



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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High Temp Waterproof DS18B20 Digital Temperature Sensor – 3m long

PRODUCT ID: 3846

This is a pre-wired and waterproofed version of the DS18B20 sensor made with a PTFE wire cable. Handy for when you need to measure something far away, or in wet conditions. This sensor is a little more expensive than the other waterproof version we have with a PVC cable because this one can be used up to 125°C – the limit of the sensor itself. That said, it's still not recommended for salt-water or corrosive environments since the stainless steel will eventually rust!

Because the sensor signal is digital, you don't get any signal degradation even over long distances! These 1-wire digital temperature sensors are fairly precise ($\pm 0.5^{\circ}\text{C}$ over much of the range) and can give up to 12 bits of precision from the onboard digital-to-analog converter. They work great with any microcontroller using a single digital pin, and you can even connect multiple ones to the same pin, each one has a unique 64-bit ID burned in at the factory to differentiate them. Usable with 3.0–5.0V systems.

The only downside is they use the Dallas 1-Wire protocol, which is somewhat complex, and requires a bunch of code to parse out the communication. If you want something really simple, and you have an analog input pin, the TMP36 is trivial to get going.

You'll need a 4.7k resistor which is required as a pullup from the DATA to VCC line when using the sensor. Here's a CircuitPython/Python guide for these sensors. We don't have a detailed Arduino tutorial, but you can get started by using the Dallas Temperature Control Arduino library which requires also the OneWire Library.

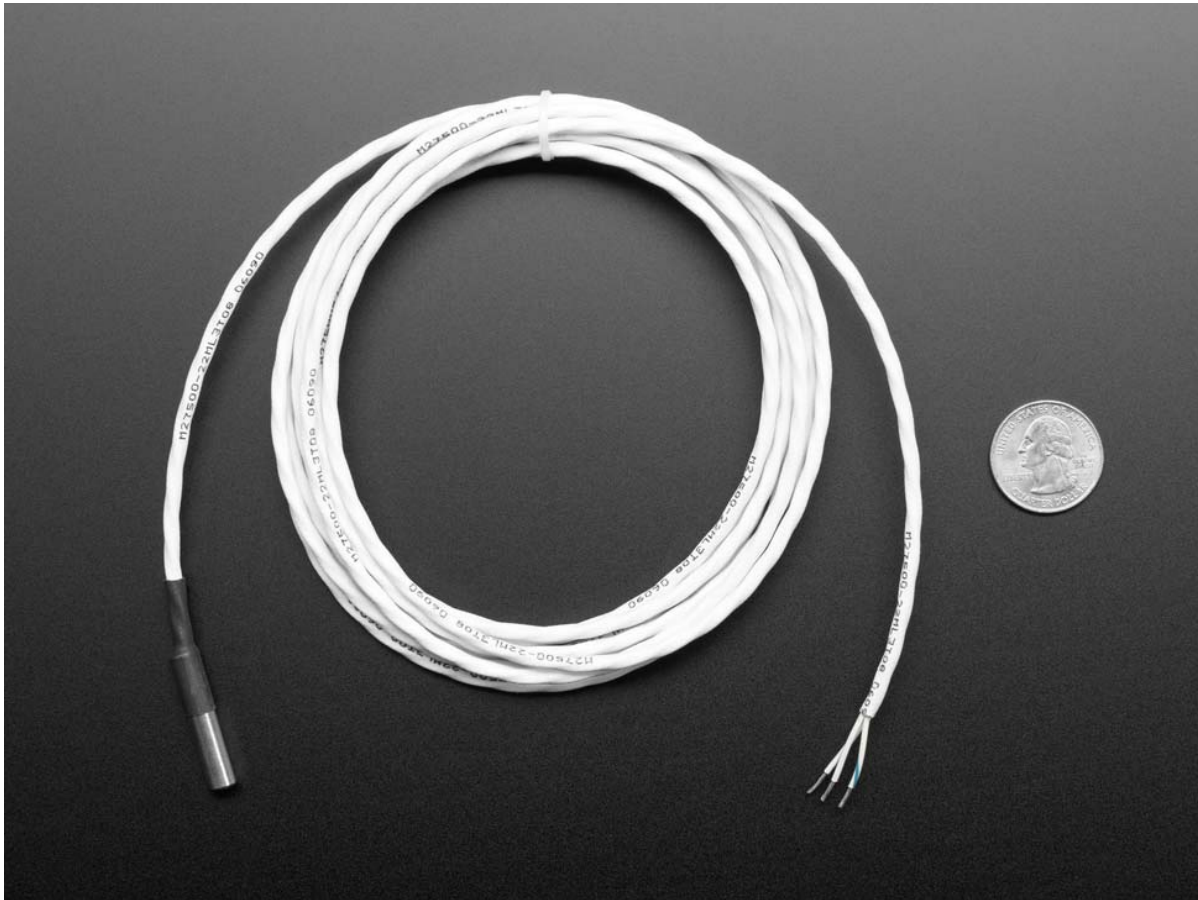
TECHNICAL DETAILS

Cable specs:

- Stainless steel #316 tube 6mm diameter by ~30mm long (size of stainless steel capsule may vary!)
- Cable is approx 3m long / 300cm long
- Contains DS18B20 temperature sensor
- Three wires – Orange Stripe connects to 3–5V, White connects to ground and Blue Stripe is data.

DS18B20 Technical specs:

- Usable temperature range: -55 to 125°C (-67°F to $+257^{\circ}\text{F}$)
- 9 to 12 bit selectable resolution
- Uses 1-Wire interface- requires only one digital pin for communication
- Unique 64 bit ID burned into chip
- Multiple sensors can share one pin
- $\pm 0.5^{\circ}\text{C}$ Accuracy from -10°C to $+85^{\circ}\text{C}$
- Temperature-limit alarm system
- Query time is less than 750ms
- Usable with 3.0V to 5.5V power/data



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