

3.3V To 6DOF
Modules on SPI
Also To Encoder

5V to Bluetooth

8V from Buck Regulator

Current Sense from
SimpleFOC
Driver Board

Servo Chan. 2 ←

Servo Chan. 1 ←

Available 3.3V and
GND (not used)

SimpleFOC PWM
outputs only work on
some pins, even
though most M4 pins
are "PWM capable"

➔ On/Off Camera and Servo

➔ PWM A

➔ SPI CS for Sensor 2

➔ Amplifier Enable

➔ SPI CS for Sensor 1

➔ PWM C

➔ PWM B

← Encoder Index

← Encoder Phase A

← Encoder Phase B

➔ Bluetooth

← Bluetooth

Common SPI Pins to Sensors

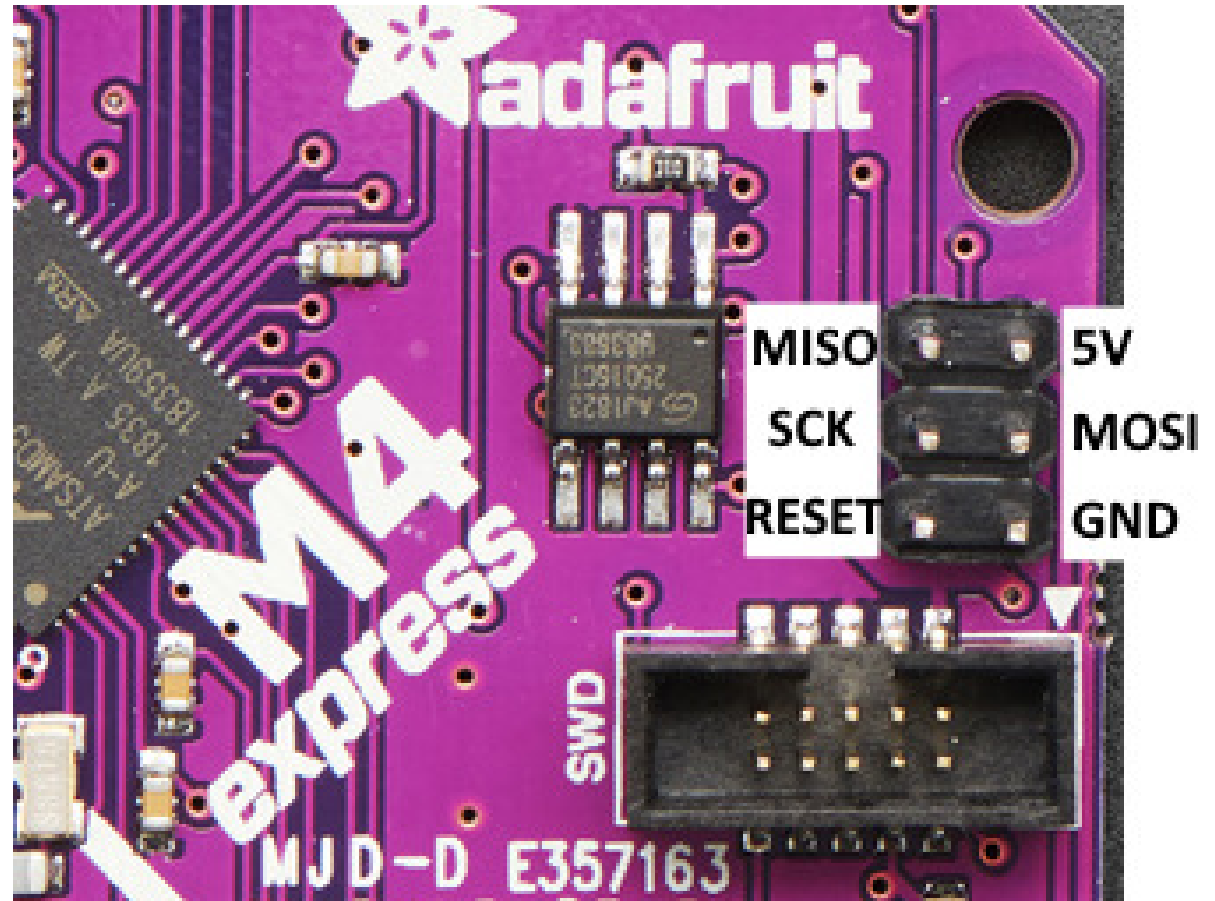
SPI connector pinout

On the Metro M4 this is the ONLY location to access these SPI pins

