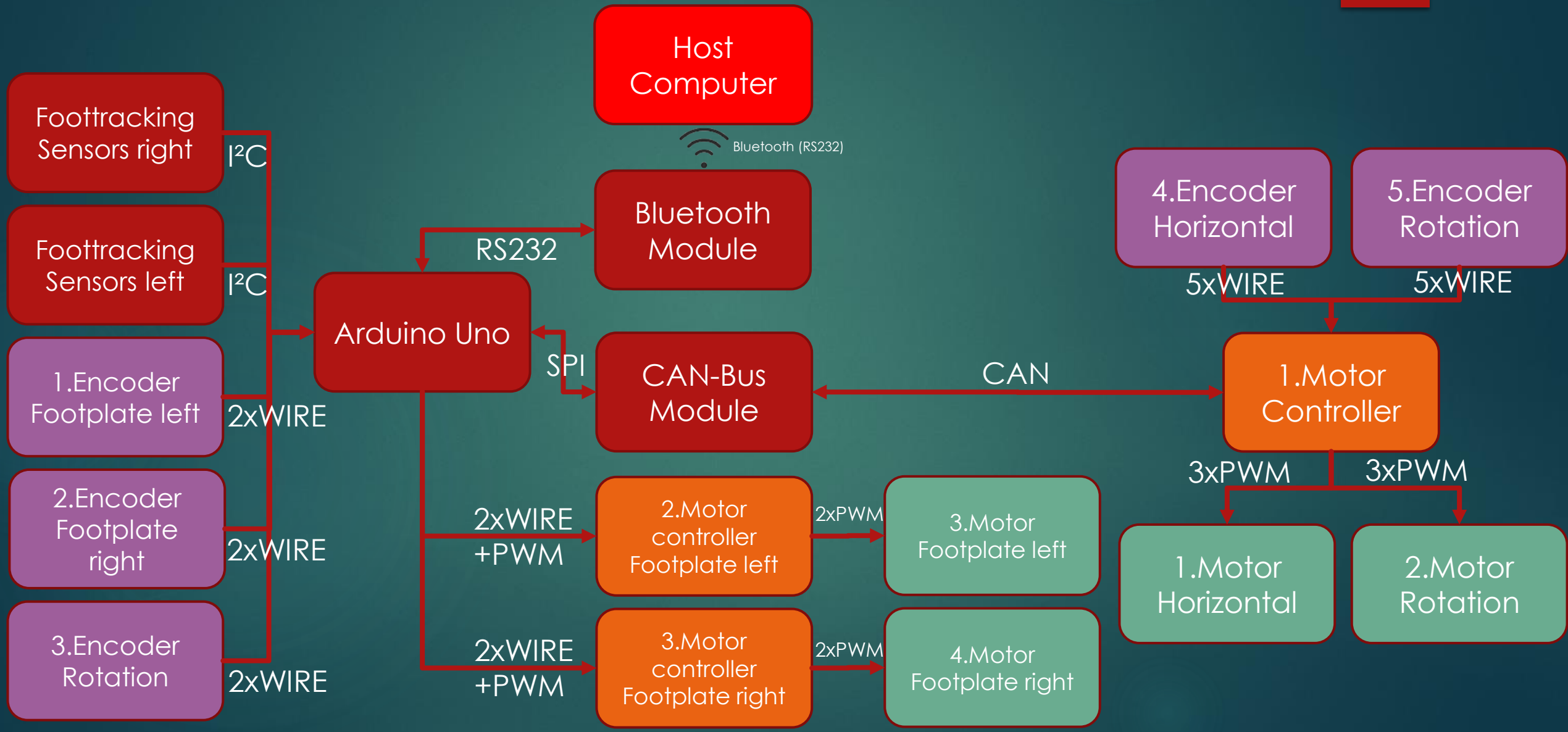
VR-Crosswalk

COMMUNICATION BETWEEN EACH COMPONENT

Communication Overview



Arduino Uno – Bluetooth Module

Arduino Uno

RS232

Bluetooth Module

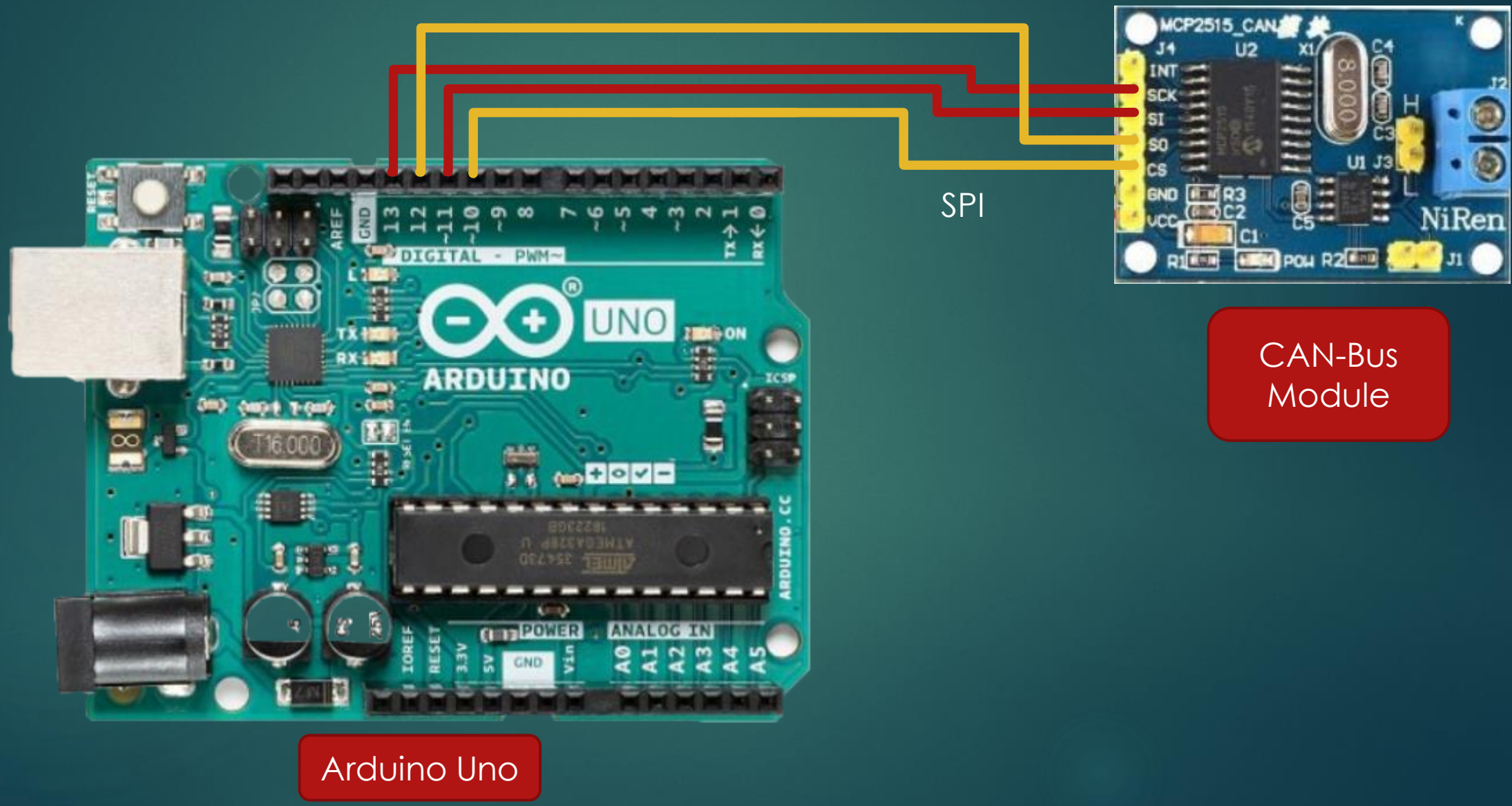
Bluetooth Module – Host Computer

Bluetooth Module

Bluetooth (RS232)

