver, OSD, Camera, Buzzer, 2812 LED_Strip, GPS module, AirSpeed)
9V /12V	12V option with Jumper pad Continuous current 2A, 3A Peak (Designed for Video Transmitter, Camera, Gimbal ect.)
Vx output	Voltage adjustable, 5V Default, 6V or 7.2V via jumper Continuous current 8A, 10A Peak (Designed for Servos)
3.3V output	Continuous current: 200mA Linear Regulator
Common	
Mounting	30.5×30.5mm, Holes Φ4mm with Grommets Φ3mm
Size L×W×H, mm	54×36×13
Weight	30g
Package includes	
×1 H743-WING ×1 USB(Type-C)/Beep (Passive buzzer) Extender ×1 20cm JST-SH-6P to JST-SH-6P cable for USB extender ×3 40-Dupont 2.54 pins (Board is shipped unsoldered)	

Layout

Vbat: 8~36v JC IN
Voltage divider 1K:10K, Max.36V supported
BATT_VOLT_PIN 10, BATT_VOLT_MULT 11
Curr: for current sensor, 0~3.3V
BATT_CURR_PIN 11, BATT_AMP_PERVLT 66.7
INAV current scale: 150

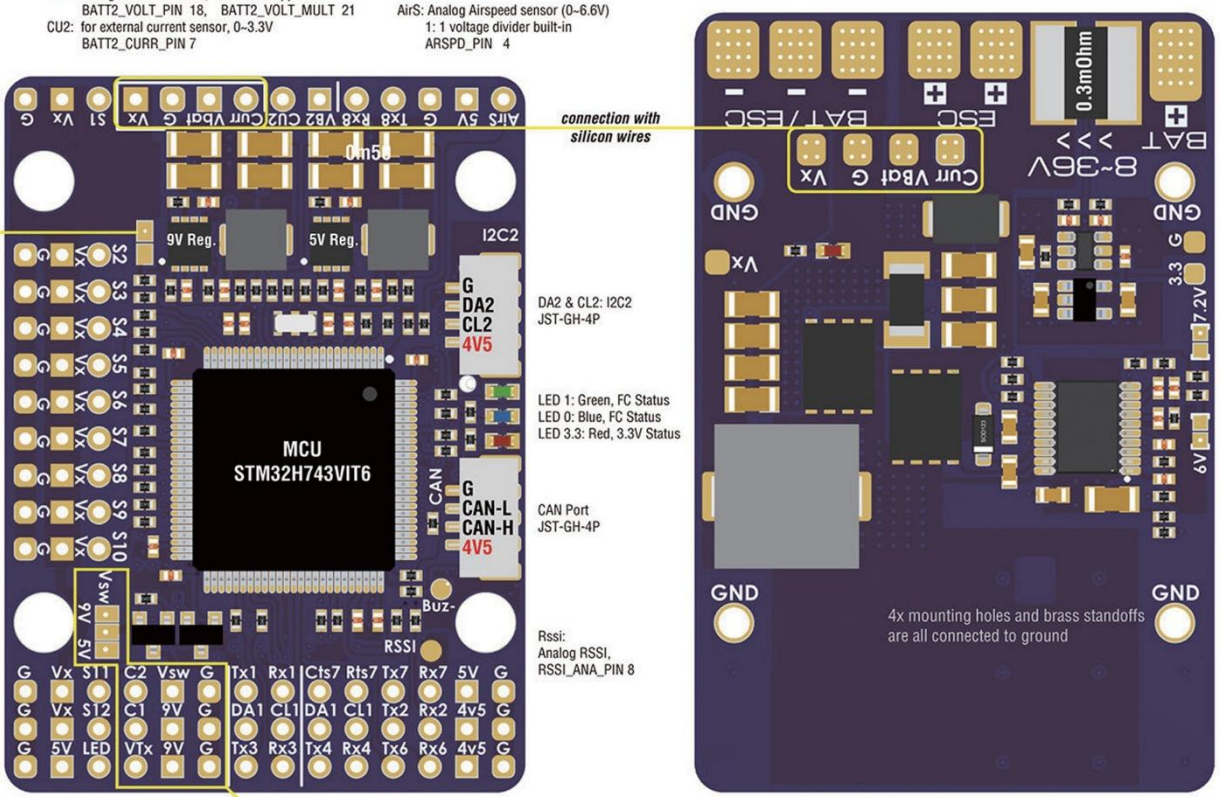
VB2: Voltage divider 1K:20K, Max.69V supported
BATT2_VOLT_PIN 18, BATT2_VOLT_MULT 21
CU2: for external current sensor, 0~3.3V
BATT2_CURR_PIN 7

