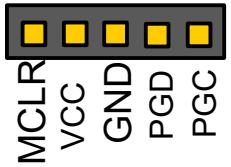
TWO-WHEELS SELF-BALANCING ROBOT V2P2 AND ROBOT CONTROLLER V3.6

Getting Started

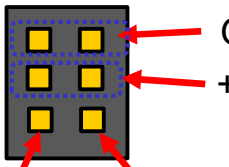


The Robot Controller (V3.6)

In-Circuit Serial Programming Port
For micro-controller

dsPIC33E Micro-controller

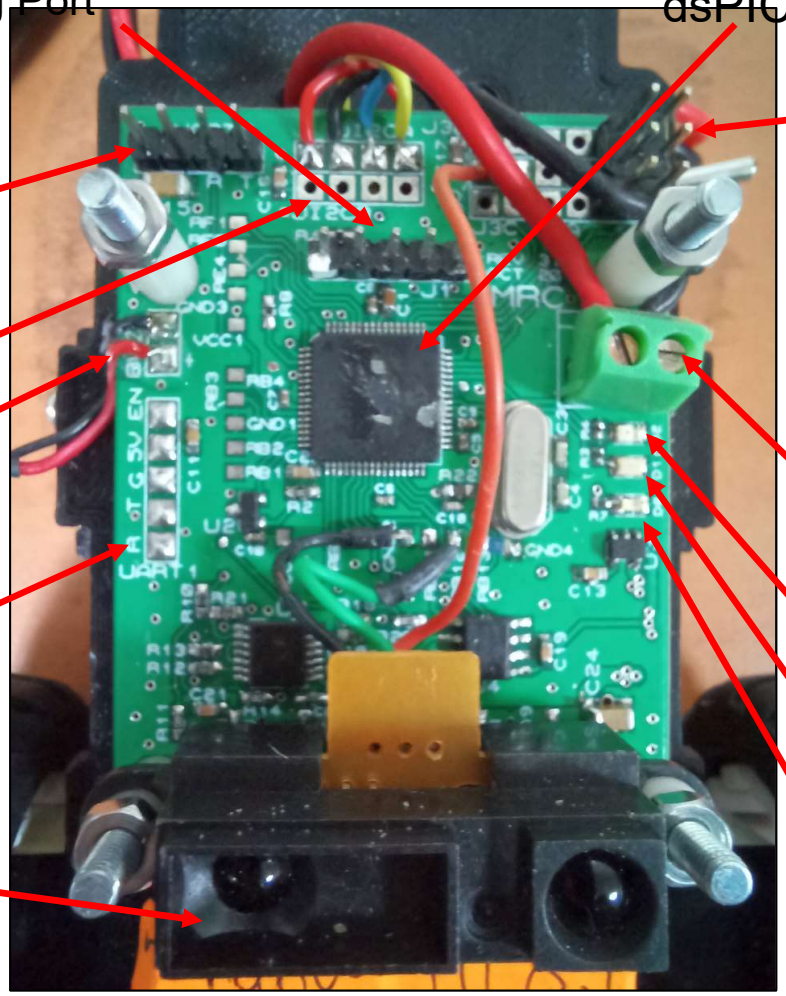
RC Servo Motor Ports x2



Signal (Motor 1)

Signal (Motor 0)

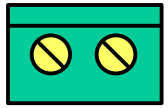
Auxiliary UART Port (To User Controller)



I²C Port (to IMU Sensor)

To Speaker

To Battery (6 to 9.0V)



Primary UART Port (to Bluetooth Module)

UART Activity Indicator (Green)