SWD connector pinout

Use for 3.3V and GND

VCC	1	2	SWDIO
GND	3	4	SWCLK
GND	5	6	SWO
KEY	7	8	NC
GND	9	10	RESET



Adafruit ISM330DHCX

SPI Connections

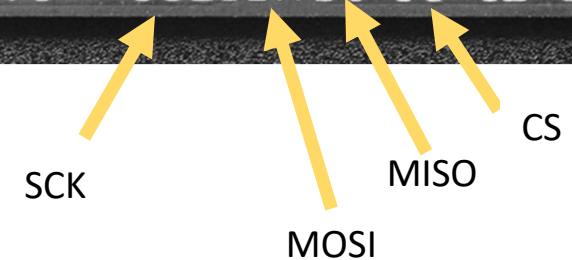
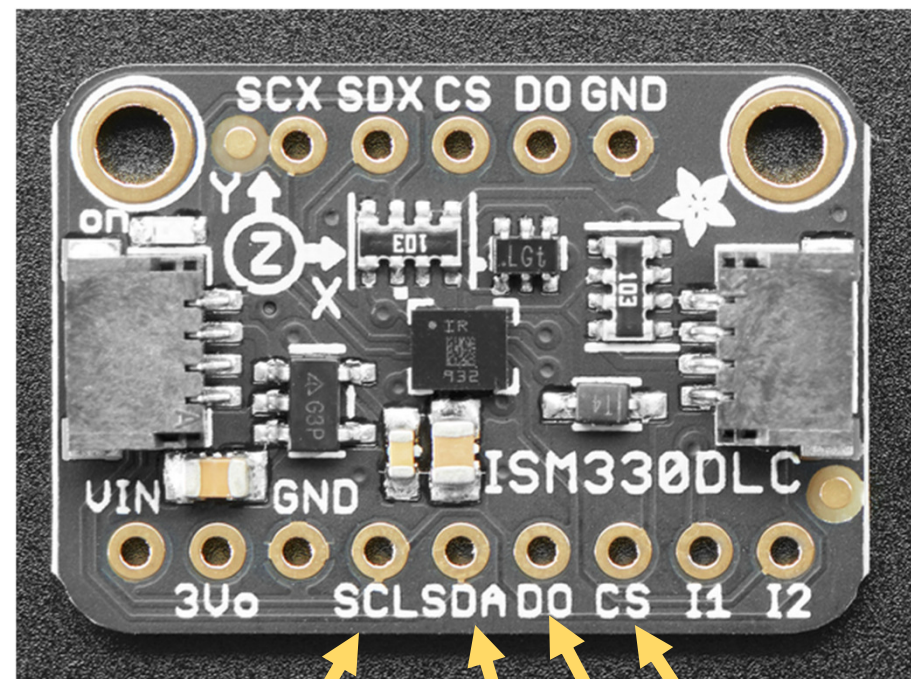
All pins going into the breakout have level shifting circuitry to make them 3-5V logic level safe. Use whatever logic level is on Vin

SCK - This is also the SPI Clock pin, it's an input to the chip

DO (Bottom) - this is the serial Data Out / Microcontroller In Sensor Out pin, for data sent from the LSM6DSOX, ISM330DHCX, or LSM6DSO32 to your processor.

