

Temperature Sensor - TMP36 Product Help and Resources



SKILLS NEEDED



BadgerHack: Sensor Add-On Kit FEBRUARY 16, 2016

Turn your Badger or Redstick into a temperature and soil moisture sensing display with the BadgerHack Sensor Add-On Kit



mbed Starter Kit Experiment Guide NOVEMBER 27, 2014

This Experiment Guide will get you started with the wonderful world of mbed microcontrollers. Need to find that next step after mastering the Arduino? This a great place to take those skills to the next level.

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5 of 5 found this helpful:

 \Rightarrow \Rightarrow \Rightarrow \Rightarrow \Rightarrow \Rightarrow A fine sensor... If you power it right

about 3 years ago by Kevmatic 🗸 verified purchaser

The sensor seems to do exactly what it says- spits out voltage corresponding to the temp. I bought this to monitor the water temp in my computer, and after some fiddling it works fine.

Be warned, though, of various caveats involved with using these analog devices. For instance the internal voltage references in the attiny may be quite a bit off, throwing your readings off.

Its also quite sensitive to noise and the .1uf capacitor near the leads specified by the datasheet is absolutely necessary- without it the readings may be nonsense if your leads are more than a few inches. Most arduino tutorials for this omit it!

You may be better off with the digital sensor if you don't want to have fiddle.

1 of 1 found this helpful:

 $\star \star \star \star \star \star$ Nice simple temperature sensor

about 3 years ago by DrSpeed verified purchaser

This sensor is simply a temperature sensor. There are other combination temp/humidity sensors around as well. This unit is super easy to wire up and requires no other components (no resistors etc.). One thing to note is that this sensor does not have a housing so it is a bit more sensitive than others (which may be a good thing) but you have to be careful where you place it and keep it away from hot components. You will also have to write code to average the readings you get from it. Pros: Small, cheap, sensitive, no additional parts Cons: No cons really, possibly too sensitive, no humidity

https://flic.kr/p/rEEU1S

1 of 1 found this helpful:

 \star \star \star \star \star \star Pretty accurate

about 3 years ago by **bobdabiulder**

 verified purchaser

It is within only a few degrees with the algorithm I use. Here is my code, in case you have issues with it:

int outputpin=0; int count; int temp;

void setup() { count = 0; Serial.begin(9600); }

void loop() { int rawvoltage= analogRead(outputpin); float volts = rawvoltage/205.0; float celsiustemp= 100.0 * volts - 50; float fahrenheittemp = celsiustemp * 9.0/5.0 + 32.0; Serial.print(fahrenheittemp); Serial.print(celsiustemp): Serial.print(celsiustemp): Serial.print(volts): temp = court

Serial.println("Fahrenheit"); Serial.print(celsiustemp); Serial.println("Celsius"); Serial.println(volts); temp = count + 1; Serial.println(temp); Serial.println("------"); count = temp; delay(3000);

}

WORTH IT!!

1 of 1 found this helpful:

 \star \star \star \star \star small and cheap component but very powerful

about 3 years ago by Member #516532 🗸 verified purchaser

I realized a lot of arduino projects using the TMP36 sensor: - my freezer control - hot plate temp control for my 3d printer - digital clock with external temp display

very cheap but precise and robust. It can be directly glued to the surface to be measured.

1 of 1 found this helpful:

about 3 years ago by **cswiger**
verified purchaser

Scratching head over calculating the temp and remembered someone else here saying they read 0.4v at cool room temps - that's we I get in the 60F garage (15C). It's marked TMP36 tho.

6 of 6 found this helpful:

\star \star \star \star \star \star These are great but...

about 3 years ago by xcplanet verified purchaser

I've used these before and have several application up and running that use them. They're great. When I started building boards with the latest batch I ordered from SF I was surprised to be seeing values not at all in line with what I usually see. I checked polarity and it's correct. I checked the marking on the chip package and it seems correct (as best I can tell it says TMP36G7). So I dug into the data sheets. I appear to have gotten TMP37 devices even though the markings are TMP36. I'm seeing voltages around 400mV at ambient temps around 15 degrees Celsius. What?! This is true on all of the chips I ordered. If this is, in fact, the case, the TMP37 is only rated for a range of 5C to 100C rather than -40C to 125C like the TMP36. Fortunately, I can still use these because they're for indoor applications but it would be a bummer if I had needed the published range of the TMP36.

