

## MCU Connections

The diagram illustrates the pin connections for the MCU (J2 and J3) to the ESCs. The connections are as follows:

- Pin 1:** GND
- Pin 3:** VDD
- Pin 4:** GND
- Pin 5:** VDD
- Pin 6:** NRST
- Pin 7:** PC1
- Pin 8:** PC0
- Pin 9:** PC3
- Pin 10:** PC2
- Pin 11:** PA1
- Pin 12:** PA0
- Pin 13:** PA3
- Pin 14:** PA2
- Pin 15:** PA5
- Pin 16:** PA4
- Pin 17:** PA7
- Pin 18:** PA6
- Pin 19:** PC5
- Pin 20:** PC4
- Pin 21:** PB1
- Pin 22:** PB0
- Pin 23:** GND
- Pin 24:** PB2
- Pin 25:** PE7
- Pin 26:** PE8
- Pin 27:** PE9
- Pin 28:** PE10
- Pin 29:** PE11
- Pin 30:** PE12
- Pin 31:** PE13
- Pin 32:** PE14
- Pin 33:** PE15
- Pin 34:** PB10
- Pin 35:** PB11
- Pin 36:** PB12
- Pin 37:** PB13
- Pin 38:** PB14
- Pin 39:** PB15
- Pin 40:** PD8
- Pin 41:** PD9
- Pin 42:** PD10
- Pin 43:** PD11
- Pin 44:** PD12
- Pin 45:** PD13
- Pin 46:** PD14
- Pin 47:** PD15
- Pin 48:** NC
- Pin 49:** GND
- Pin 50:** GND

The connections for the ESCs are as follows:

- CH1\_PWM:** Pin 11
- CH2\_PWM:** Pin 13
- CH3\_PWM:** Pin 15
- CH4\_PWM:** Pin 17
- ESC1\_PWM:** Pin 45
- ESC2\_PWM:** Pin 47
- ESC3\_PWM:** Pin 49
- ESC4\_PWM:** Pin 51

## ESC Connections

**J7**

PWM  
5V  
GND

1 ESC1\_S  
2 ESC1\_PWM  
3 GND

ESC1 Connector

**J8**

PWM  
5V  
GND

1 ESC2\_S  
2 ESC2\_PWM  
3 GND

ESC2 Connector

**J9**

PWM  
5V  
GND

1 ESC3\_S  
2 ESC3\_PWM  
3 GND

ESC3 Connector

**J10**

PWM  
5V  
GND

1 ESC4\_S  
2 ESC4\_PWM  
3 GND

ESC4 Connector

### Gyroscope

Diagram illustrating the wiring connections for the Gyroscope module (L3GD20H) to the L3GD20H Connector (J4).

The connections are as follows:

- Pin 1:  $V_{in}$
- Pin 2:  $3V_o$
- Pin 3:  $+5V$
- Pin 4: GND
- Pin 5: INT1
- Pin 6: DRDY
- Pin 7: CS
- Pin 8: SDA
- Pin 9: SCL

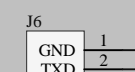
The SDA and SCL lines are connected to the I2C interface block.

### Receiver Connection

The diagram illustrates the Receiver Connection for the R9DS Receiver Connector. It shows a 5V supply connected to pin 1 and GND connected to pin 2. Pins 3, 4, 5, and 6 are labeled CH1\_S, CH2\_S, CH3\_S, and CH4\_S respectively. These pins are connected to the corresponding PWM outputs: CH1\_PWM, CH2\_PWM, CH3\_PWM, and CH4\_PWM.

R9DS Receiver Connector

### Telemetry Connection



The diagram shows a 4-pin connector labeled J6. The pins are labeled GND, TXD, RXD, and 5V. The TXD pin is connected to a TX module, and the RXD pin is connected to an RX module. The TX module is connected to a TX antenna, and the RX module is connected to an RX antenna. The TX and RX modules are connected to a 433MHz Air Connector. The TX module is connected to the TX pin of the 433MHz Air Connector, and the RX module is connected to the RX pin of the 433MHz Air Connector. The TX and RX modules are connected to a 433MHz Air Connector. The TX module is connected to the TX pin of the 433MHz Air Connector, and the RX module is connected to the RX pin of the 433MHz Air Connector.

Title			STM32F4 Discovery Flight Controller Shield		
Size		Number		Revision	
A4		<a href="https://github.com/alcan71">https://github.com/alcan71</a>		rev2.0	
Date:	5/23/2020			Sheet of 1 / 1	
File:	C:\Users\...\FC-Shield.SchDoc			Drawn By: MERT ÖCAL	

ATTENTION



Vin  
3Vo  
GND

GYROSCOPE

SDA  
SCL

MERT OCAL

STM32F4 DISCOVERY  
FLIGHT CONTROLLER SHIELD



open source  
hardware

<https://github.com/ocalmerd>

5V

RXD

TXD

GND

TELEMETRY

ESC1

2 + 1

ESC2

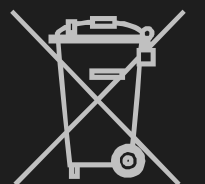
2 + 1

ESC3

2 + 1

ESC4

2 + 1



5V  
GND  
CH1  
CH2  
CH3  
CH4  
RECEIVER

C1

C2

U1

D1

