

FFair_IO Wiring

Connection and Wiring Reference

2-Position / 3-Position Switches, Matrix and Digital Output

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DESCRIPTION

- 2-position switch: connect one pin to GND (blue) and the other pin to a signal input (green).
- 3-position switch: connect one pin to GND (blue) and the other two pins to signal inputs (green).
- Matrix: connect one pin to GND and the remaining pins to signal inputs (green).
- Digital output signal: connect one pin to GND and the other pin to the digital output signal (green).

Rotary Encoders

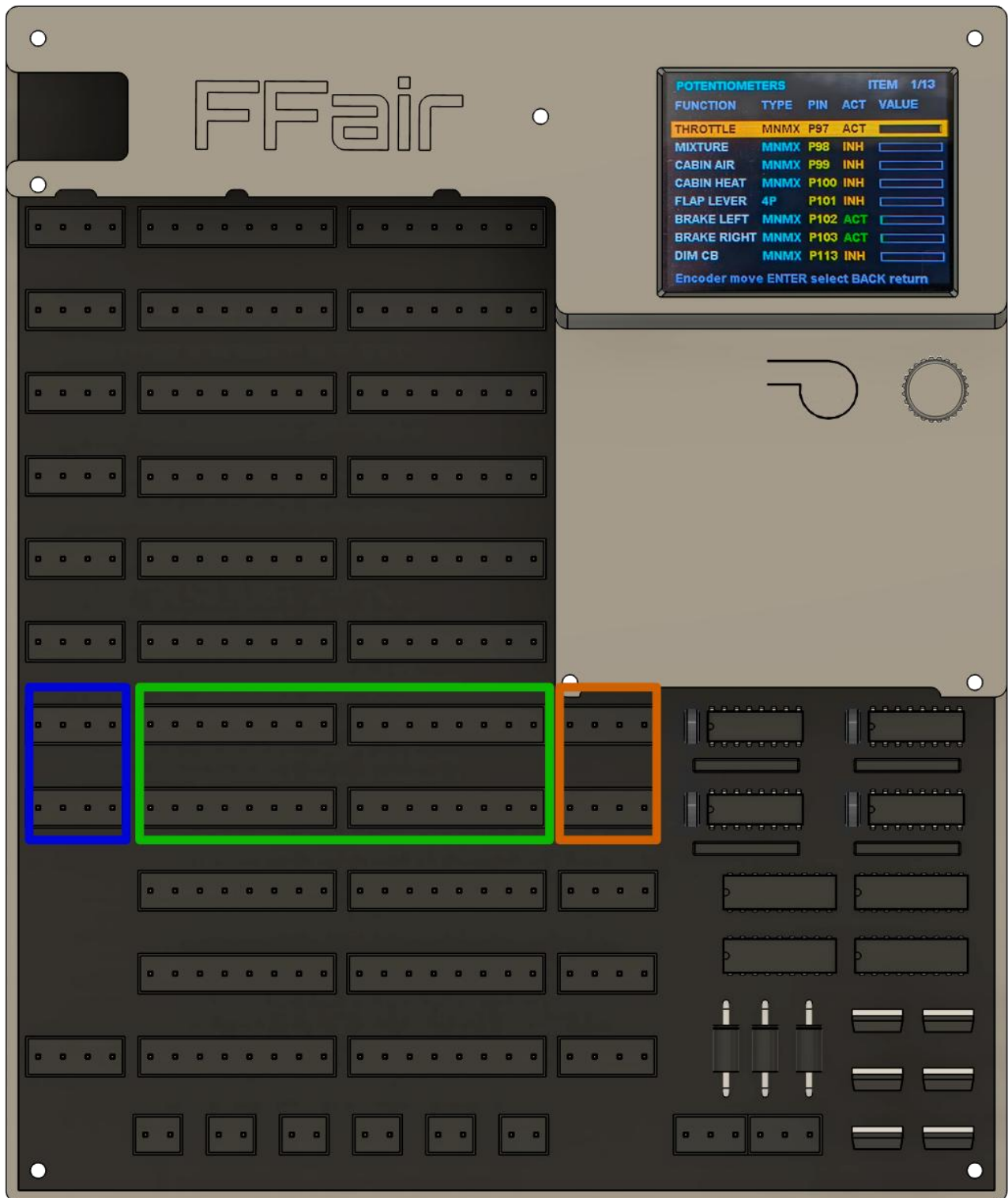


DESCRIPTION

- Rotary encoder: connect one pin to GND (blue) and two consecutive signal pins (green). Example: pins 65-66 or 67-68.

