

LM34 Temperature Sensor (#604-00011) Arduino Demo



Please note: This demo was created to support the 2013 National microMedic Contest kits, which are no longer available.

The LM34 temperature sensor measures temperature in degrees Fahrenheit. The sensor outputs a highly linear analog voltage where every degree change is represented by 10.0 millivolts (mV). This Arduino demo displays the analog voltage in the Serial Monitor

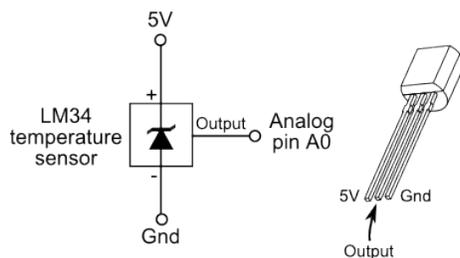
- LM34 Temperature Sensor (#604-00011)

The sensor may be used in temperatures ranging from +32 to +212 °F. The sensor is accurate to 1.0 °F at +77 °F.

The LM34 temperature sensor is not designed for use above 212 °F. Exercise extreme care when working with high temperatures, especially liquids that may boil or splatter. Liquids, metals, and other materials that are non-insulating may cause a short circuit if the bare wire leads of the sensor come into contact with the material. Therefore ensure all connections are properly insulated. Be sure that any plastic and rubber parts used in connection and wiring are also rated for the higher temperatures you are testing.

Connections

To connect the LM34 temperature sensor to the Arduino Shield, attach its leads as shown in the figure.



Important! Do not reverse the 5V and Gnd wiring, or damage to the sensor may result.

Programming

To use this example, upload the TempSensor sketch to your Arduino, then open the Serial Monitor window. Ensure that the Baud Rate is set at 9600. Pinch the plastic part of the sensor between your fingers, and watch the Serial Monitor window. The values will increase as the sensor warms to match the surface temperature of your skin.

Release the sensor and watch the values drop again, as the sensor adjusts to the temperature of the surrounding air.

```
// LM34 temp sensor connected to analog pin A0
const int tempSensor = A0;

void setup() {
  Serial.begin(9600);
}

void loop() {
  Serial.println(analogRead(tempSensor), DEC);
  delay(300);
}
```