

ECS Manual

Pinout

3V3

- 3.3V output
- 200mA max. output
- Intended use: reference voltage for motor drivers
(do NOT use for powering motors/servos)

VBAT

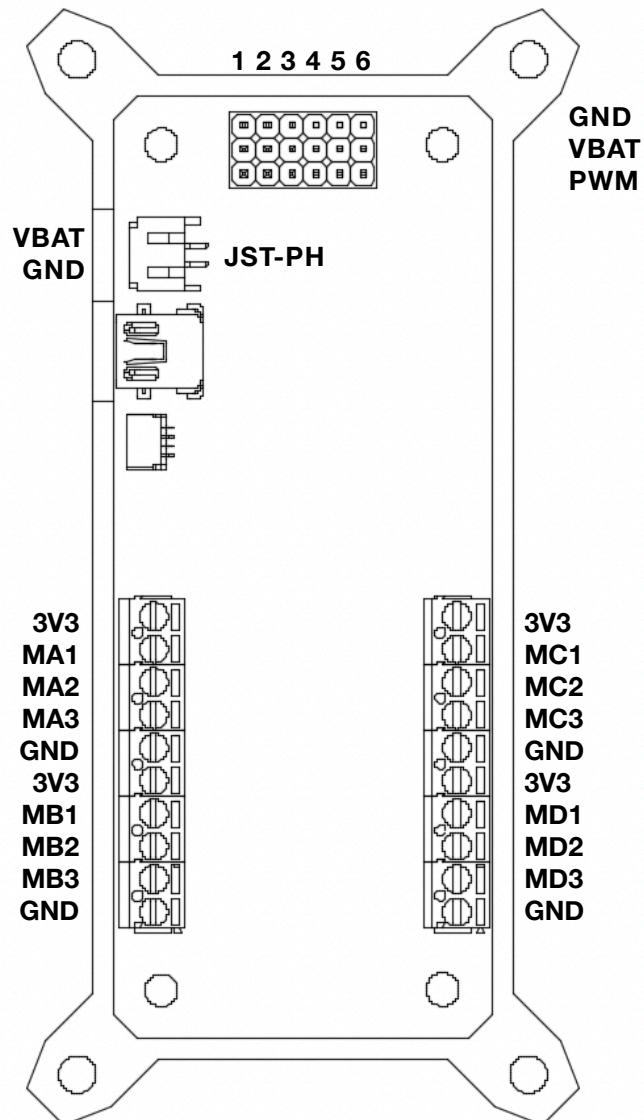
- Power input
- **12V max input**
- **5V min input**
- Can use either JST-PH connector or pins at top of board for input