SDA - this is also the Serial Data In / Microcontroller Out Sensor In pin, for data sent from your processor to the LSM6DSOX, ISM330DHCX, or LSM6DSO32

CS (Bottom) - this is the Chip Select pin, drop it low to start an SPI transaction. Its an input to the chip



Adafruit ICM20649

SPI Connections

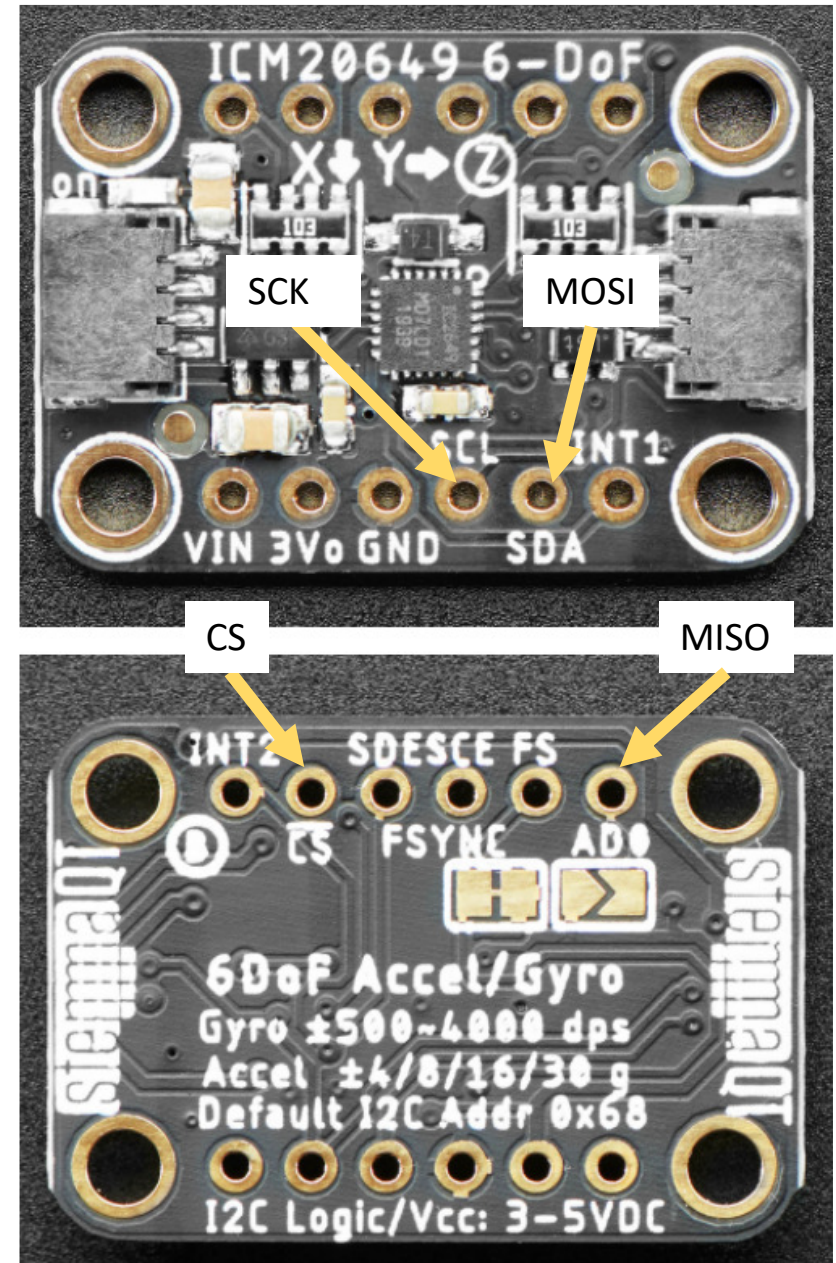
All pins going into the breakout have level shifting circuitry to make them 3-5V logic level safe. Use whatever logic level is on Vin