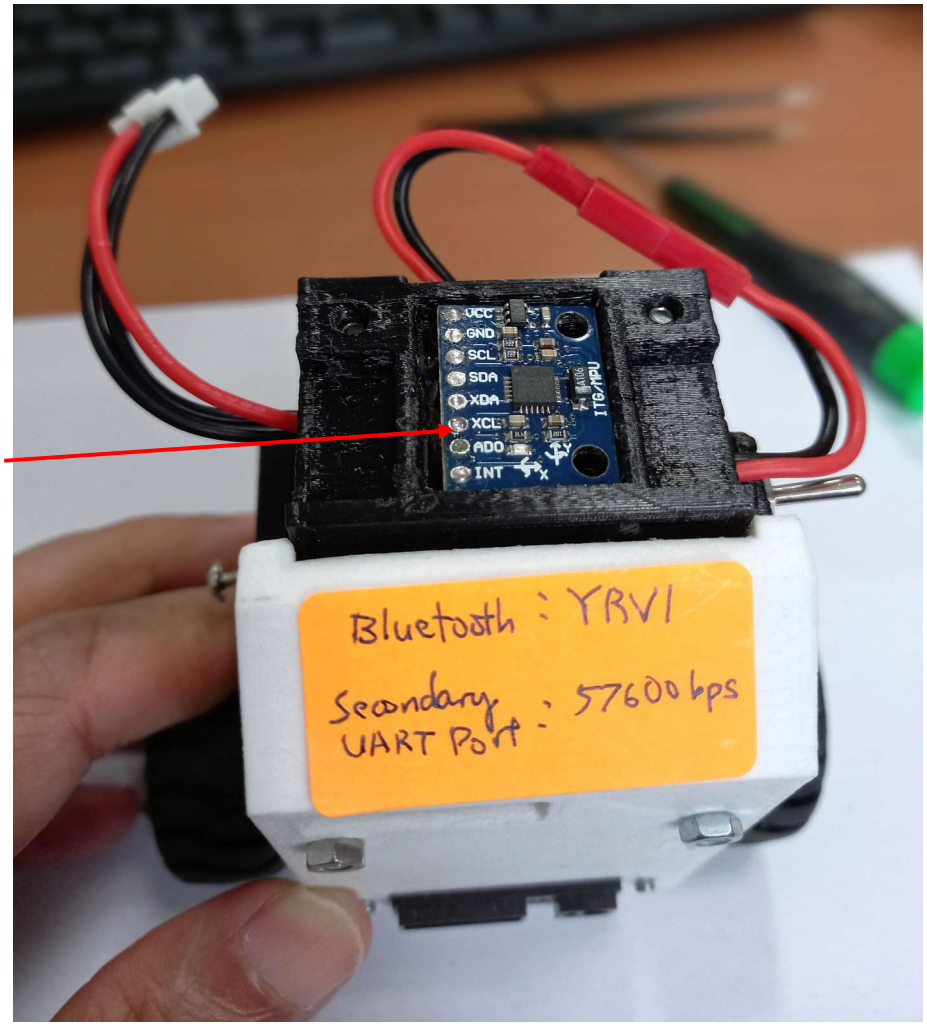
CPU Heartbeat Indicator (Red)

Sharp's IR Proximity (Also called distance) Sensor

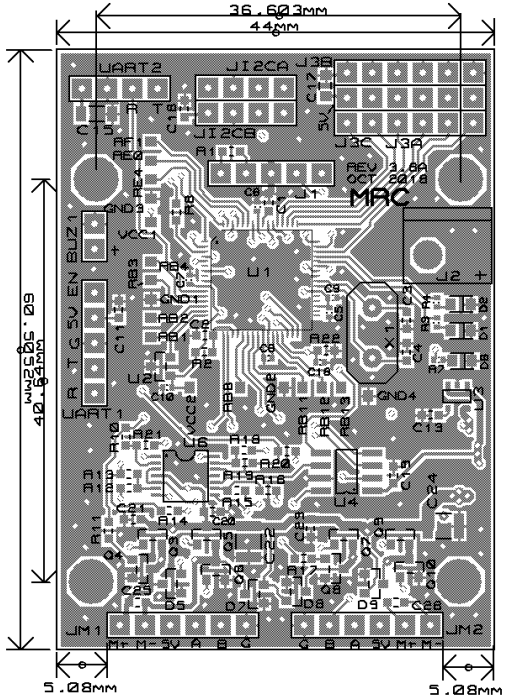
Motor Driver Power Indicator (Yellow)

The Inertial Measurement Unit (IMU)