M'x'1/2/3

- Digital logic pins used to control the motor driver

PWM

- Digital logic pins for servos/other features



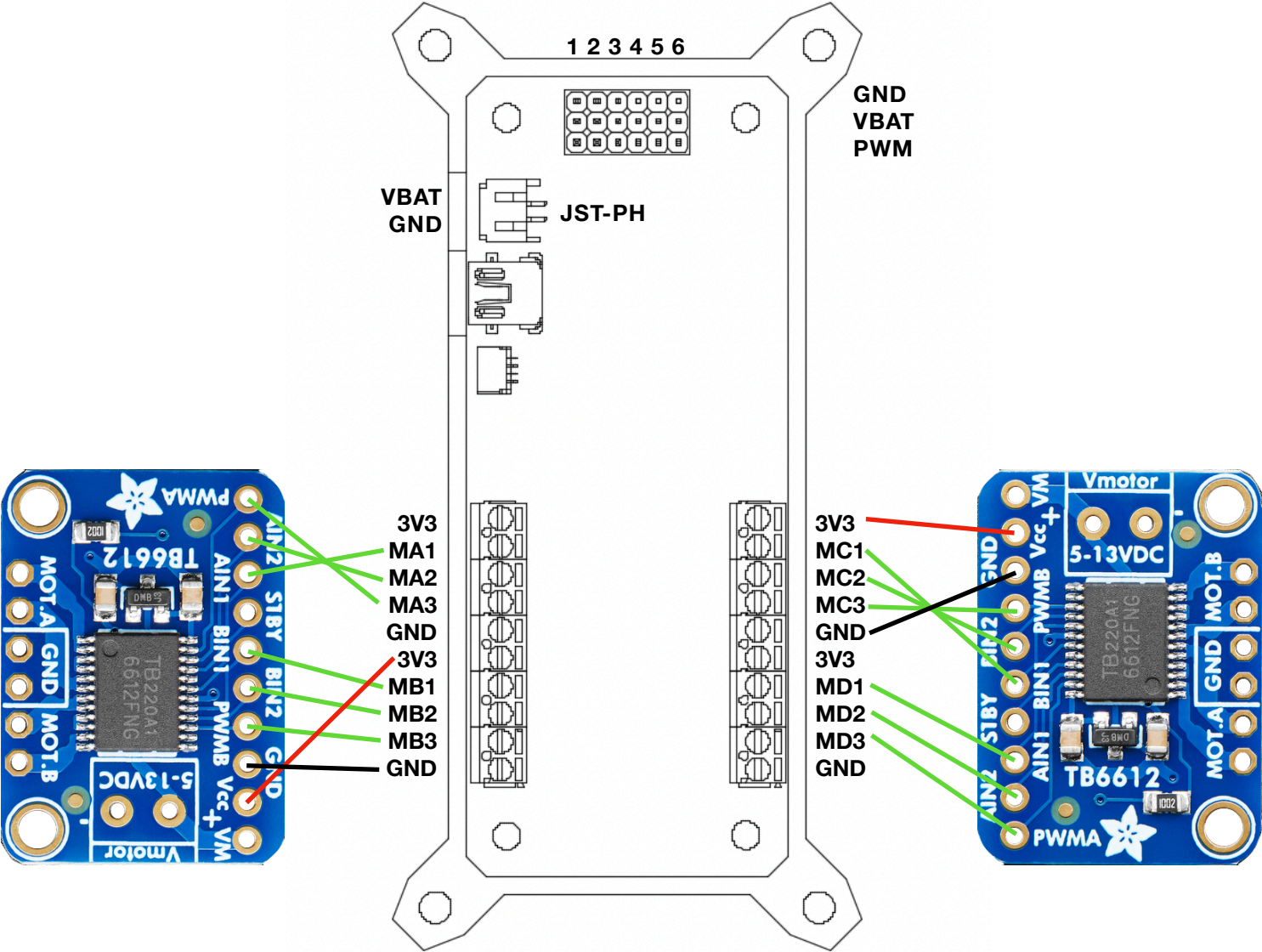
The JST-PH Connector is the main power input for the ESC. Note that the power pin is on the left/top and the GND pin is on the bottom/right.

If a JST-PH connector can't be easily added to the power source, the VBAT and GND pins in the PWM connector can also be used. Ensure that the power and GND pins are connected correctly, otherwise the unit may be permanently damaged.

The M'x'1/2/3 pins can not be used to source current, they are IO pins exclusively.

The USB port is used for programming only. It should not be used. It can not source or deliver power.

Wiring - TB6612



The wiring for a TB6612 motor driver is shown above and repeated below for clarity.

If a motor is spinning in the reverse direction to intended, simply reverse the connection for M'x'1 and M'x'2. Also note that other connections are required, including but not limited to: Vmotor (4.5V-13.5V), Motor A/B and ECS Power.

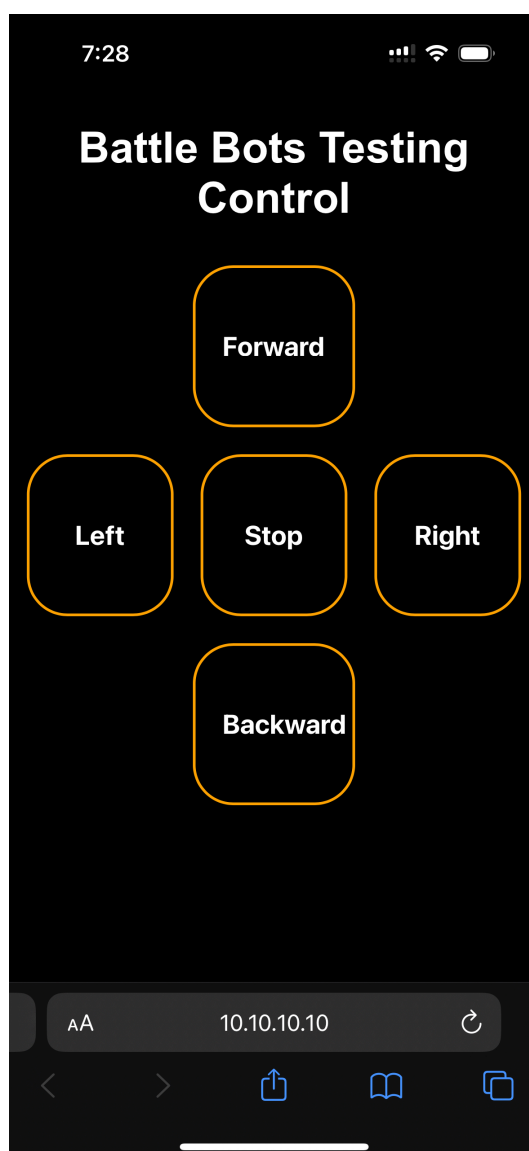
ECS	Motor Driver
3V3	Vcc
GND	GND
M'x'1	XIN1
M'x'2	XIN2
M'x'3	PWM'x'