Host Computer

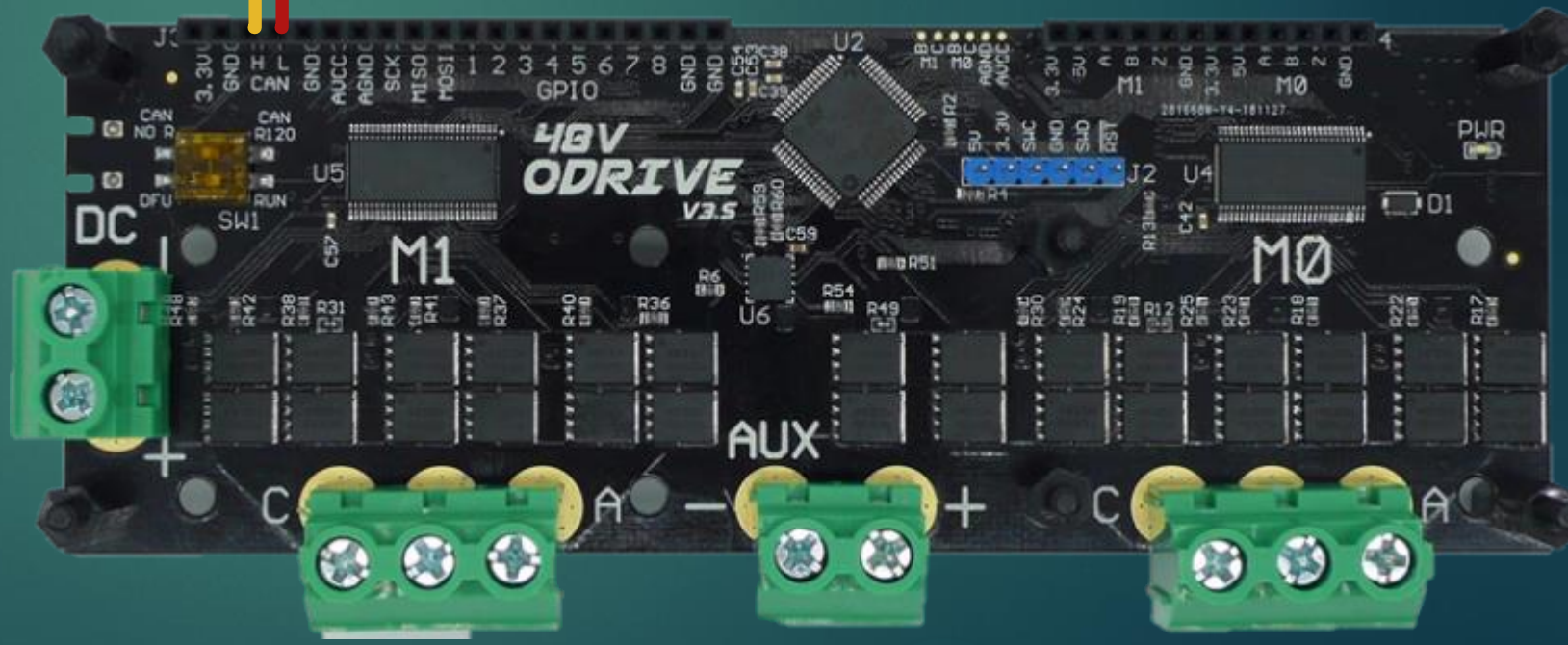
Arduino Uno – CAN-Bus Module



CAN-Bus Module – 1.Motor Controller

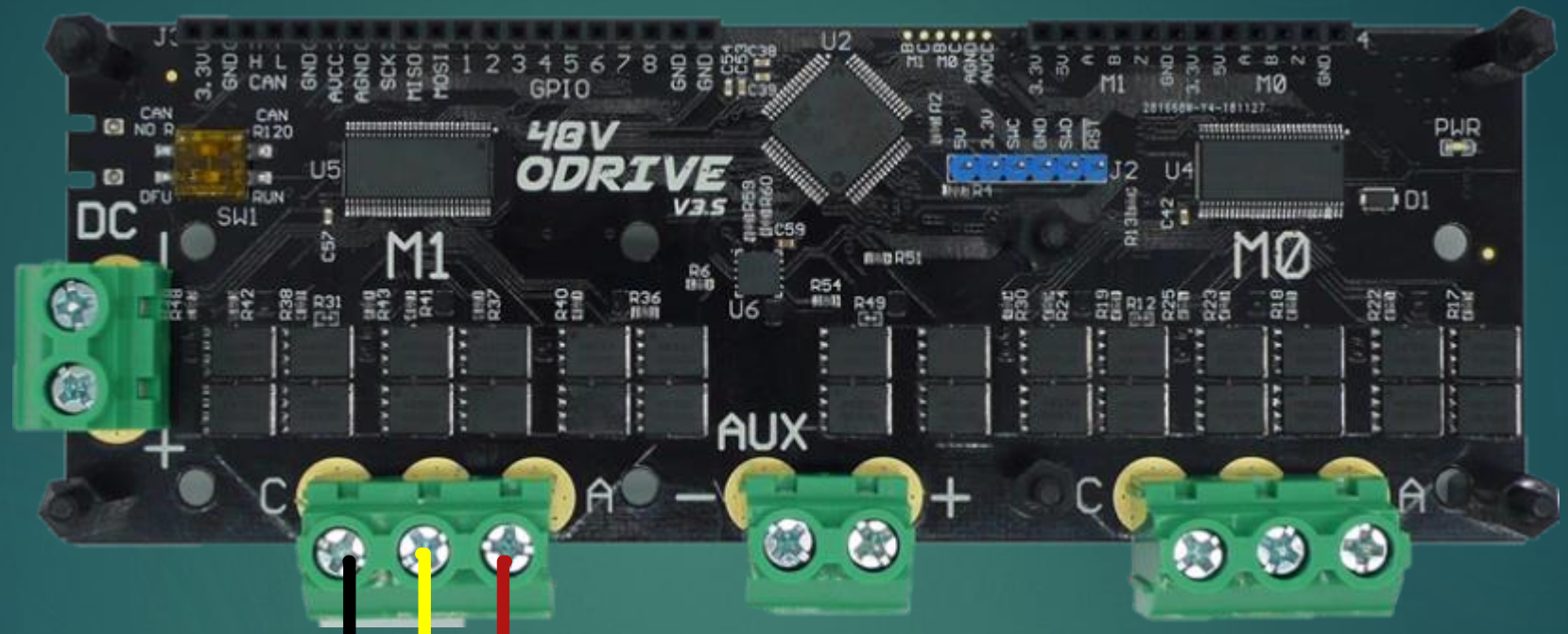
CAN-Bus Module

CAN



1.Motor Controller

1.Motor Controller – 1.Motor Horizontal

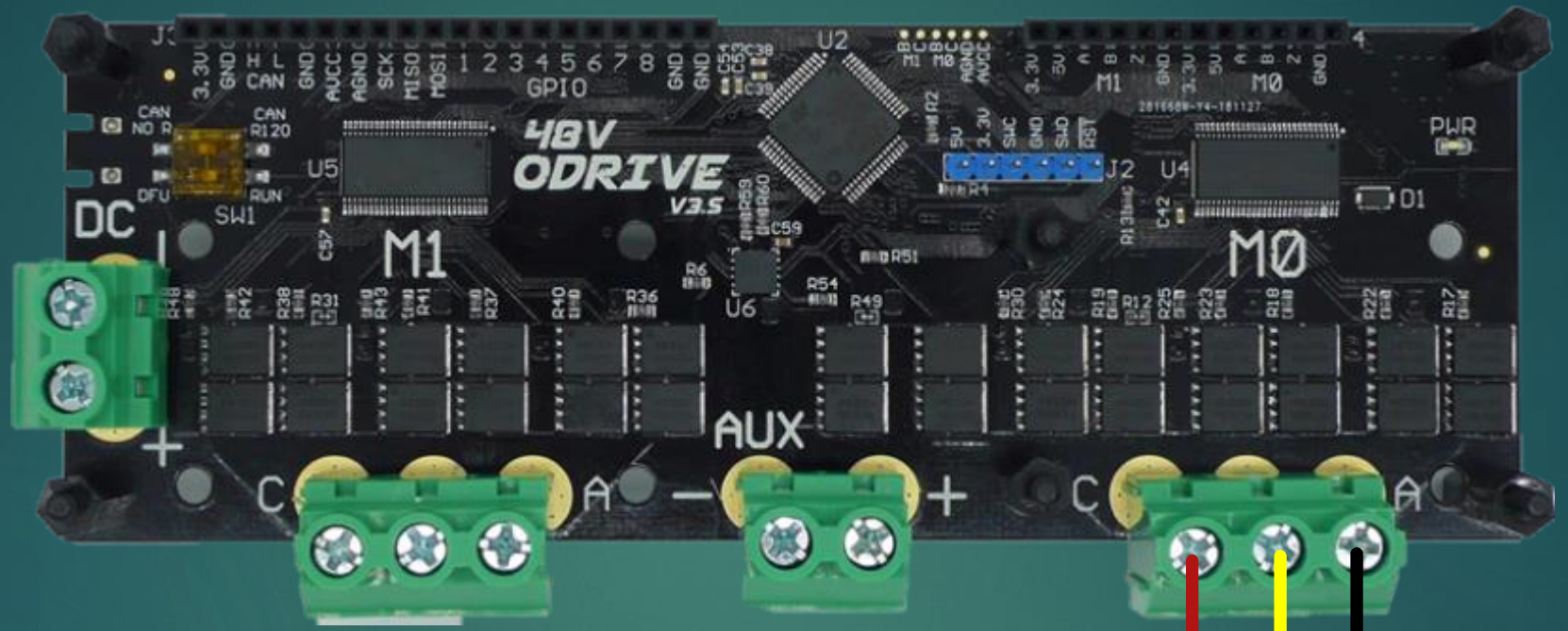


1.Motor Horizontal

1.Motor Controller

3xPWM

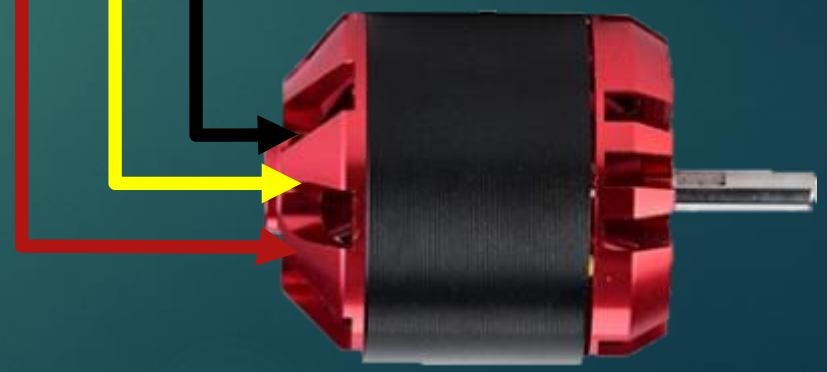
1.Motor Controller – 2.Motor Rotation



