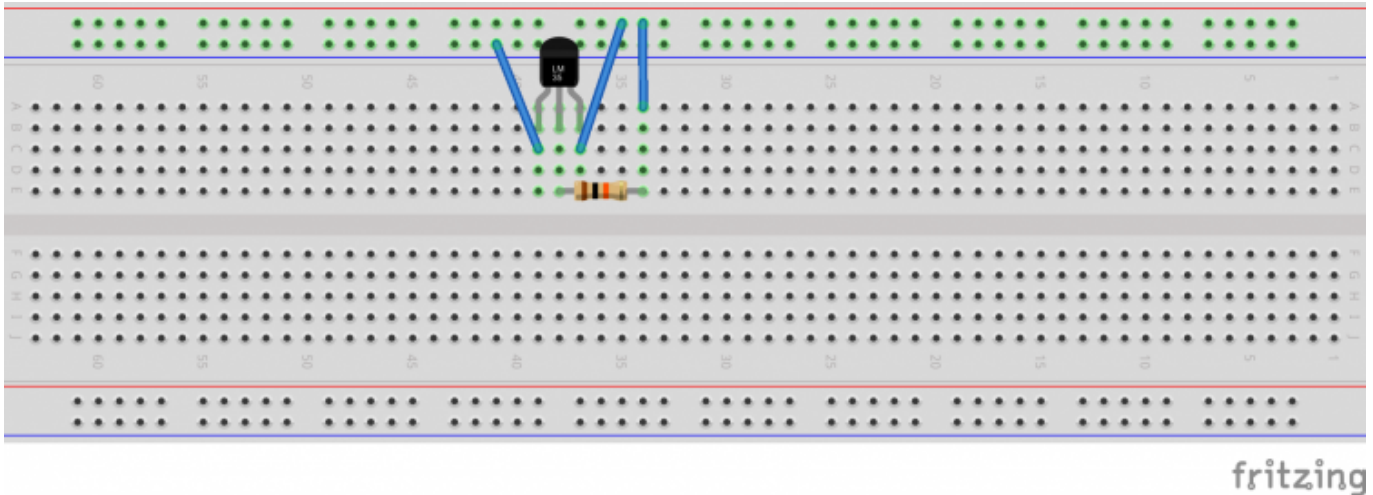


Dallas 1-Wire Support

- Support for Dallas 1 Wire is included on Kernel 3.14.29-29 and upwards. Make sure you are updated.
- Will cover an example of a temperature sensor well known **DS1820** other 1 wire IC's are supported too.

Default GPIO for 1-Wire is **Pin #7 (GPIOX.BIT21)**

- **Connection: With External-Supply**



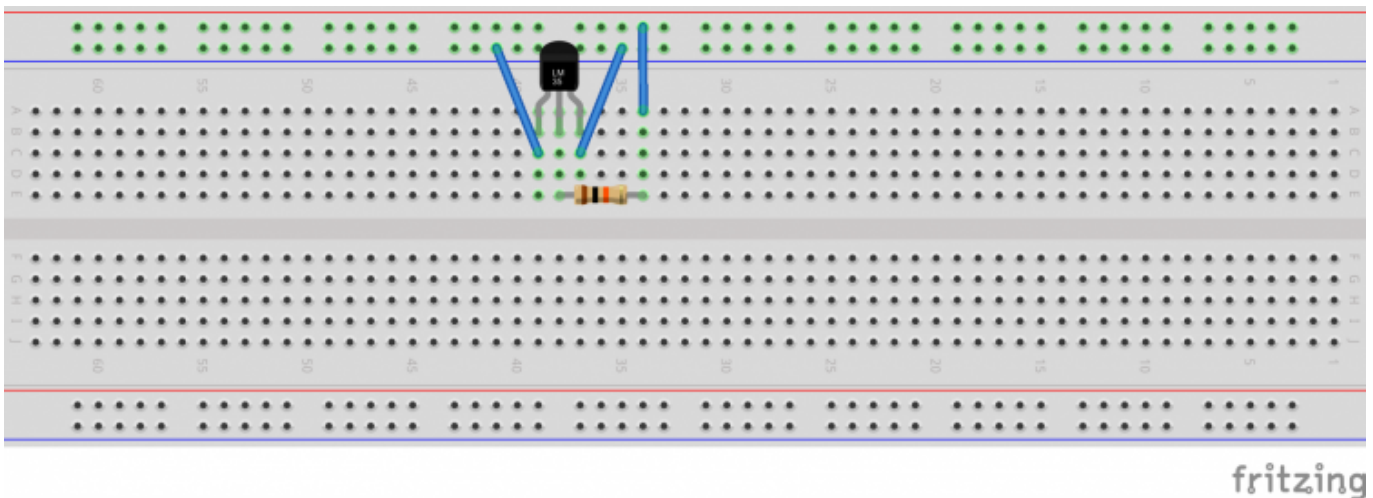
Pin 1 (Left): Ground (-)

Pin 2 (Middle): Pin #7 C2 (GPIOX.BIT21)

Pin 3 (Right): VCC (3.3V)

You also need to add a resistor from 4.7k to 10k between pin 2.

