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Link do produktu: https://www.nobshop.pl/kontroler-lotu-fc-matek-h743-slim-v4-flight-controller-p-4885.html

Kontroler lotu FC MATEK H743-SLIM V4 Flight Controller

Cena brutto	**409,99 zł**
Cena netto	**333,33 zł**
Dostępność	**Aktualnie niedostępny**
Czas wysyłki	**1 - 3 dni**
Producent	**Matek Systems**

Opis produktu

Kontroler lotu FC MATEK H743-SLIM V4 Flight Controller

FC Specifications

- MCU: STM32H743VIH6, 480MHz , 1MB RAM, 2MB Flash
- IMU: Dual ICM42688P
- Baro: DPS368
- OSD: AT7456E (SPI2)
- Blackbox: MicroSD card socket

- 7x Uarts (1,2,3,4,6,7,8) with built-in inversion.
- 13x PWM outputs(including “LED” pad)
- 2x I2C
- 1x CAN
- 6x ADC (VBAT, Current, RSSI, Analog AirSpeed, Vbat2, Cur2)
- 3x LEDs for FC STATUS (Blue, Red) and 3.3V indicator(Red)
- 1x SPI3 breakout
- USB Type-C(USB2.0)
- 1x JST-SH1.0_8pin connector (Vbat/G/Curr/Rx8/S1/S2/S3/S4)
- 1x JST-GH1.25_4pin connector (5V/CAN-H/CAN-L/G)

- Dual Camera Inputs switch
- 5V 0r Vbat(2A) filtered power ON/OFF switch

- DJI FPV OSD is supported by any spare UART

Power

- Vbat Input: 6~36V (2~8S LiPo) with TVS protection
- BEC: 5V 2.5A cont. (Max.3A)
- LDO 3.3V: Max.200mA
- VBat filtered output 2A for VTx and camera
- No Current Sensor built-in
- ADC Vbat2 pad supports Max. 69V (voltage divider: 1K:20K)
- Static power: 200mA@5V with Betaflight, 150mA@5V with ArduPilot

FC Firmware

- ArduPilot: MATEKH743
- BetaFlight: MATEKH743
- INAV: MATEKH743

Physical

- Mounting: 30.5 x 30.5mm, Φ4mm with Grommets Φ3mm
- Dimensions: 36 x 36 x 5 mm
- Weight: 7g

Including

- 1x H743-SLIM-V4
- 6x Silicon grommets M4 to M3
- 1x JST-SH1.0_8pin cable, 5cm
- 2x JST-SH1.0_8pin connectors
- 1x JST-GH-4P to JST-GH-4P cable for CAN port, 20cm

ArduPilot Mapping

PWM PWM1~PWM13 are Dshot and PWM capable. However, mixing Dshot and normal PWM operation for outputs is restricted into groups, ie. enabling Dshot for an output in a group requires that ALL outputs in that group be configured and used as Dshot, rather than PWM outputs. If servo and motor are mixed in same group, make sure this group run lowest PWM frequency according to the servo specification. ie. Servo supports Max. 50Hz, ESC must run at 50Hz in this group.	S1	PB0	5 V tolerant I/O	PWM1 GPIO50	TIM8_CH2N
	S2	PB1	3.3 V tolerant I/O	PWM2 GPIO51	TIM8_CH3N
	S3	PA0	5 V tolerant I/O	PWM3 GPIO52	TIM5_CH1
	S4	PA1	5 V tolerant I/O	PWM4 GPIO53	TIM5_CH2
	S5	PA2	5 V tolerant I/O	PWM5 GPIO54	TIM5_CH3
	S6	PA3	5 V tolerant I/O	PWM6 GPIO55	TIM5_CH4
	S7	PD12	5 V tolerant I/O	PWM7 GPIO56	TIM4_CH1
	S8	PD13	5 V tolerant I/O	PWM8 GPIO57	TIM4_CH2
	S9	PD14	5 V tolerant I/O	PWM9 GPIO58	TIM4_CH3
	S10	PD15	5 V tolerant I/O	PWM10 GPIO59	TIM4_CH4
	S11	PE5	5 V tolerant I/O	PWM11 GPIO60	TIM15_CH1
	S12	PE6	5 V tolerant I/O	PWM12 GPIO61	TIM15_CH2
	LED	PA8	5 V tolerant I/O	PWM13 GPIO62 SERVO13_FUNCTION 120, neopixel	TIM1_CH1 NTF_LED_TYPES
ADC	No pad 1K:10K divider builtin	PC0	0~36V	on board battery voltage	BATT_VOLT_PIN BATT_VOLT_MULT
	No pad	PC1	0~3.3V	on board current sensor	BATT_CURR_PIN BATT_AMP_PERVLT
	Vbat2 Pad 1K:20K divider builtin	PA4	0~69V	Vbat2 ADC	BATT2_VOLT_PIN BATT2_VOLT_MULT
	Cur2 Pad	PA7	0~3.3V	Cur2 ADC	BATT2_CURR_PIN BATT2_AMP_PERVLT
	RSSI Pad	PC5	0~3.3V	RSSI ADC Analog RSSI	RSSI_ANA_PIN RSSI_TYPE
	AirS Pad 10K:10K divider builtin	PC4	0~6.6V	AirS ADC Analog Airspeed	ARSPD_PIN ARSPD_TYPE
I2C	I2C1 CL1/DA1	PB6/PB7	5 V tolerant I/O	Digital Airspeed I2C MS4525 MS5525 DLVR-L10D	ARSPD_BUS ARSPD_TYPE
				Compass	COMPASS_AUTODE