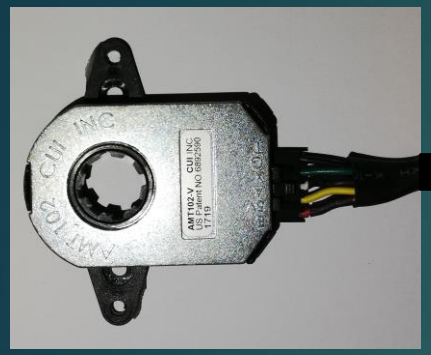
1.Motor Controller

2.Motor Rotation

3xPWM

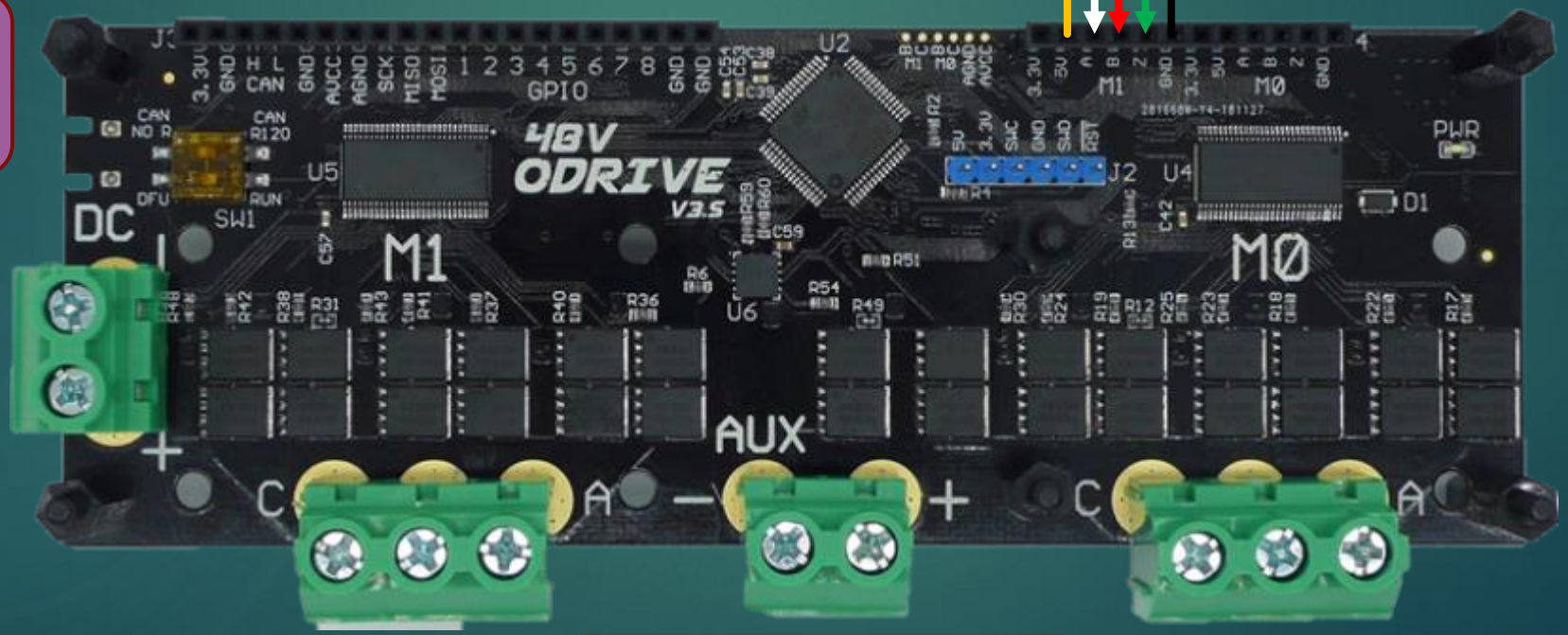


1.Motor Controller – 4.Encoder Horizontal



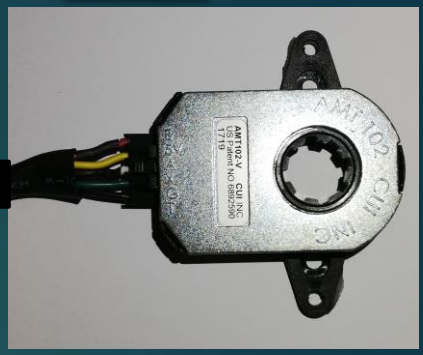
5xWIRE

4.Encoder Horizontal

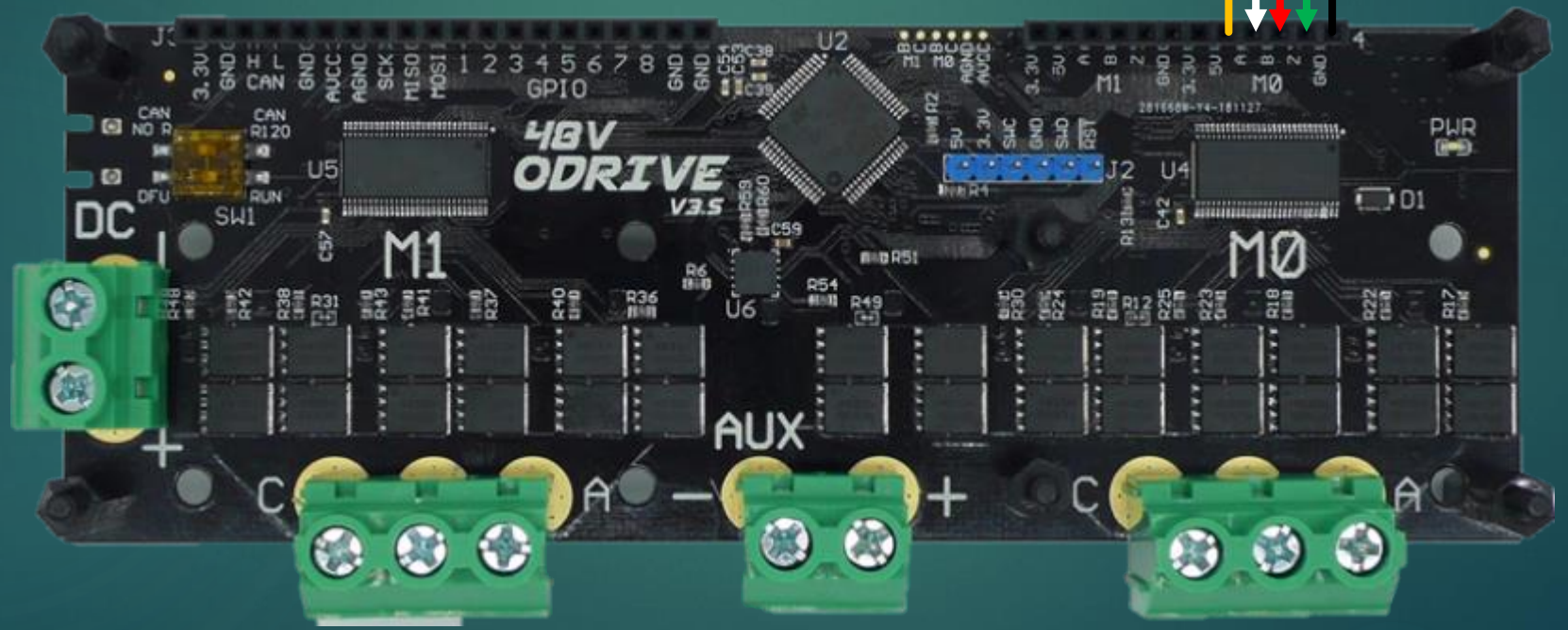


1.Motor Controller

1.Motor Controller – 5.Encoder Rotation



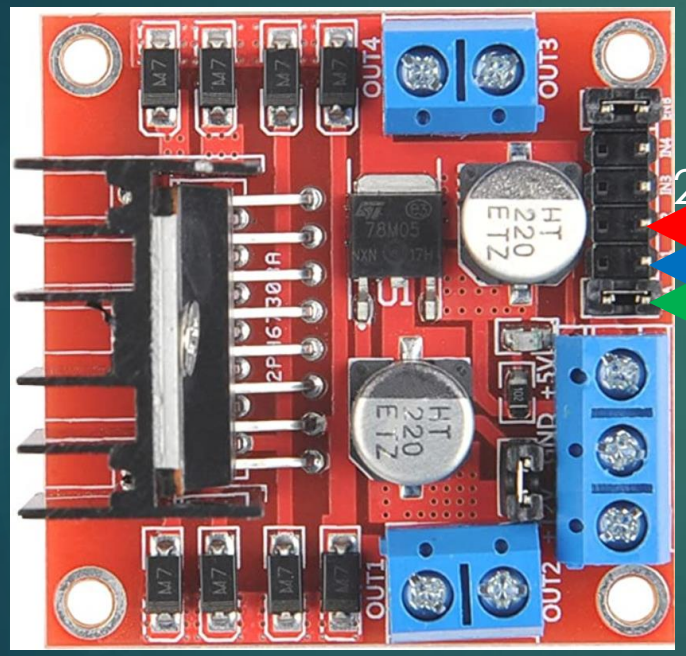
5xWIRE



5.Encoder Rotation

1.Motor Controller