- **Connection: Supplying the Parasite-Powered**



Pin 1 (Left): Ground (-)

Pin 2 (Middle): Pin #7 C2 (GPIOX.BIT21)

Pin 3 (Right): Ground (-)

You also need to add a resistor from 4.7k to 10k between pin 2.

- Load the required kernel modules:

target

```
modprobe w1-gpio && modprobe w1-therm
```

- Check if your sensor is working:

target

```
odroid@odroid64:~$ cd /sys/bus/w1/devices/  
odroid@odroid64:/sys/bus/w1/devices# ls  
10-000802f41d67 w1_bus_master1  
odroid@odroid64:/sys/bus/w1/devices#
```

As you can see my sensor is detected as **10-000802f38c57**, each sensor has a different id. So yours will be different.

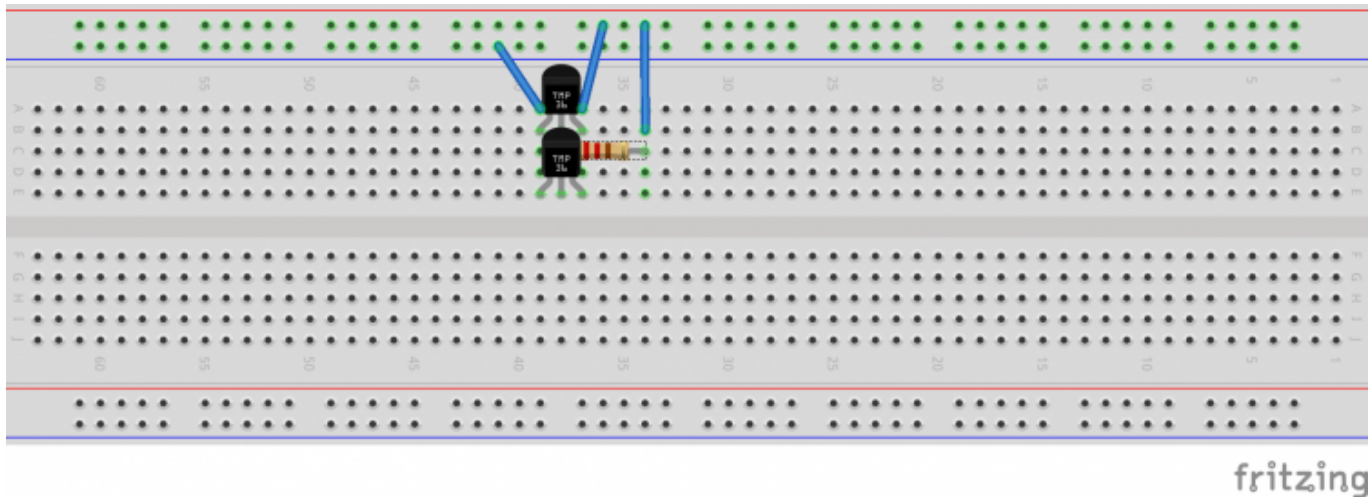
- Read the temperature:

target

```
odroid@odroid64:/sys/bus/w1/devices$ cd 10-000802f38c57  
odroid@odroid64:/sys/bus/w1/devices/10-000802f38c57# cat w1_slave  
33 00 4b 46 ff ff 03 10 30 : crc=30 YES  
33 00 4b 46 ff ff 03 10 30 t=25562  
odroid@odroid64:/sys/bus/w1/devices/10-000802f38c57#
```

Temperature is t=25562 or 25.562 degree's Celsius.

Multiple sensors can be connected on the same line as the draw below.



target

```
odroid@odroid64:/sys/bus/w1/devices# ls
10-000802f38c57 10-000802f41d67 w1_bus_master1
```

Two sensors in parallel.

Change the Default GPIO pin for 1-Wire interface

Ex) Default GPIO pin change to GPIOX.BIT19
 Please refer to below links for details related to gpio mapping in the device-tree.

[C2 gpio mapping in the device-tree](#)

target

```
odroid@odroid64:~$ sudo apt-get install device-tree-compiler
odroid@odroid64:~$ fdtget /media/boot/meson64_odroidc2.dtb /onewire
gpios
18 113 0
odroid@odroid64:~$ fdtput /media/boot/meson64_odroidc2.dtb /onewire
gpios 18 111 0
odroid@odroid64:~$ fdtget /media/boot/meson64_odroidc2.dtb /onewire
gpios
18 111 0
odroid@odroid64:~$ sudo reboot
```

If the reboot doesn't affect the dtb update, you need a hard reset(power off/on).

Use the first number in the fdtget command output when you run fdtput command. For example, 18(0x12) is the GPIO group number.

DS1820 is connected to Pin #11

Pin 1 (Left): Ground (-)

Pin 2 (Middle): Pin #11 C2 (GPIOX.BIT19)

Pin 3 (Right): Ground (-)

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Permanent link:

https://wiki.odroid.com/odroid-c2/application_note/gpio/1wire

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