

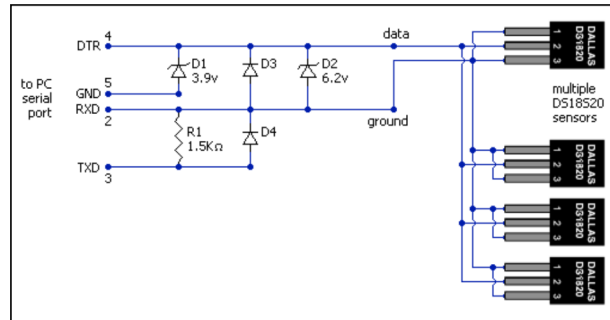


Serial Port Temperature Sensors - Using Multiple Sensors

This page describes how to configure and use multiple temperature sensors using a single serial port interface circuit.

Multiple Sensors

Each DS18B20 temperature sensor has a unique 64-bit address, so multiple sensors can be connected in parallel to the same interface circuit.



connecting multiple sensors in parallel

Update digitemp Configuration

If multiple sensors are connected, it's necessary to update the digitemp configuration file:

```
digitemp -i -q -c /etc/digitemp.conf
```

and digitemp should detect all the connected sensors and update the configuration file.

Reading Multiple Temperatures

To read the temperature of all the connected sensors, the "-a" parameter is specified:

```
digitemp -a -q -c /etc/digitemp.conf
```

with the following output:

```
Apr 17 23:16:16 Sensor 0 C: 26.56 F: 79.81
Apr 17 23:16:18 Sensor 1 C: 23.44 F: 74.19
Apr 17 23:16:20 Sensor 2 C: 23.38 F: 74.08
```

Read Single Temperature

To read the temperature of just one sensor, the sensor number can be specified:

```
digitemp -t 1 -q -c /etc/digitemp.conf
```

with the resulting output:

```
Apr 17 23:18:12 Sensor 1 C: 23.44 F: 74.19
```

Sensor Order

Note that digitemp sorts the temperature sensors in ascending order of their 64-bit addresses.

This can mean that adding an additional sensor may cause other existing sensors to be re-numbered by digitemp.

If this is the case, and you want to preserve any existing history in your RRDTOol database files, you may need to rename your RRDTOol database files, as well as modifying the description in the perl script that handles data collection and graphing.

Graphing Multiple Sensors

The page on [graphing temperatures](#) provides a sample script for storing and graphing the temperature of a single temperature sensor. If using multiple sensors, you could run multiple instances of this script - one for each sensor. However, that will result in separate graphs for each sensor.

The script can easily be modified to graph multiple temperatures on a single graph, and you can download a copy of my [rrd_tempsensors.pl](#) script, which demonstrates how to query three sensors and graph the results on a single graph. The script can easily be modified for a different number of sensors.

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