

Zio INA219 Current and Voltage Sensor

We use the [Zio INA219 Current and Voltage Sensor](#) purchased through [SparkFun](#).

[Smart Prototyping](#) provides a [Start Guide for the Zio Current and Voltage Sensor](#).

Arduino IDE

We use [Adafruit's INA219 Library](#) and [BUS IO Library](#).

Open Arduino IDE

```
$: sudo arduino
> Select Sketch>Include Library>Manage Libraries...
> Select Adafruit INA219
> Click 1.1.0 Install
> Click Install Adafruit INA219 only
> Select Sketch>Include Library>Manage Libraries...
> Select Adafruit Bus IO
> Click 1.7.3 Install
$: sudo chmod -R +666 /opt/SparkFun_RedBoard_Turbo
```

Already downloaded copies of the Adafruit INA219 and BUS IO libraries (used by installation script and Dockerfile) can be found here:

sw/SparkFun_RedBoard_Turbo/Zio_INA219_Current_and_Voltage_Sensor/**Adafruit_INA219-master.zip** and **Adafruit_BusIO-master.zip**

The libraries are installed under

/opt/SparkFun_RedBoard_Turbo/Arduino/libraries/**Adafruit_INA219** and **Adafruit_BusIO**.

Read Power

We communicate with the Zio INA Current and Voltage Sensor over **I2C** using **address 0x40**.

Read Power

```
$: sudo cp -r
sw/SparkFun_RedBoard_Turbo/Zio_INA219_Current_and_Voltage_Sensor/read_power
/opt/SparkFun_RedBoard_Turbo/Arduino
$: sudo chmod -R +666 /opt/SparkFun_RedBoard_Turbo
```

Arduino IDE

```
$: arduino
> File>Sketchbook>read_power
```

- > Click Serial Monitor icon
- > Select 115200 baud
- > Click Upload icon (until flash is successful)

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Bus Voltage [V]: 19.93 Shunt Voltage [mV]: 62.64 Load Voltage [V]: 19.99 Current [mA]: 596.30

Power [mW]: 11878

Script

Run as part of the Sensor Suite installation script

sw/NVIDIA_Jetson_Xavier_NX/Scripts\$ bash **install-7-Sensor_Suite.sh**

Dockerfile

Part of the Sensor Suite Dockerfile

sw/NVIDIA_Jetson_Xavier_NX/Docker/**Dockerfile-7-Sensor_Suite**