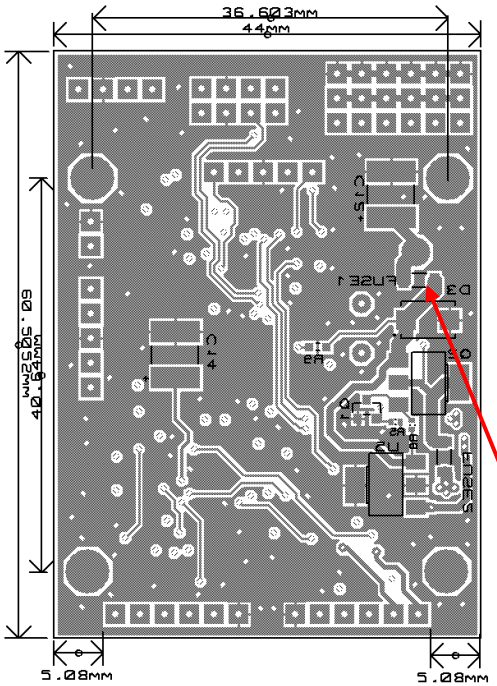
MPU6050



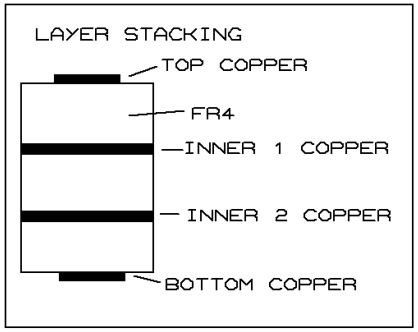
PCB Top and Bottom View



Top View

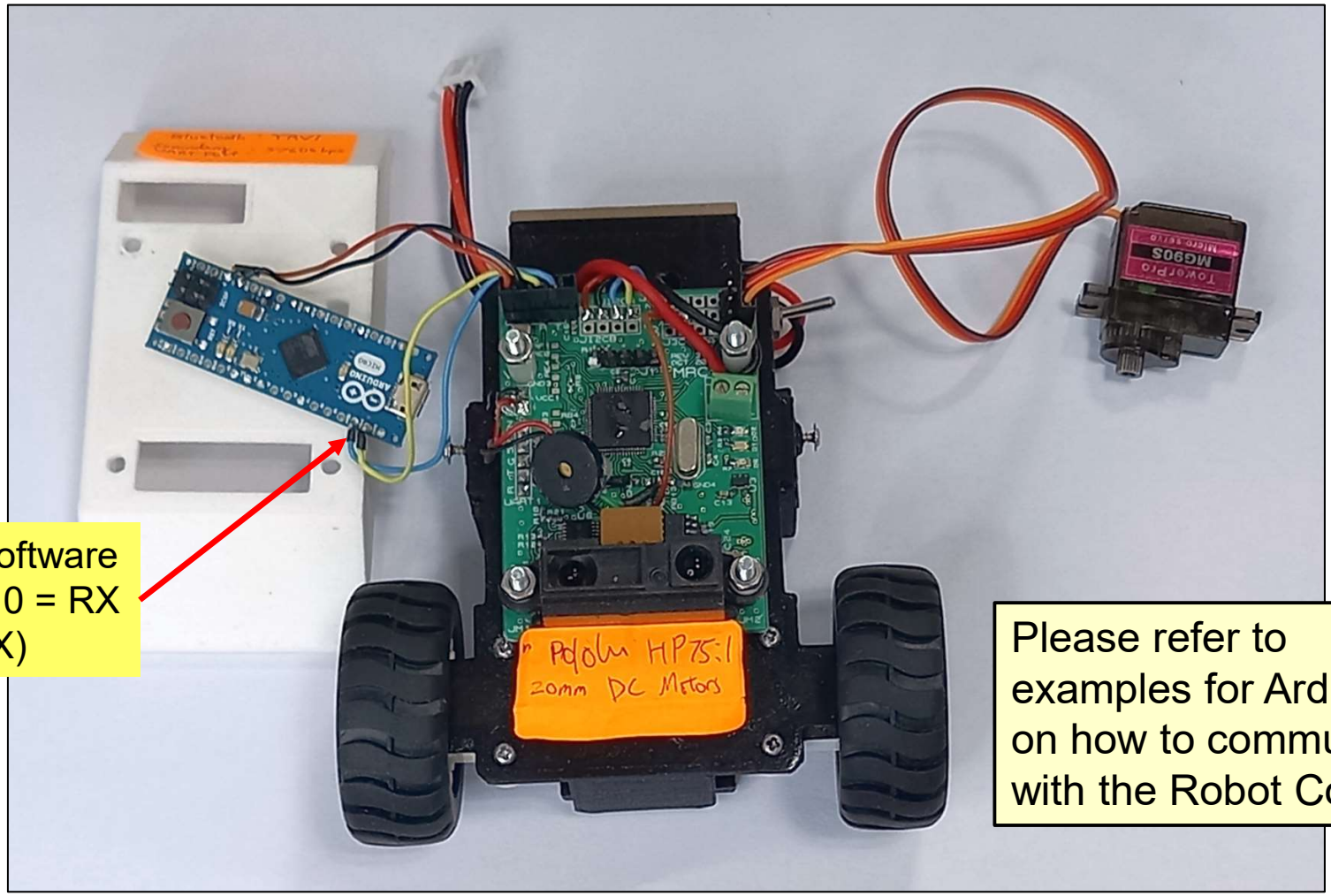


Bottom View



SMD Fuse
(1206 size, 4A)
Note: This fuse is
To protect against
Short circuit or over
-current fault
in the motor
driver.