					C
	I2C2 CL2/DA2	PB10/PB11	5 V tolerant I/O	on board Baro DPS368	
CAN	CAN1	PD0/PD1	5 V tolerant I/O	F103/F303 CAN Node	CAN_D1_PROTOCOL CAN_P1_DRIVER
				CAN GPS	GPS_TYPE
				CAN Compass	COMPASS_TYPEMASK
				CAN Airspeed sensor	ARSPD_TYPE
UART	USB	PA11/PA12	5 V tolerant I/O	USB	console
	RX7 TX7 RTS7 CTS7	PE7/8/9/10	3.3 V tolerant I/O	UART7	telem1
	TX1 RX1	PA9/PA10	5 V tolerant I/O	USART1	telem2
	TX2 RX2	PD5/PD6	5 V tolerant I/O	USART2	GPS1
	TX3 RX3	PD8/PD9	5 V tolerant I/O	USART3	GPS2
	TX8 RX8	PE1/PE0	5 V tolerant I/O	UART8	USER
	TX4 RX4	PB9/PB8	5 V tolerant I/O	UART4	USER
	TX6 RX6	PC6/PC7	5 V tolerant I/O	USART6	RC input/Receiver
				RX6	SBUS/IBUS/DSM
				RX6	PPM

RC INPUT

The Rx6 pin, which by default is mapped to a timer input, can be used for all ArduPilot supported receiver protocols, except CRSF which requires a true UART connection. However, bi-directional protocols which include telemetry, such as SRXL2 and FPort, when connected in this manner, will only provide RC without telemetry.

To allow CRSF and embedded telemetry available in Fport, CRSF, and SRXL2 receivers, the Rx6 pin can also be configured to be used as true UART RX pin for use with bi-directional systems by setting the BRD_ALT_CONFIG to “1” so it becomes the SERIAL7 port’s RX input pin.

With this option, SERIAL7_PROTOCOL must be set to “23”, and:

- PPM is not supported.
- SBUS/DSM/SRXL connects to the Rx6 pin, but SBUS requires that the SERIAL7_OPTIONS be set to “3”.
- FPort requires connection to Tx6 and SERIAL7_OPTIONS be set to “7”. If Telemetry doesn’t work, try set SERIAL7_OPTIONS = 135.
- CRSF also requires a Tx6 connection, in addition to Rx6, and automatically provides telemetry. Set SERIAL7_OPTIONS to “0”.
- SRXL2 requires a connection to Tx6 and automatically provides telemetry. Set SERIAL7_OPTIONS to “4”.

Any UART can be used for RC system connections in ArduPilot also, and is compatible with all protocols except PPM. See Radio Control Systems for details.

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ArduPilot Relay(PINIO)

- Camera-1 and Vsw On by default
- Make sure 2 cameras are set with identical video format, both PAL or both NTSC.