SCL (SCK)- This is also the SPI Clock pin, it's an input to the chip

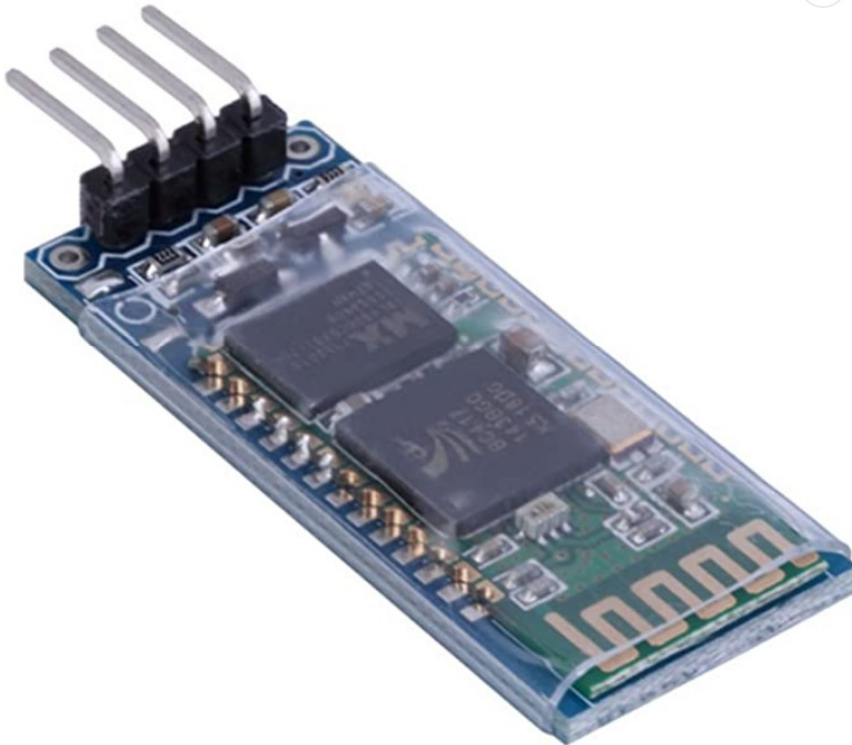
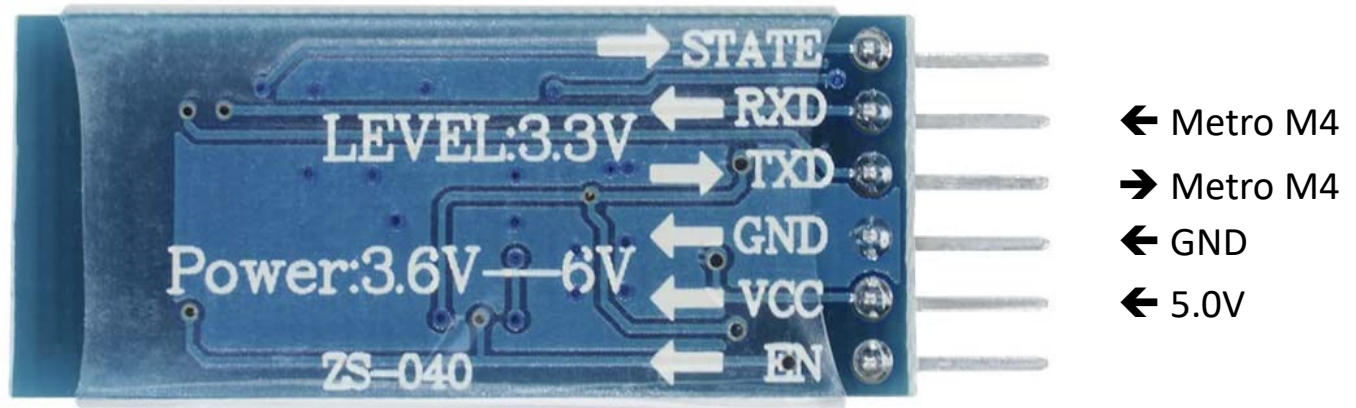
SDA (MOSI) - this is also the Serial Data In / Microcontroller Out Sensor In pin, for data sent from your processor to the sensor

AD0 (MISO) - this is the Serial Data Out / Microcontroller In Sensor Out pin, for data sent from the sensor to your processor.

CS - this is the Chip Select pin, drop it low to start an SPI transaction. Its an input to the chip



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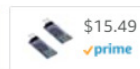
\$9⁴⁹

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About this item