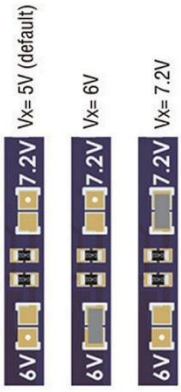
TX8/RX8: UART8

AirS: Analog Airspeed sensor (0~6.6V)
1: 1 voltage divider built-in
ARSPD_PIN 4

+ & - : Battery & ESC power pads, 8~36V DC(3~8S LIPO).

Current Sensor: 90A continuous, 220A peak.
INAV Current sensor scale: 150





DA2 & CL2: I2C2
JST-GH-4P

LED 1: Green, FC Status
LED 0: Blue, FC Status
LED 3.3: Red, 3.3V Status

CAN Port
JST-GH-4P

Rssi:
Analog RSSI,
RSSI_ANA_PIN 8

S1-S12, LED: PWM1~PWM13

Vx: BEC 5V/6V/7.2V for servos, Default is 5V
8A cont. 10A peak
5V: onboard BEC 5V 2A cont. 3A peak
9V: onboard BEC 9V 2A cont. 3A peak,
*** 9V rise to 12V if "9V->12V" jumper is bridged.
G: Ground

9V->12V

TX1/RX1: UART1
TX7/RX7: UART7
CTs7/Rts7: Uart7_CTS/RTS for ArduPilot Telem

TX2/RX2: UART2
DA1 & CL1: I2C1

TX3/RX3: UART3, TX4/RX4: UART4

RX6: UART6-RX for Serial_RX by default
PPM share RX6 pad
TX6: UART6-TX

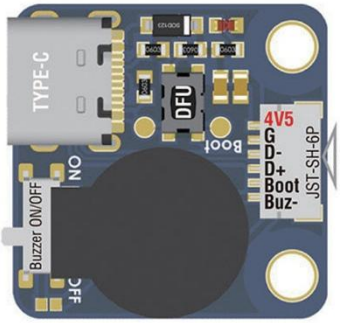
4V5: 4.4~4.8V, Max.500mA
*** the voltage is also supplied when connecting via USB

A battery must be plugged in for power to be provided to the pins marked "5V" on the board.

Vsw: 5V/9V selection
*** ON/OFF can be switched via ArduPilot Relay or Modes/USER1 (INAV)
*** Max.1.5A load on this pad. (Default ON)
*** Vsw jumper one or the other must be bridged

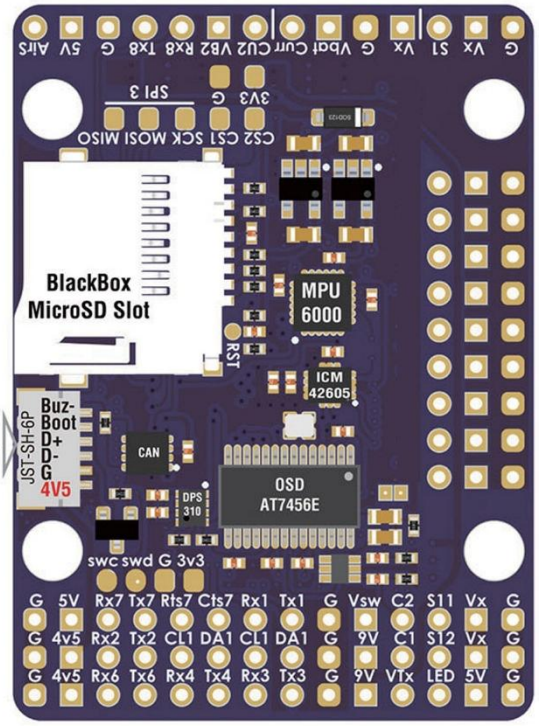
C1: Camera-1 video IN (Default)
C2: Camera-2 video IN
*** C1/C2 can be switched via ArduPilot Relay or Modes/USER2 (INAV)

VTX: Video OUT for Video Transmitter



6pin wires

DFU Button: DFU mode
Connect USB to the PC While holding the boot button in.



Size: 54x36x13mm
Weight: 30g w/ top and bottom plate & USB externder
Holes: Φ4mm, 30.5mm mounting

Wiring (Airplane)