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# **Adafruit THERMISTOR Library Documentation**

***Release 1.0***

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Thermistors are resistors that predictably change resistance with temperature. This driver uses an analog reading and math to determine the temperature. They are commonly used as a low cost way to measure temperature.



# CHAPTER 1

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## Dependencies

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This driver depends on:

- [Adafruit CircuitPython](#)

Please ensure all dependencies are available on the CircuitPython filesystem. This is easily achieved by downloading the [Adafruit library and driver bundle](#).





## CHAPTER 2

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### Usage Example

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The hardest part of using the driver is its initialization. Here is an example for the thermistor on the Circuit Playground and Circuit Playground Express. Its a 10k series resistor, 10k nominal resistance, 25 celsius nominal temperature and 3950 B coefficient.



## CHAPTER 3

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### Contributing

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Contributions are welcome! Please read our [Code of Conduct](#) before contributing to help this project stay welcoming.



## 4.1 adafruit\_thermistor - Read temperature with a thermistor

A thermistor is a resistor that varies with temperature. This driver takes the parameters of that resistor and its series resistor to determine the current temperature. To hook one up, connect an analog input pin to the connection between the resistor and the thermistor. Be careful to note if the thermistor is connected on the high side (from analog input up to high logic level/3.3 or 5 volts) or low side (from analog input down to ground). The initializer takes an optional `high_side` boolean that defaults to `True` and indicates if that the thermistor is connected on the high side vs. low side.

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### 4.1.1 Implementation Notes

#### Hardware:

- Adafruit [10K Precision Epoxy Thermistor - 3950 NTC](#) (Product ID: 372)

#### Software and Dependencies:

- Adafruit CircuitPython firmware: <https://github.com/adafruit/circuitpython/releases>

#### Notes:

1. Check the datasheet of your thermistor for the values.

```
class adafruit_thermistor.Thermistor(pin, series_resistor, nominal_resistance, nominal_temperature, b_coefficient, *, high_side=True)
```

Thermistor driver

#### **temperature**

The temperature of the thermistor in celsius



### **a**

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