

Specification

- FrSky R9 MM receiver in protection box
- MPU6000 over SPI Bus in dampening box
- 30.5x30.5 mm mounting holes
- Supports Lipo direct plug-in (3-6S)
- STM32 F405 MCU, Runs Betaflight firmware (supported from v3.2)
- Supports 5V 1A BEC output (Buck)
- Supports 8V 1A BEC with LC filter output for the camera and VTX (Buck)
- STM32 controls OSD chip over SPI in DMA mode (Betaflight OSD)

Features

- R9 MM Receiver
- STM32 F4 Processor
- MPU6000 Gyro via SPI
- BMP280 Barometer
- Integrated Betaflight OSD
- 5 UART Ports
- Direct plug-in 3-6S Lipo
- Built in LC Filter
- 5V 1000mA BEC
- 8V 1000mA BEC
- More caps to reduce gyro power noise.

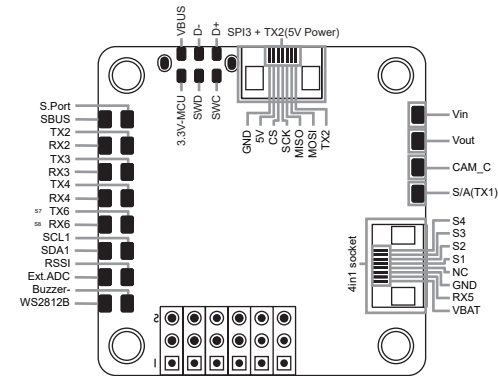
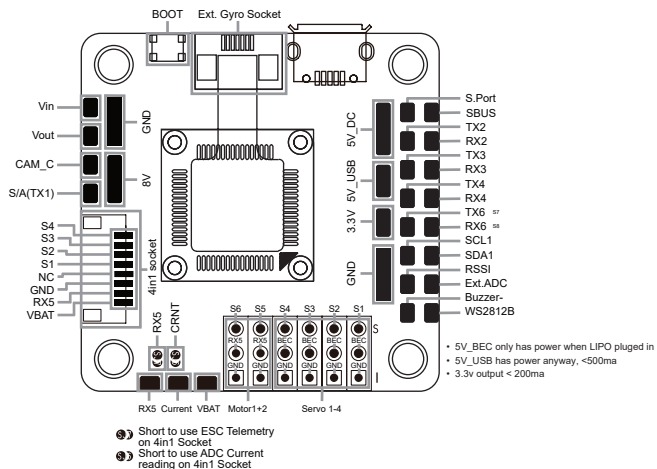
Resources

Function	Solder Pad Silk screen	Resources	MCU Pin	Notes
SBUS	RC	UART1	PA10	Build-in inverter
DSM2	TX1	UART1	PA9	CLI serialrx_halfduplex set to ON
Smart Audio VTX	S/A	UART2	PA2	
Smartport	TX1	Software serial	PA9	Invalid when using DSM2 RX
ESC Telemetry	RX4	UART4	PA1	
Camera Control	CAM_C		PB9	
IIC2_SDA	RX3	UART3	PB11	
IIC2_SCL	TX3	UART3	PB10	
GPS	RX6/TX6	UART6	PC7/PC6	
WS2812B LED	LED		PB6	
Buzzer	Bz-/Bz+		PB4	

Introduction (OMNINXT F7)

The FrSky R9 MM-FC (OMNINXT F7) is developed based on the newly designed NXT architecture. It is integrated with the R9 MM receiver mounted in a dampening box, and uses the trusty MPU6000 Gyro with an additional ICM20608 on top. With the on-board protection box, the gyros run perfectly on 32k loop time. The NXT also comes with 2 different BECs and 6 UARTs. The R9 MM-FC (OMNINXT F7) supports 3-6S Lipo direct input, built-in BEC for camera / VTX and Power Filter. This FC is designed to be able to pair with 4in1 ESCs to form a powerful combo, and also has pins for individual ESCs.

Overview



Specification

- F7 MCU processors
- FrSky R9 MM receiver in dprotection box
- Two gyros onboard: MPU6000 for sampling up to 8khz and ICM20608 for sampling up to 32khz
- 30.5x30.5mm Mounting holes
- Supports 3-6S Lipo
- More caps to reduce power noise
- Built-in sensor damper
- Built-in 5V 1A BEC output (Buck)
- Built-in 8V 1A BEC with LC filter output for the camera and VTX (Buck)
- STM32 controls OSD chip over SPI in DMA mode (Betaflight OSD)
- Port for easy connection to 4-in-1 esc (SH1.0 8P)
- Solder pads added for VTXand Camera Control (next to Video pads)

Features

- R9 MM Receiver
- Gyro #1: MPU6000 8khz
- Gyro #2: ICM20608 32khz
- STM32 F7 MCU Processor
- Integrated PDB & OSD (SPI/DMA)
- 6UART Ports
- Direct plug-in 3-6S Lipo
- 5V 1000mA BEC
- 8V 1000mA BEC with LC filter
- 3V max. 200mA

Resources

Function	Solder Pad Silk screen	Resources	MCU Pin	Notes
SBUS				Any UART RX
DSM2				Any UART
Smart Audio VTX	S/A	UART1	PB6	
Smartport				Any UART TX as half duplex
ESC Telemetry	RX5	UART5	PD2	
Camera Control	CAM_C		PB15	
IIC1_SDA	SDA		PB9	
IIC1_SCL	SCL		PB8	
GPS				Any UART
WS2812B LED	LED		PA9	
Buzzer	Bz-/Bz+		PC13	
Current sensor scale				NONE
Current sensor offset				NONE
Current range				NONE

FrSky is continuously adding features and improvements to our products. To get the most from your product, please check the download section of the FrSky website www.frsky-rc.com for the latest update firmware and manuals.