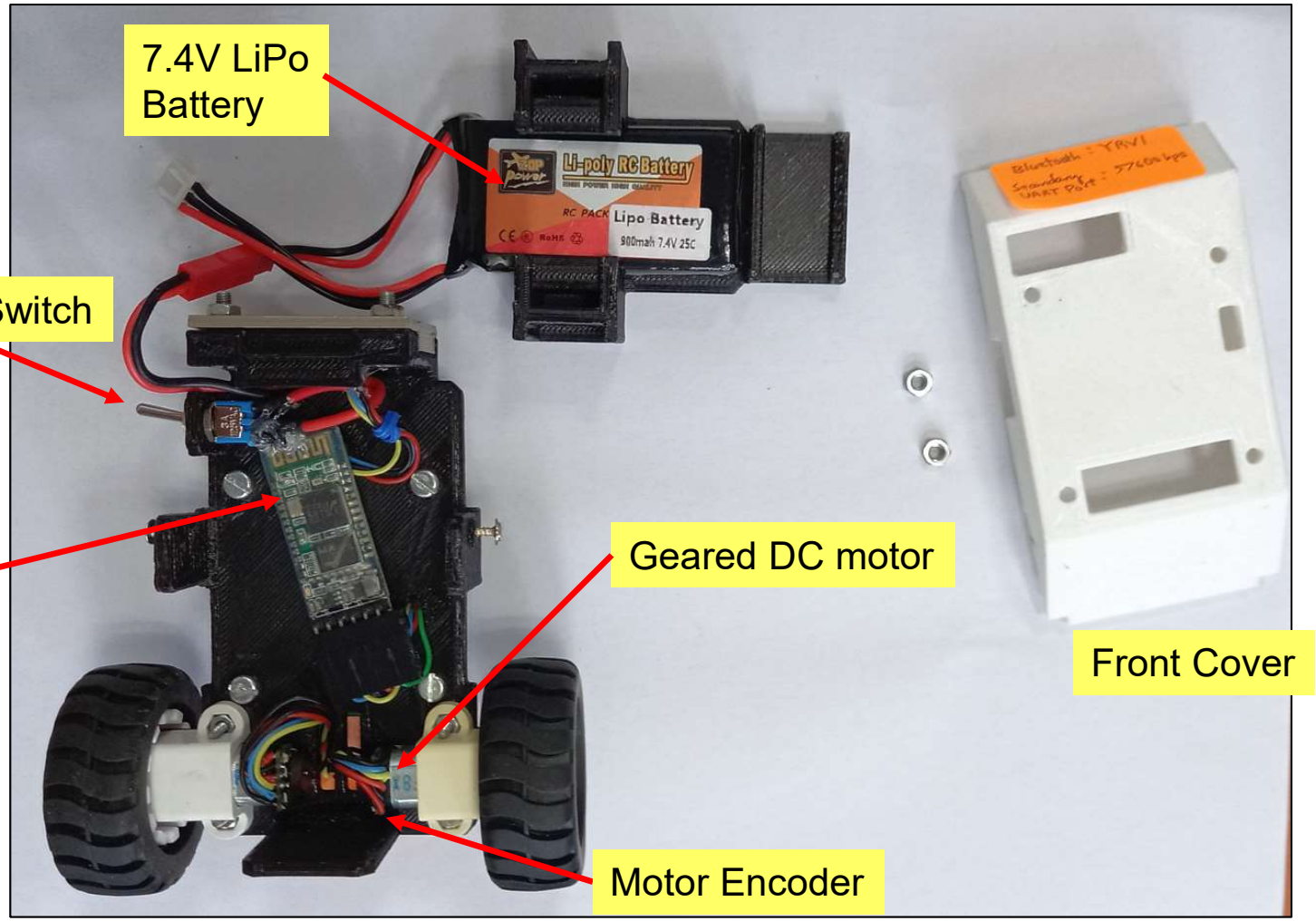
Example – Connecting Arduino Micro and RC Servo Motor to the Robot Controller



Using Software Serial (10 = RX , 11 = TX)

Please refer to examples for Arduino on how to communicate with the Robot Controller

Maintenance – Removing the LiPo Battery Pack



Maintenance – Lubricating the Motor Gearbox