3 of 3 found this helpful:

\star \star \star \star Three wires, senses temperature, what more could you ask for?

about 3 years ago by Member #27599 verified purchaser

I recently moved from MN to Cambridge, MA and the new place has a hydronic heating system (which doesn't have to work nearly as hard in MA as my old furnace in MN. Because Oh MAN, it's going to get to +5F tonight in MA, Let's all freak out! That's a nice summer day in MN!)

I didn't know how these deals worked, so I got an Arduino MEGA2560, an Ethernet shield and some of these TMP036 units and hooked the whole mess to the internet.

The InternetOfTemperatures (IOT)!

I used data.sparkfun.com to stash all my values and google charts to plot them and now I can keep track of what's going on. http://bobodyne.com/boiler

I need to add some more sensors, and some opto couplers to sense when each zone "calls for heat" and then I'll know everything I need to be completely confused all winter.

Oh, watch out! The pinout of the TMP036 is not the same as the pinout of the TMP03 and when clicking randomly on alldatasheets, you might (but I certainly wouldn't) use the wrong data sheet and hook up 4 of the 6 sensors wrong at first.

1 of 2 found this helpful:

 \star \star \star \star \star Simple.Worked.No problems.

about 3 years ago by Member #631188 🗸 verified purchaser

- 1. Wired it in to the BBB (3.3v, AGND, AIN0).
- 2. Enabled the BBB ADC: echo cape-bone-iio > /sys/devices/bone_capemgr.*/slots
- 3. Read the value from AIN0, did some math and got the correct temp.

\star \star \star \star \star \star Amazing! Especially considering the price!

about a year ago by Member #836901 🗸 verified purchaser

I use these all over the place. The are incredibly easy to install and have proven to be accurate relative to the RHT sensor. Their small footprint opens up lots of possibilities for installation. I just bought another 10 to put in the drawer for when I need them, which seems to be quite often. Two-thumbs up.

\star \star \star \star \star \star Does what it needs to do

about 3 years ago by Chiel 🗸 verified purchaser

Its a very nice TMP sensor with decent accuracy. great for keeping an eye on the temperature around the project its in. Just be sure to put it in with the right orientation else it will get very very hot.

My only gripe is that its very prone to pick up heat from the PCB its on. For me the readings quickly became unusable due the sensor picking up heat from a linear regulator several inches away. Ofcourse for some this could be seen as a feature if you want to keep an eye on the temperature near a hotspot on your circuitboard.

\star \star \star \star \star Simple and easy to use

about 3 years ago by imabug 🗸 verified purchaser

I don't think sensors can get much easier to use than this. Feed it 3.3V, and read out a voltage that changes proportionally to temperature. Small form factor makes it easy to place wherever you need to measure a temperature.

about 3 years ago by IMFoolishTim verified purchaser Easy to use, the code was easy to find and use. A nice toy to play with.

\star \star \star \star \star \star Exactly as described

about 3 years ago by Member #315639 🗸 verified purchaser

Easy to use, good operating range of temperatures, and intuitive. Only 4 stars because its accuracy isn't great (+/- 2 deg C). But that's in the description anyway. I'd recommend this to anyone who needs temperature data but doesn't need spot-on readings.

\star \star \star \star Didn't fail after reversing +5V and GND polarity

about 3 years ago by Bur7ama 🗸 verified purchaser

I didn't pay close attention to the pin configuration from the data sheet and I applied +5Vdc to Pin 3 and GND to Pin 1. I was getting strange readings and the sensor got really hot. I found out how hot when I burnt my finger and melted some breadboard holes.

When I realized my mistake and wired it correctly, it gave me accurate readings. I'm impressed that this part didn't give out straight away. I suspect that the Arduino, powered by USB from my PC, limited the current it sourced to the part. I'm glad I didn't find out what would have happened if I had connected it to a 5V power supply.

\star \star \star \star \star \star Analog Temp.

about 2 years ago by RuralGuru 🗸 verified purchaser

Although I now am very much so a big fan of digital. These are great for understanding use of equations and slope. Beware if you are using 5V to power this from USB the reference is likely to be off as USB drops below 5V. Is a very handy tool. Gave most of mine to friends to help them start their candy box.

★ ★ ★ ★ Perfect

about 3 years ago by Member #232208 🗸 verified purchaser

Did exactly what it was supposed to and did it well. Used for a wireless temperature sensor.





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