Instructions for use

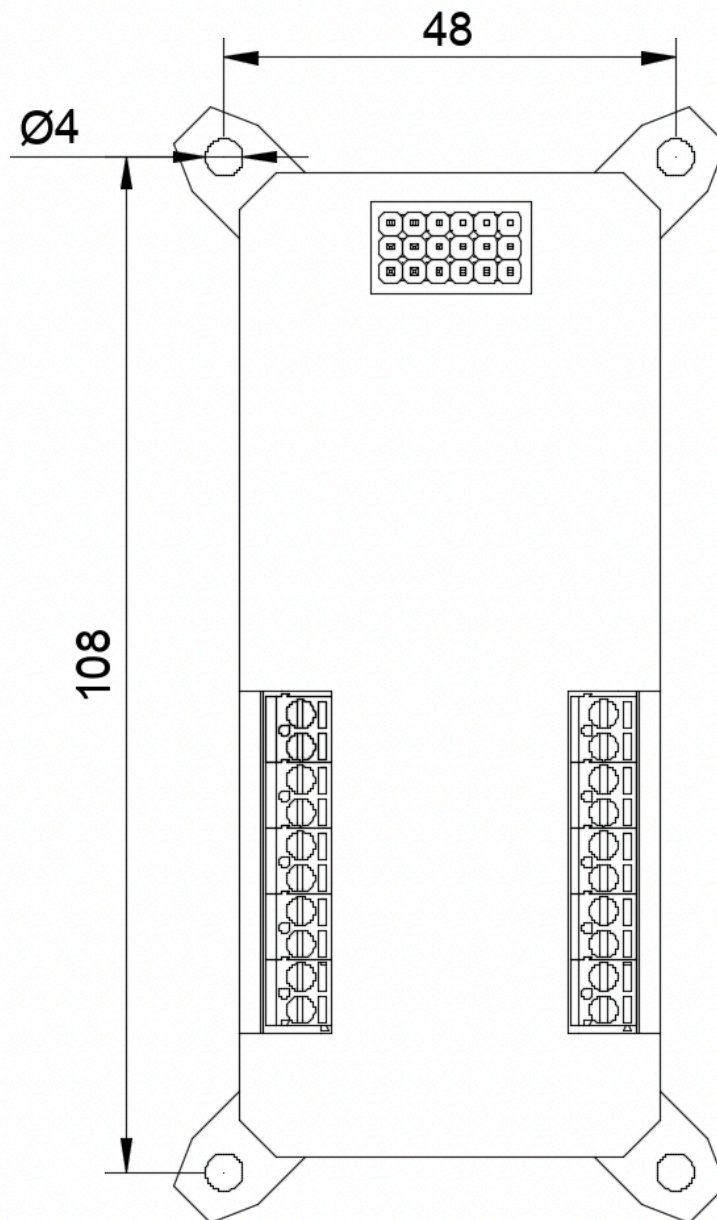
N.B. The code flashed by default to the ECS is not intended for competition use. The code presents a minimum interface for testing with simple Forward, Backward, Left, Right and Stop buttons.

The default code is intended for use with the TB6612 motor driver. If using a different motor driver please contact the competition team (details on last page) for updated code. In your email please include a link and/or other information about the motor driver being used.

1. Power the ECS unit.
2. On a mobile device, navigate the WiFi connections in Settings. A WiFi network named “Battle Bot AP” followed by the serial number of the unit will appear (may need to refresh WiFi).
3. Connect to this network with the password, “ecspassword”.
4. Open a browser on your device.
5. Enter the web address “10.10.10.10”. A webpage will appear with 5 simple control buttons to test the workings of the Battle Bot.



Mounting Holes



Github

Link: <https://github.com/afb26/ECS>

