NOTE: All ***keys*** are expressed as **strings**. ***Values*** enclosed *in quotes* are **strings**, while those *not enclosed in quotes* are expressed as **integers**.

Commands

Analog Write

(For TRUE analog pin. For PWM write, see Pwm Write)

```
{“command”: “analog_write”, "pin": PIN, "tag":”TAG”, “value”: VALUE}
```

NOTES:

1. TAG is an optional parameter to provide an alias or name for the pin number. If TAG is specified, then PIN can be omitted.

Digital Write

```
{"command": "digital_write", "pin": PIN, "tag": "TAG", “value”:
VALUE}
```

NOTES:

1. TAG is an optional parameter to provide an alias or name for the pin number. If TAG is specified, then PIN can be omitted.

Disable Analog Reporting

```
{"command": "disable_analog_reporting", "pin": PIN, "tag": "TAG"}
```

NOTES:

1. TAG is an optional parameter to provide an alias or name for the pin number. If TAG is specified, then PIN can be omitted.

Disable Digital Reporting

```
{"command": "disable_digital_reporting", "pin": PIN, "tag": "TAG"}
```

NOTES:

1. TAG is an optional parameter to provide an alias or name for the pin number. If TAG is specified, then PIN can be omitted.

Enable Analog Reporting

```
{"command": "enable_analog_reporting", "pin": PIN, "tag": "TAG"}
```

NOTES:

1. TAG is an optional parameter to provide an alias or name for the pin number. If TAG is specified, then PIN can be omitted.

Enable Digital Reporting

```
{"command": "enable_digital_reporting", "pin": PIN, "tag": "TAG"}
```

NOTES:

1. TAG is an optional parameter to provide an alias or name for the pin number. If TAG is specified, then PIN can be omitted.

I2C Read

```
{"command": "i2c_read", "pin": PIN, "tag": "TAG",
 "addr": I2C ADDRESS, "register": I2C REGISTER,
                      "number_of_bytes": NUMBER OF BYTES}
```

1. TAG is an optional parameter to provide an alias or name for the pin number. If TAG is specified, then PIN can be omitted.

I2C Write

```
{"command": "i2c_write", "pin": PIN, "tag": "TAG",
 "addr": I2C ADDRESS, "register": I2C REGISTER,
                      "data": [DATA IN LIST FORM]}
```

1. TAG is an optional parameter to provide an alias or name for the pin number. If TAG is specified, then PIN can be omitted.

PWM Write

```
{“command”: “pwm_write”, "pin": PIN, "tag":”TAG”,
 “value”: VALUE}
```

NOTES:

1. TAG is an optional parameter to provide an alias or name for the pin number. If TAG is specified, then PIN can be omitted.

Play Tone

```
{"command": "play_tone", "pin": PIN, "tag": "TAG",
  “freq”: FREQUENCY, “duration”: DURATION}
```

1. TAG is an optional parameter to provide an alias or name for the pin number. If TAG is specified, then PIN can be omitted.

Set Servo Position

```
{'command': 'servo_position', "pin": PIN,'tag': 'servo',
 “position”: POSITION}
```

TAG is an optional parameter to provide an alias or name for the pin number. If TAG is specified, then PIN can be omitted.

Set Pin Mode To Analog Input

```
{"command": "set_mode_analog_input", "pin": PIN, "tag":”TAG” }
```

NOTES:

1. TAG is an optional parameter to provide an alias or name for the pin number. It may be supplied by some commands to refer to the pin without using the pin number.

Set Pin Mode To Digital Input

```
{"command": "set_mode_digital_input", "pin": PIN, "tag":”TAG” }
```

NOTES:

1. TAG is an optional parameter to provide an alias or name for the pin number. It may be supplied by some commands to refer to the pin without using the pin number.

Set Pin Mode To Digital Input With Pull-up Enabled

```
{"command": "set_mode_digital_input_pullup", "pin": PIN, "tag":”TAG”
}
```

NOTES:

1. TAG is an optional parameter to provide an alias or name for the pin number. It may be supplied by some commands to refer to the pin without using the pin number.

Set Pin Mode To Digital Output

```
{"command": "set_mode_digital_output", "pin": PIN, "tag":”TAG” }
```

NOTES:

1. TAG is an optional parameter to provide an alias or name for the pin number. It may be supplied by some commands to refer to the pin without using the pin number.

Set Pin Mode I2C

```
{"command": "set_mode_i2c"}
```

NOTES:

1. No pin numbers are used since i2c pins are fixed per board. This just sets some internal information.

Set Pin Mode To PWM Output

```
{"command": "set_mode_pwm", "pin": PIN, "tag":”TAG” }
```

NOTES:

1. TAG is an optional parameter to provide an alias or name for the pin number. It may be supplied by some commands to refer to the pin without using the pin number.

Set Pin Mode To Servo

```
{"command": "set_mode_servo", "pin": PIN, "tag":”TAG” }
```

NOTES:

1. TAG is an optional parameter to provide an alias or name for the pin number. It may be supplied by some commands to refer to the pin without using the pin number.

Set Pin Mode To Sonar

```
{"command": "set_mode_sonar", "trigger_pin": PIN, "tag":”TAG”,
 "echo_pin": PIN}
```

NOTES:

1. TAG is an optional parameter to provide an alias or name for the pin number. It may be supplied by some commands to refer to the pin without using the pin number. Only the trigger pin is tagged.

Set Pin Mode To Stepper

```
{"command": "set_mode_stepper", "pins": [PINS],
 "steps_per_revolution": NUMBER OF STEPS}
```

NOTES:

1. Currently only a single stepper motor is supported

Set Pin Mode To Tone

```
{"command": "set_mode_tone", "pin": PIN, "tag":”TAG” }
```

NOTES:

1. TAG is an optional parameter to provide an alias or name for the pin number. It may be supplied by some commands to refer to the pin without using the pin number.

Stepper Write

```
{"command": "stepper_write", "motor_speed": SPEED,
 "number_of_steps": NUMBER OF STEPS }
```

REPORTS

Note: Timestamp is a string in a format similar to: 2019-02-18 09:31:16

Digital Input

```
{'report': 'digital_input', 'pin': PIN,
           'value': VALUE, 'timestamp': TIMESTAMP}
```

Analog Input

```
{'report': 'analog_input', ‘pin’: PIN,,
           ''value': VALUE, 'timestamp': TIMESTAMP}
```

I2C Data

```
{'report': 'i2c_data', 'value': data}
```

Sonar Data

```
{'report': 'i2c_data', 'value': data}
```