Arduino Uno – 2.Motor controller Footplate left



2xWIRE

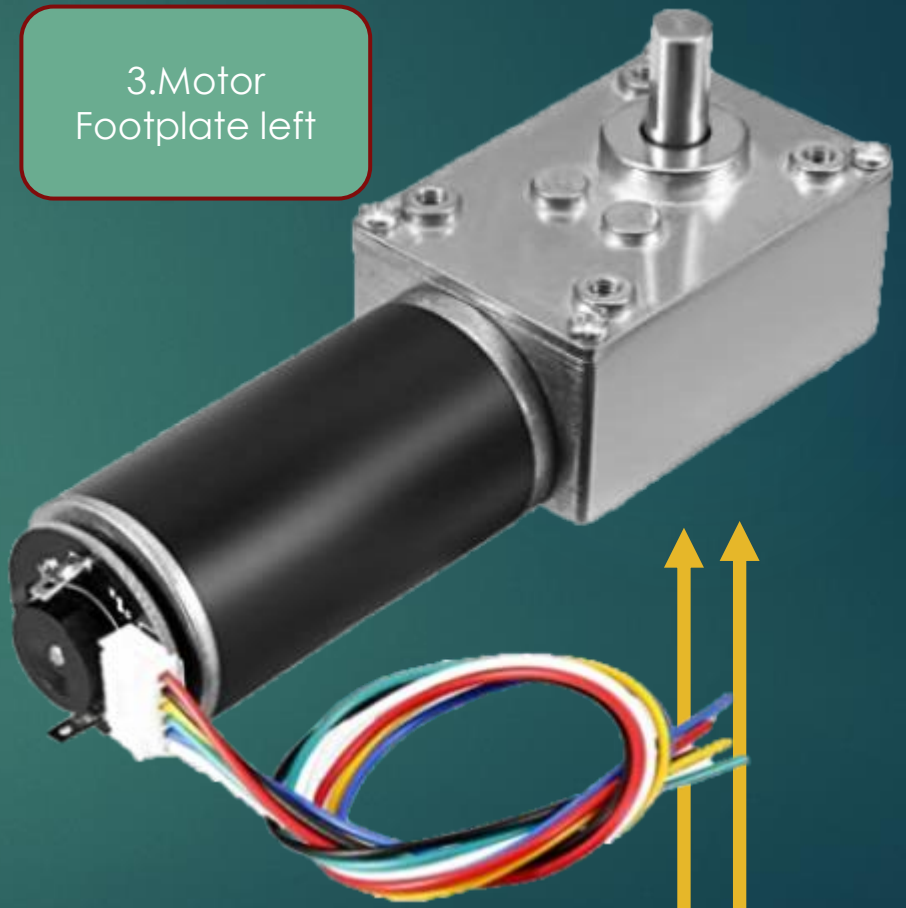
PWM

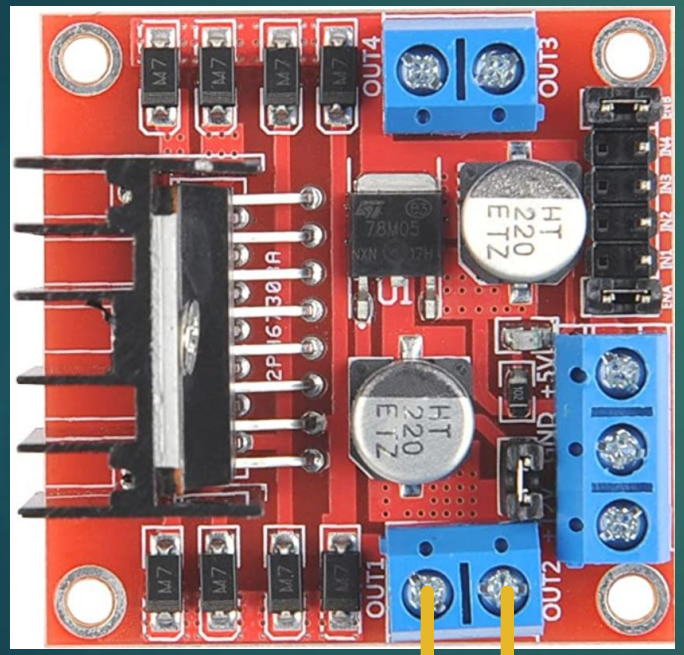
2.Motor controller Footplate left

Arduino Uno

2.Motor controller Footplate left – 3.Motor Footplate left

3.Motor Footplate left

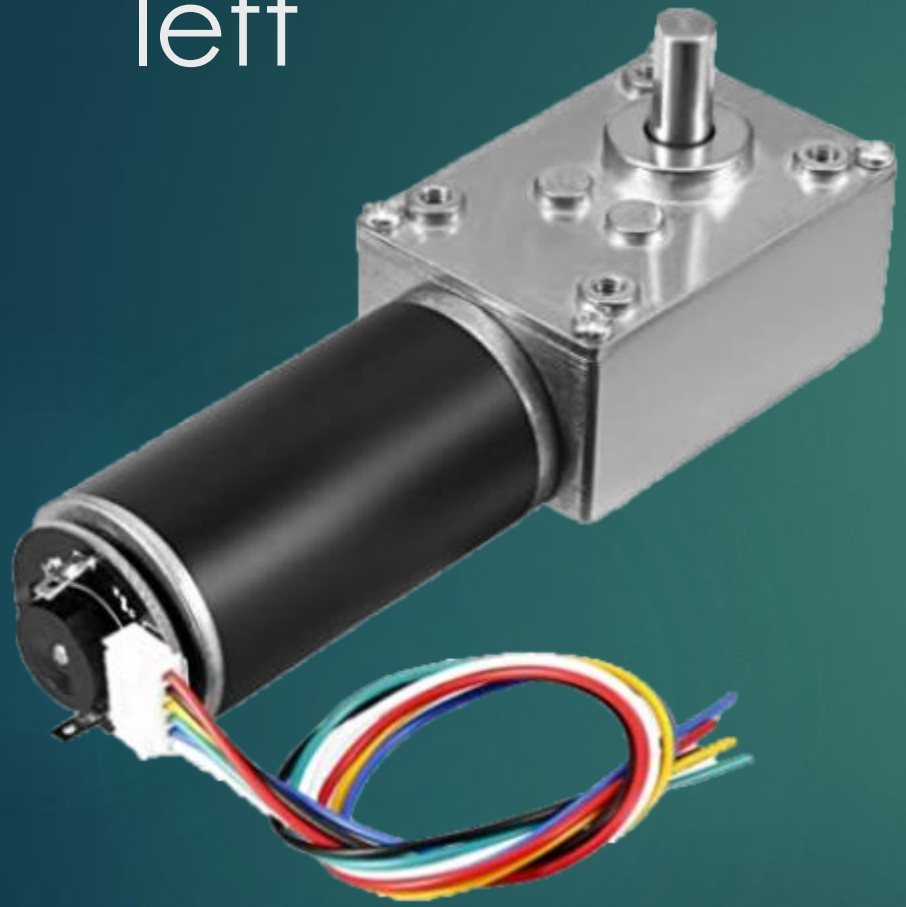




2.Motor controller Footplate left

2xPWM

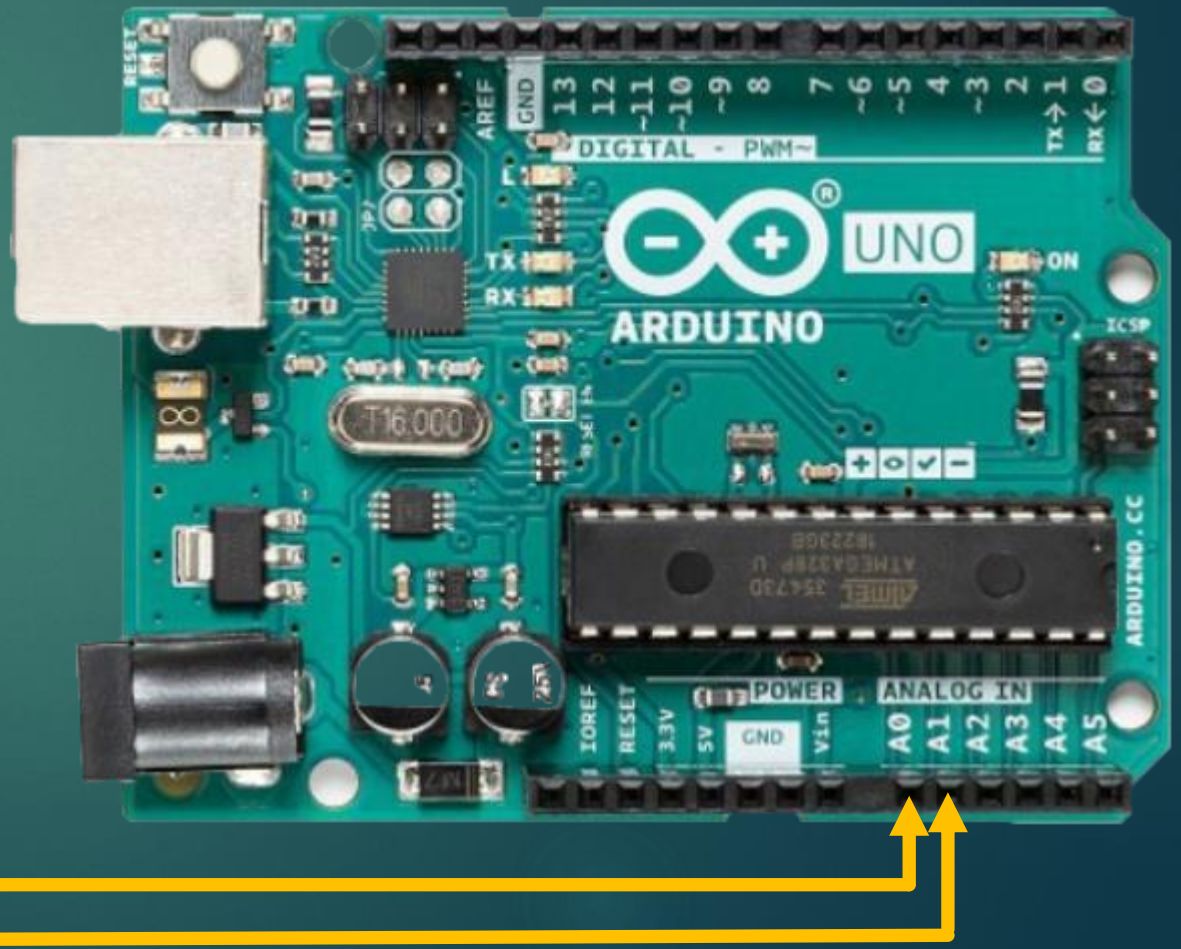
Arduino Uno – 1.Encoder Footplate left



