

## Wheel Modules

The wheel modules run off of a Teensy 3.6 development board and capture IMU signals from the wheels to transmit wirelessly through bluetooth.

### CarisPAWMsg

```
carisPAWMsg.time_stamp = timeSinceTeensyStart (ms)
carisPAWMsg.sensorType =IMU_6
carisPAWMsg.acc_x = x acceleration value in g
carisPAWMsg.acc_y = y acceleration value in g
carisPAWMsg.acc_z = z acceleration value in g
carisPAWMsg.angular_x = x ang. velocity value in deg/s
carisPAWMsg.angular_y = y ang. velocity value in deg/s
carisPAWMsg.angular_z = z ang. velocity value in deg/s
```

#### Left Wheel Module

Calibrate in static state to remove offsets

Variable in Memory



333.33 Hz

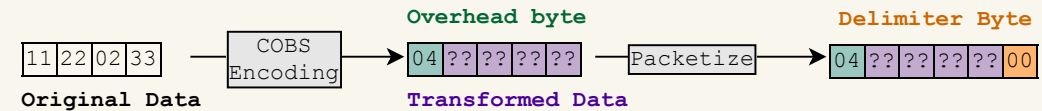
Read data from MPU-6050 (6-axis IMU)

TeensyClient.ino

[Encode Message Using Proto Buffers](#)

Encode proto buffers using COBS

Transmit packet to server via Bluetooth



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