GPIOs

- PD10 PINIO1 OUTPUT GPIO(81) //Vsw pad power switch
- PD11 PINIO2 OUTPUT GPIO(82) //Camera switch

RCx_OPTION: RC input option

- 28 Relay1 On/Off
- 34 Relay2 On/Off
- 35 Relay3 On/Off

- 36 Relay4 On/Off

e.g.

- RELAY1_FUNCTION 1
- RELAY1_PIN 81 //Vsw GPIO
- RC7_OPTION 28 //Relay On/Off, Use CH7 of Transmitter to switch Vsw
- RELAY2_FUNCTION 1
- RELAY2_PIN 82 //Camera switch GPIO
- RC8_OPTION 34 //Relay2 On/Off, Use CH8 of Transmitter to switch camera

The configured feature will be triggered when the auxiliary switch's pwm value becomes higher than 1800. It will be deactivated when the value falls below 1200.

Check the pwm value sent from the transmitter when the switch is high and low using the Mission Planner's Initial Setup >> Mandatory Hardware >> Radio Calibration screen. If it does not climb higher than 1800 or lower than 1200, it is best to adjust the servo end points in the transmitter.

Betafligh / INAV Mapping

					BetaFlight
PWM	S1	PB0	5 V tolerant I/O	TIM3_CH3	Motor
	S2	PB1	3.3 V tolerant I/O	TIM3_CH4	
	S3	PA0	5 V tolerant I/O	TIM5_CH1	
	S4	PA1	5 V tolerant I/O	TIM5_CH2	
	S5	PA2	5 V tolerant I/O	TIM5_CH3	
	S6	PA3	5 V tolerant I/O	TIM5_CH4	
	S7	PD12	5 V tolerant I/O	TIM4_CH1	
	S8	PD13	5 V tolerant I/O	TIM4_CH2	
	S9	PD14	5 V tolerant I/O	TIM4_CH3	
	S10	PD15	5 V tolerant I/O	TIM4_CH4 NO DMA	
	S11	PE5	5 V tolerant I/O	TIM15_CH1	Servo
	S12	PE6	5 V tolerant I/O	TIM15_CH2	
	LED	PA8	5 V tolerant I/O	TIM1_CH1	2812LED
	RX4	PB8	5 V tolerant I/O	TIM16_CH1	
	TX4	PB9	5 V tolerant I/O	TIM17_CH1	
ADC	Vbat ADC, No pad 1K:10K divider builtin	PC0	0~36V	on board battery voltage	scale 110
	Current ADC, No pad	PC1	0~3.3V	on board current sensor	scale external
	Vbt2 Pad 1K:20K divider builtin	PA4	0~69V	Vbat2 ADC	scale 210
	Cur2 Pad	PA7	0~3.3V	Current2 ADC	scale external
	RSSI Pad	PC5	0~3.3V	RSSI ADC	Analog RSSI
	AirS Pad 10K:10K divider builtin	PC4	0~6.6V	AirS ADC	Analog Airspeed
I2C	I2C1 CL1/DA1	PB6/PB7	5 V tolerant I/O	Digital Airspeed I2C Compass	MS4525
	I2C2 CL2/DA2	PB10/PB11	5 V tolerant I/O	on board Barometer	DPS368
UART	USB	PA11/PA12	5 V tolerant I/O	USB	

	RX7 TX7 RTS7 CTS7	PE7/8/9/10	3.3 V tolerant I/O	UART7	USER
	TX1 RX1	PA9/PA10	5 V tolerant I/O	USART1	USER
	TX2 RX2	PD5/PD6	5 V tolerant I/O	USART2	USER
	TX3 RX3	PD8/PD9	5 V tolerant I/O	USART3	USER
	TX8 RX8	PE1/PE0	5 V tolerant I/O	UART8	USER
	TX4 RX4	PB9/PB8	5 V tolerant I/O	UART4	USER
	TX6 RX6	PC6/PC7	5 V tolerant I/O	UART6_RX	PPM & Serial RX
				UART6_TX	FPORT

What is new on the H743-slim-V4

- Increase the output current of BEC5V from 2A to 2.5A, and raise the filtered VBAT current from 1A to 2A.
- Add TVS protection on Input voltage
- Add protections on more MCU I/O.
- Replace DPS310 with DPS368(environmentally protected against water (IPx8), dust & humidity)
- Other functions, Pins/Pads layout are same as previous board version.