1.Encoder Footplate left

2xWIRE

Arduino Uno

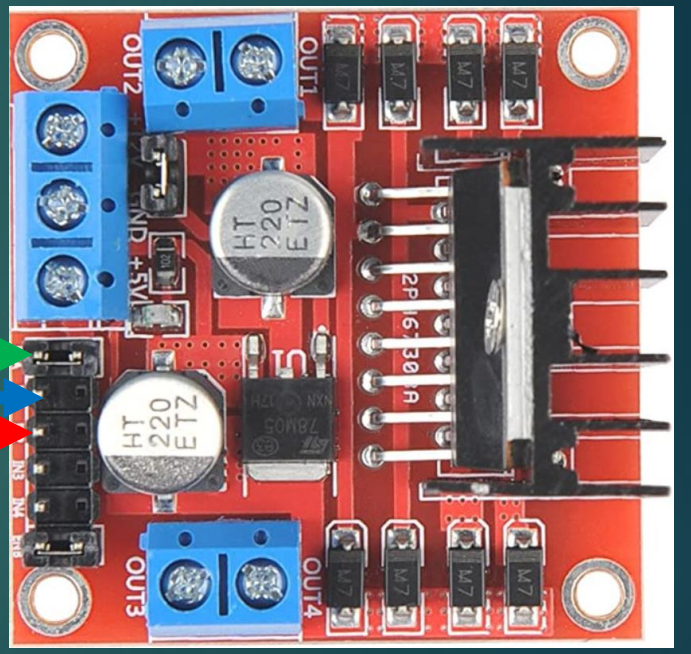


Arduino Uno – 3.Motor controller Footplate right

Arduino Uno

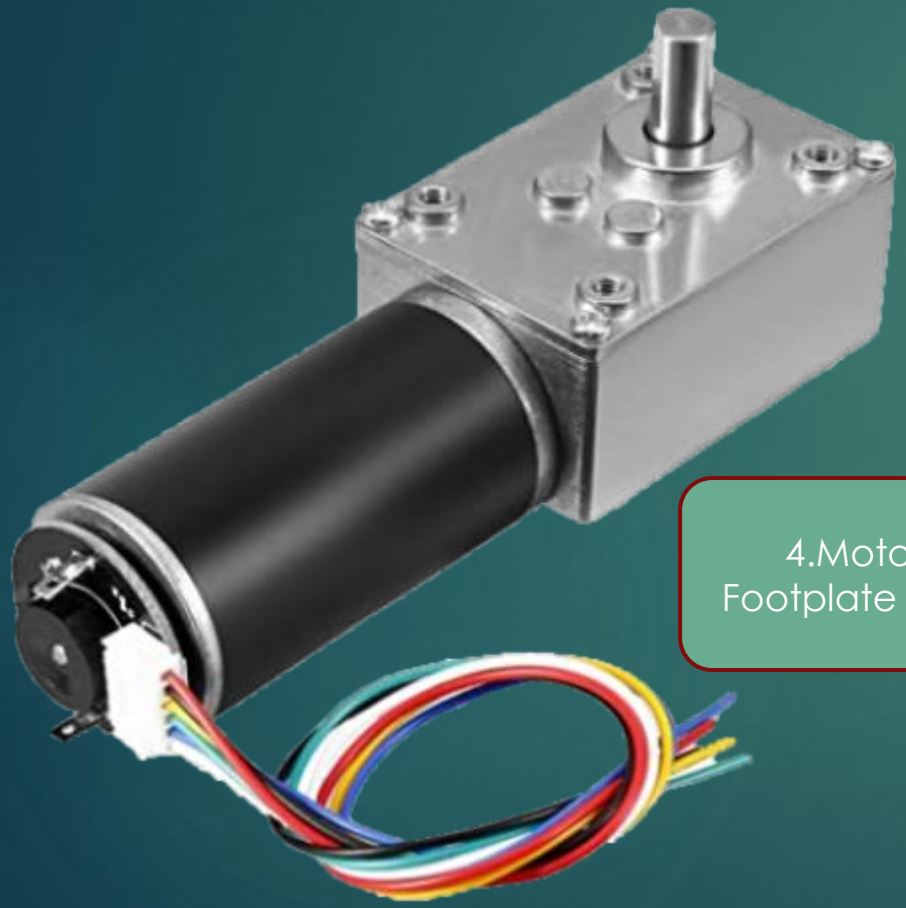
PWM

2xWIRE



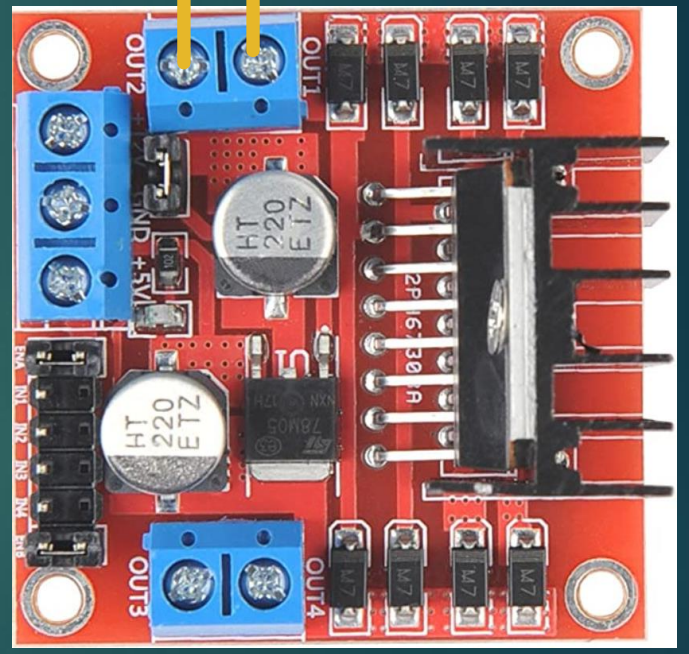
3.Motor controller Footplate right

3.Motor controller Footplate right – 4.Motor Footplate right



4.Motor Footplate right

2xPWM

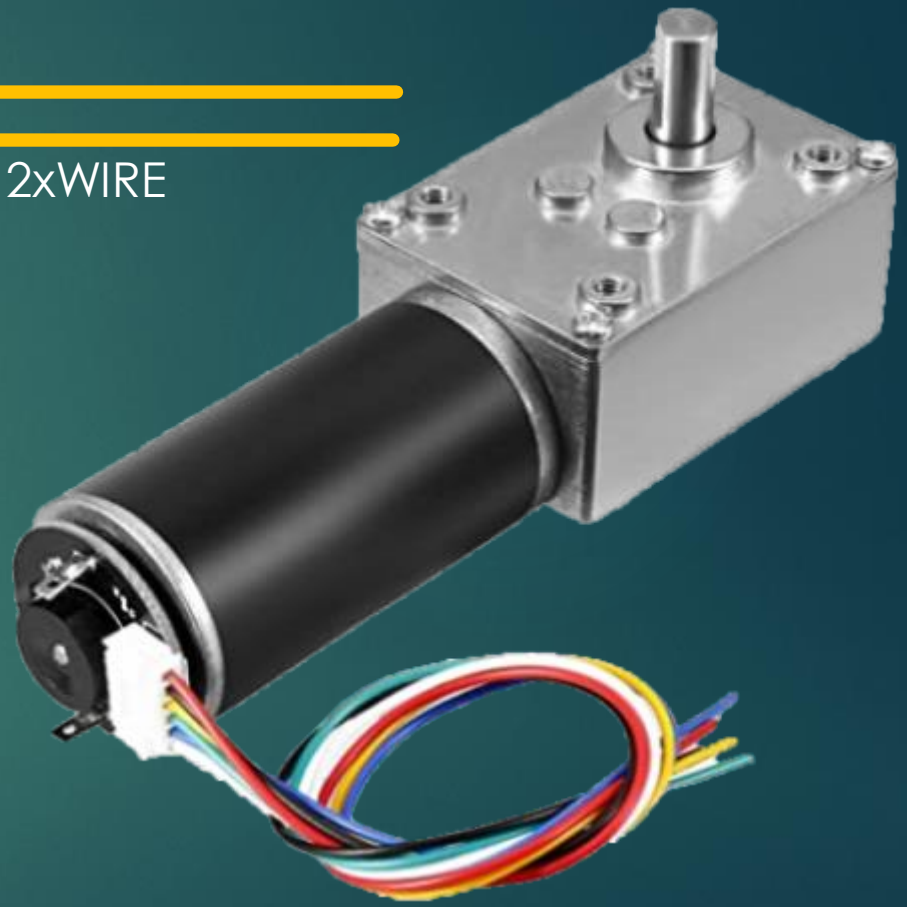


