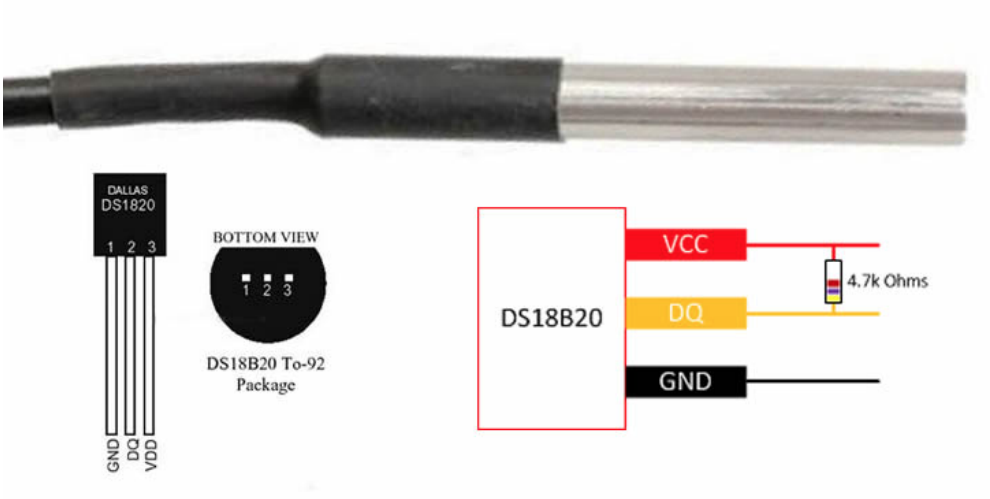
Temperature Sensor - DS18B20

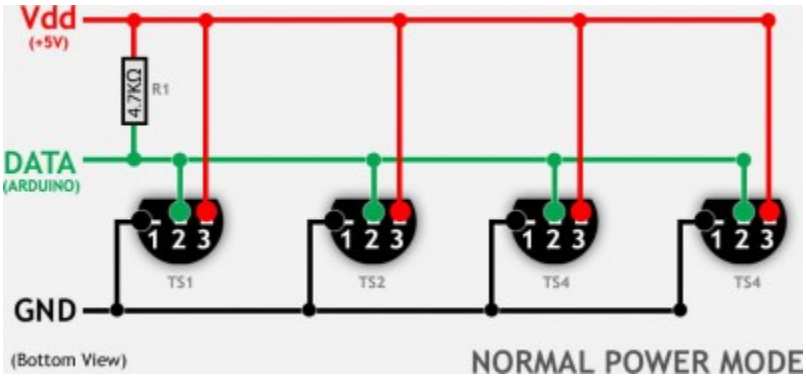
Overview

The DS18B20 1-Wire digital temperature sensor from Maxim IC reports degrees C with 9 to 12-bit precision, -55C to 125C (+/-0.5C). Each sensor has a unique 64-Bit Serial number etched into it - allows for a huge number of sensors to be used on one data bus.

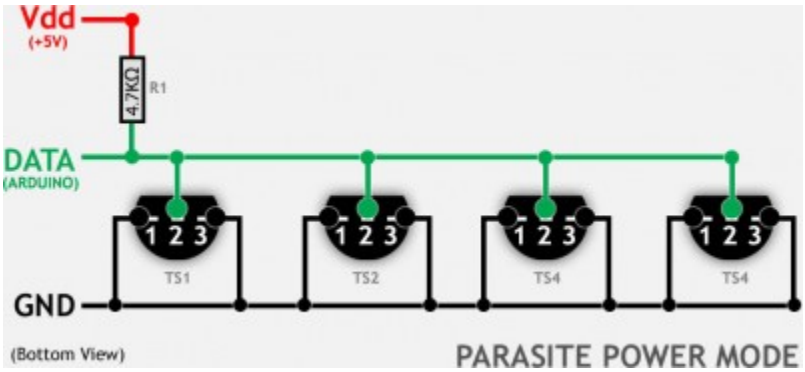
Wiring the DS18B20



Normal Power Mode



Parasitic Power Mode



Arduino Sample Code

```
#include <OneWire.h>
#include <DallasTemperature.h>

#define PIN_TEMPERATURE 4

OneWire oneWire(PIN_TEMPERATURE);
DallasTemperature sensors(&oneWire);

float currentTemp = 0;


void setup() {

  Serial.begin(115200);

}

void loop() {

  sensors.requestTemperatures();
  currentTemp = sensors.getTempCByIndex(0);

  Serial.print("Temperature: ");
  Serial.println(currentTemp);

  delay(500);

}
```

References

Reference	URL
Product Sheet	https://www.maximintegrated.com/en/products/sensors/DS18B20.html
Interfacing DS18B20 1-Wire Digital Temperature Sensor with Arduino	https://lastminuteengineers.com/ds18b20-arduino-tutorial/

Arduino Temperature Control Library	https://github.com/milesburton/Arduino-Temperature-Control-Library
MAX31850 OneWire Library	https://github.com/adafruit/MAX31850_OneWire
How to measure temperature with your Arduino and a DS18B20	https://www.tweaking4all.com/hardware/arduino/arduino-ds18b20-temperature-sensor/