Potentiometers

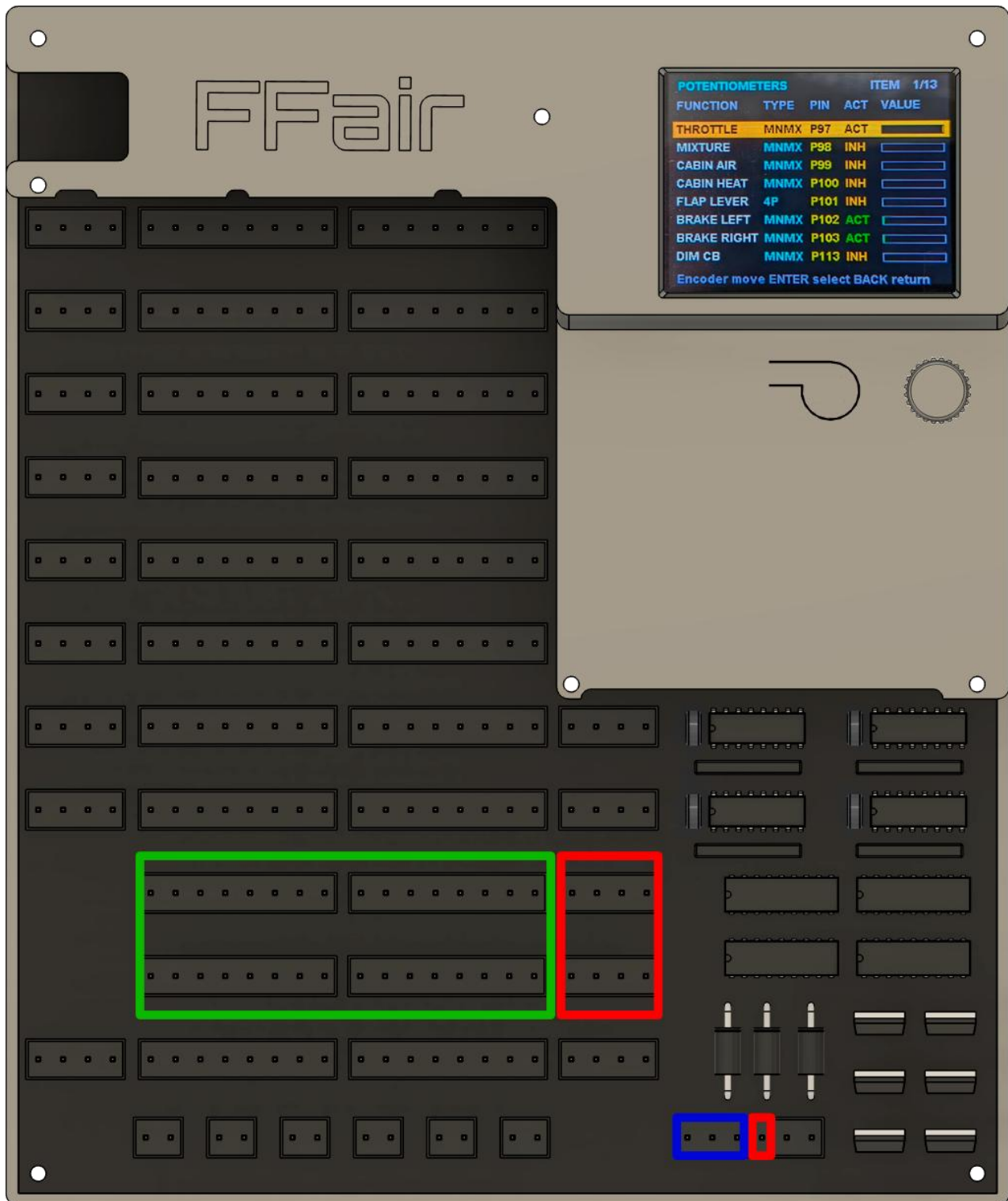
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DESCRIPTION

- Always use potentiometers between 5 kOhm and 100 kOhm. Connect the two outer terminals to GND (blue) and reference voltage (orange), and connect the wiper to the signal input (green).
- An external power supply is not required for reading potentiometers.

LEDs



DESCRIPTION

- An external power supply is required. Connect supply GND to any blue pin shown in the diagram. The board supports up to 36 V; 5 V and 12 V supplies are commonly used.
- A series resistor is mandatory for every LED. Connect LED positive to red and LED negative to green.
- Maximum current is 500 mA per pin, derated to 100 mA per pin when many outputs are used simultaneously. A standard LED normally provides high brightness at 5-10 mA.

PWM / Servo

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DESCRIPTION

- An external power supply is required. Servos normally use 5 V, although some models use 12 V.
- Servo wiring: connect GND, normally black, to blue; positive, normally red, to yellow; and signal, normally white or orange, to green.
- For external PWM modules, connect FFair_IO GND to the module GND and connect the PWM output to the module input.

High-Current Outputs

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DESCRIPTION

- An external board power supply is required. Maximum voltage: 30 V.
- Use the high-current outputs in pairs within the green area: connect GND to one pin and positive to the other. The two pins are interchangeable.