3.Motor controller Footplate right

Arduino Uno – 2.Encoder Footplate right

Arduino Uno

2xWIRE



2.Encoder Footplate right

Arduino Uno – 3.Encoder Rotation

Arduino Uno

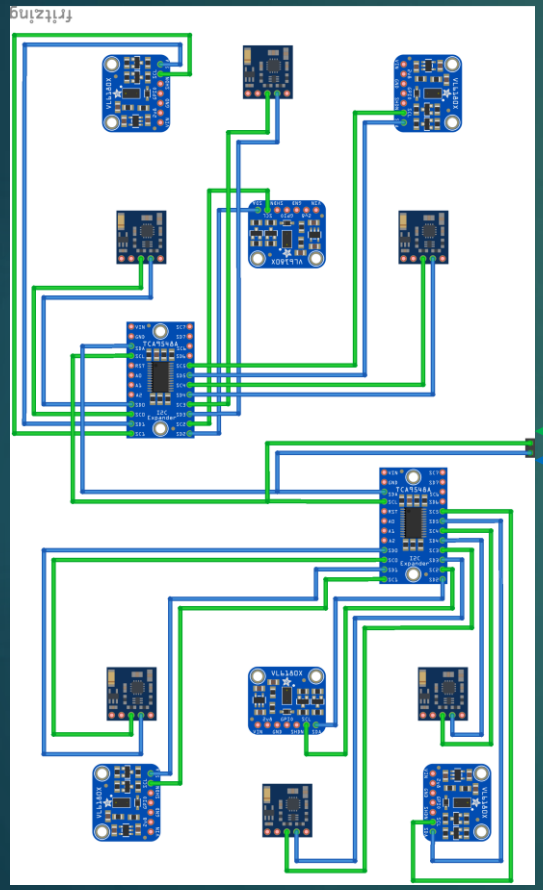
2xWIRE

3.Encoder Rotation

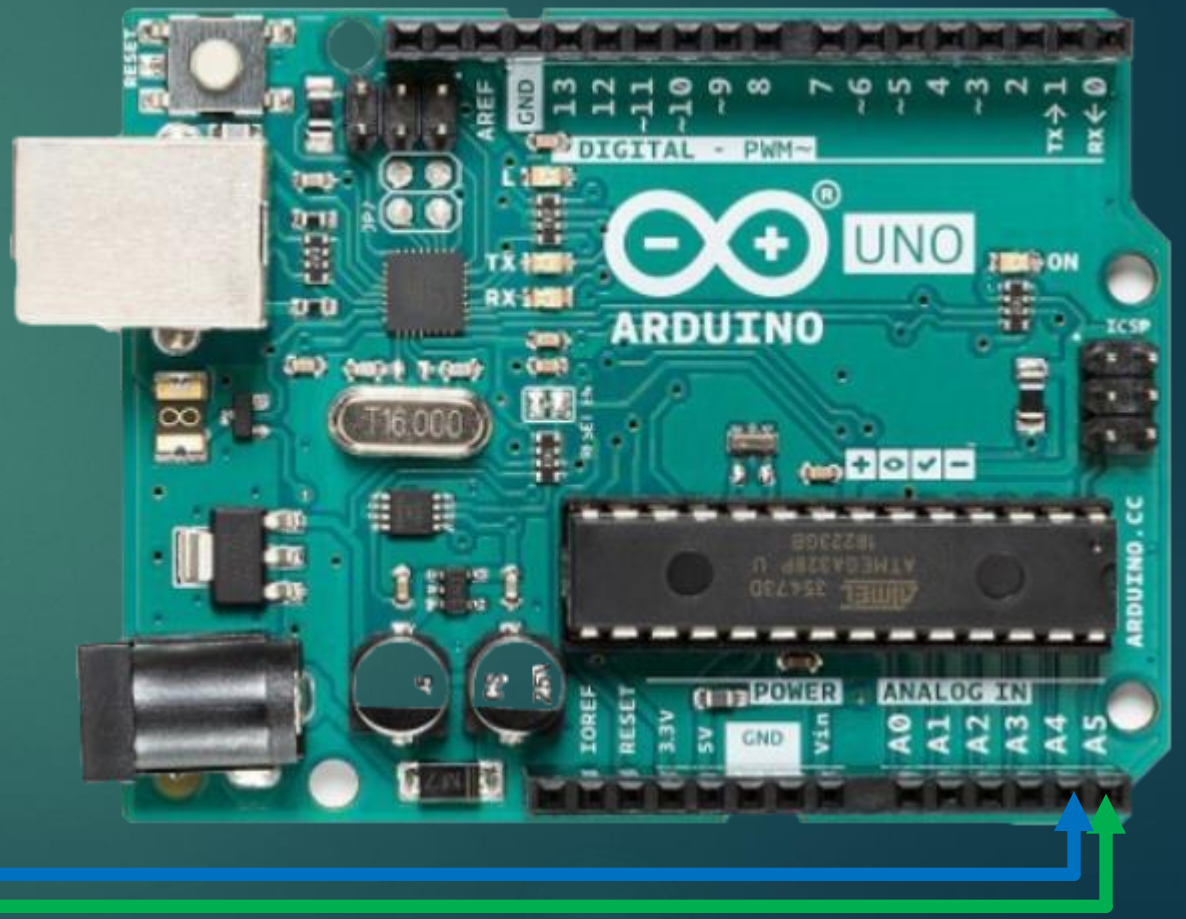
Arduino Uno – Foottracking Sensors left

Arduino Uno

Foottracking Sensors left



I²C

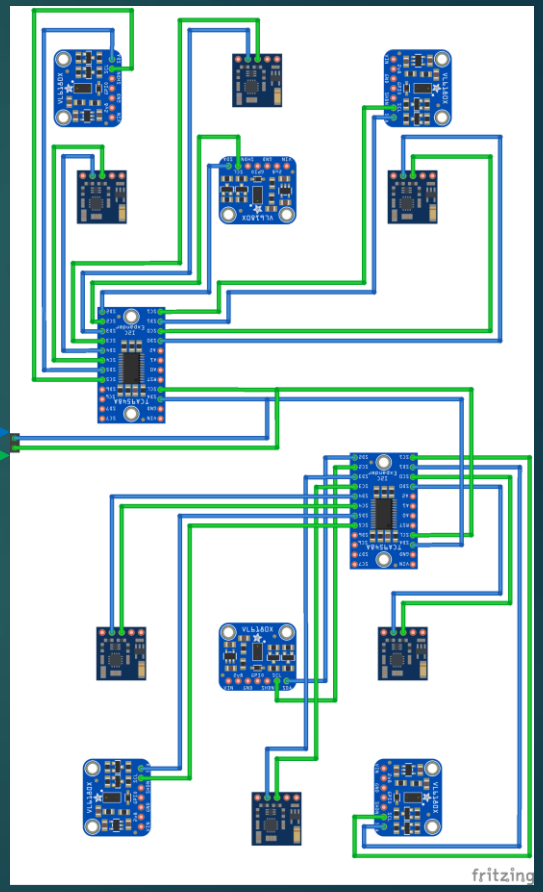


Arduino Uno – Foottracking Sensors right

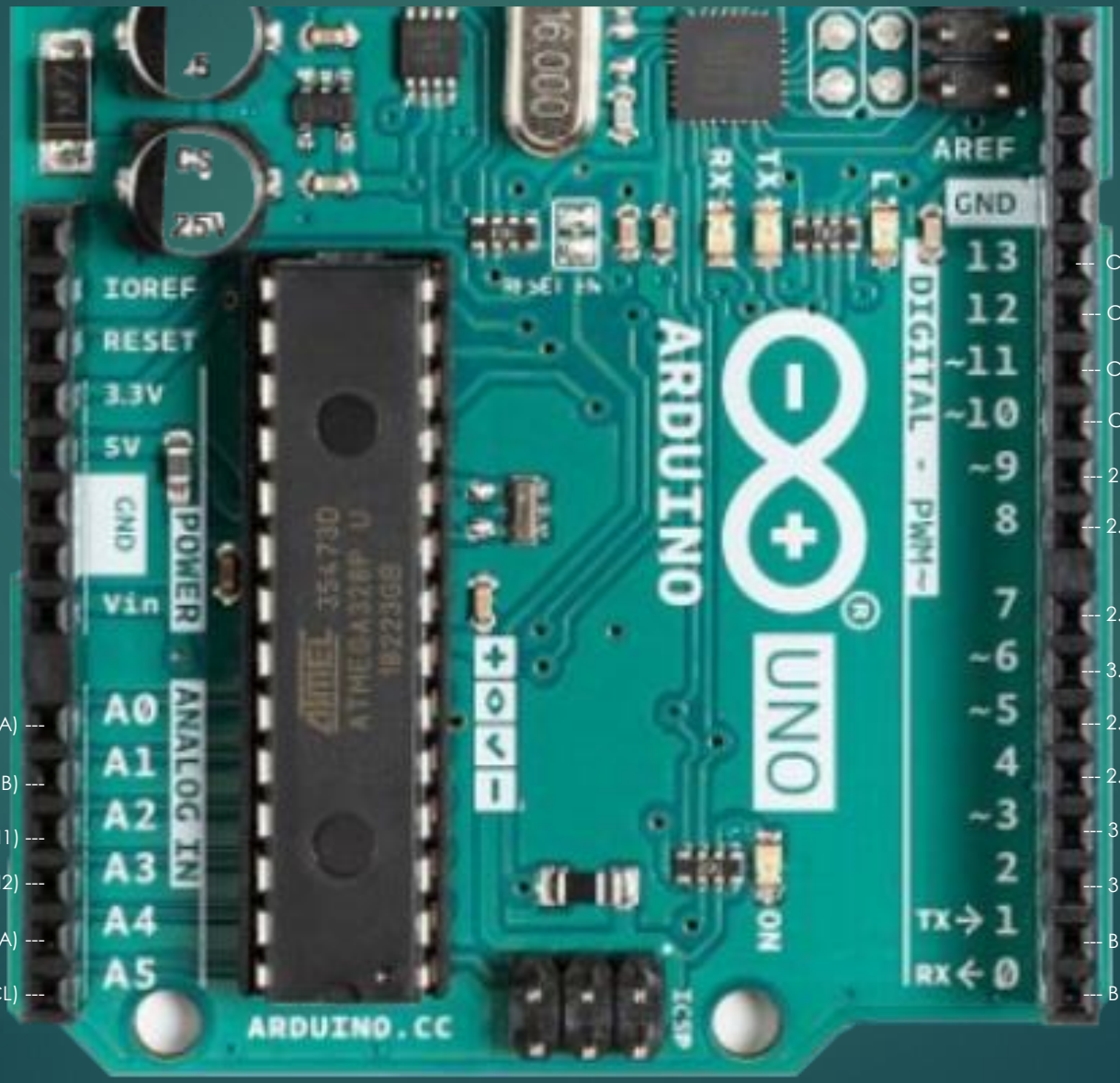
Arduino Uno

Foottracking Sensors right

I²C



Arduino Uno – PIN Overview



1.Encoder Footplate left (Channel A) ---

1.Encoder Footplate left (Channel B) ---

3.Motor controller Footplate right (EN1) ---

3.Motor controller Footplate right (EN2) ---

Foottracking Sensors (SDA) ---

Foottracking Sensors (SCL) ---

--- CAN-Bus Module (SCK)

--- CAN-Bus Module (S0)

--- CAN-Bus Module (SI)

--- CAN-Bus Module (CS)

--- 2.Motor controller Footplate left (PWM/Enable)

--- 2.Motor controller Footplate left (EN1)

--- 2.Motor controller Footplate left (EN2)

--- 3.Motor controller Footplate right (PWM/Enable)

--- 2.Encoder Footplate right (Channel A)

--- 2.Encoder Footplate right (Channel B)

--- 3.Encoder Rotation (Channel A)

--- 3.Encoder Rotation (Channel B)

--- Bluetooth Module (RX)

--- Bluetooth Module (TX)