

# Hardware Connections For Temperature Monitor

In the previous lesson, we have learned about LM35 Sensor. In this lesson, we will learn how to connect LM35 Sensor to Bolt.

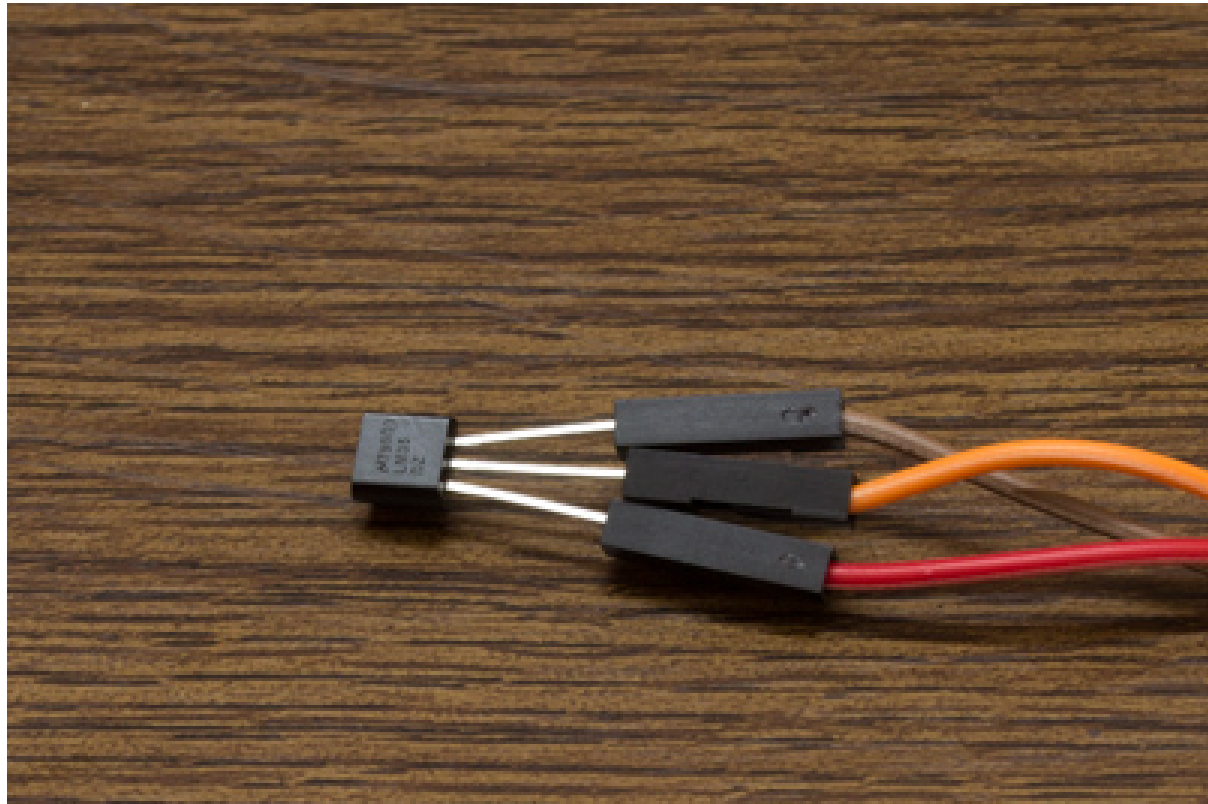
## Hardware required

- The Bolt Wifi module
- 3 female to male wire
- Temperature Sensor: LM35 sensor

## Connecting the LM35 sensor to the Bolt

Step 1: Hold the sensor in a manner such that you can read LM35 written on it.

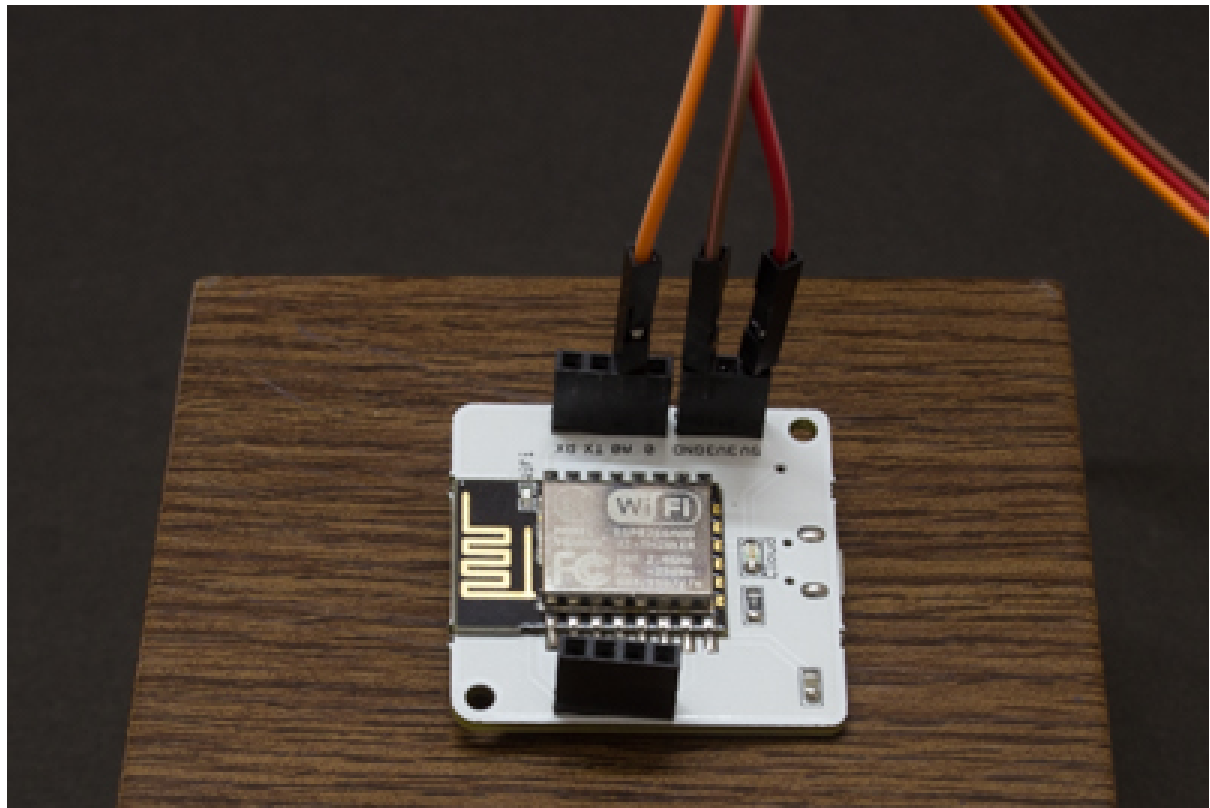
Step 2: In this position, identify the pins of the sensor as VCC, Output and Gnd from your left to right.



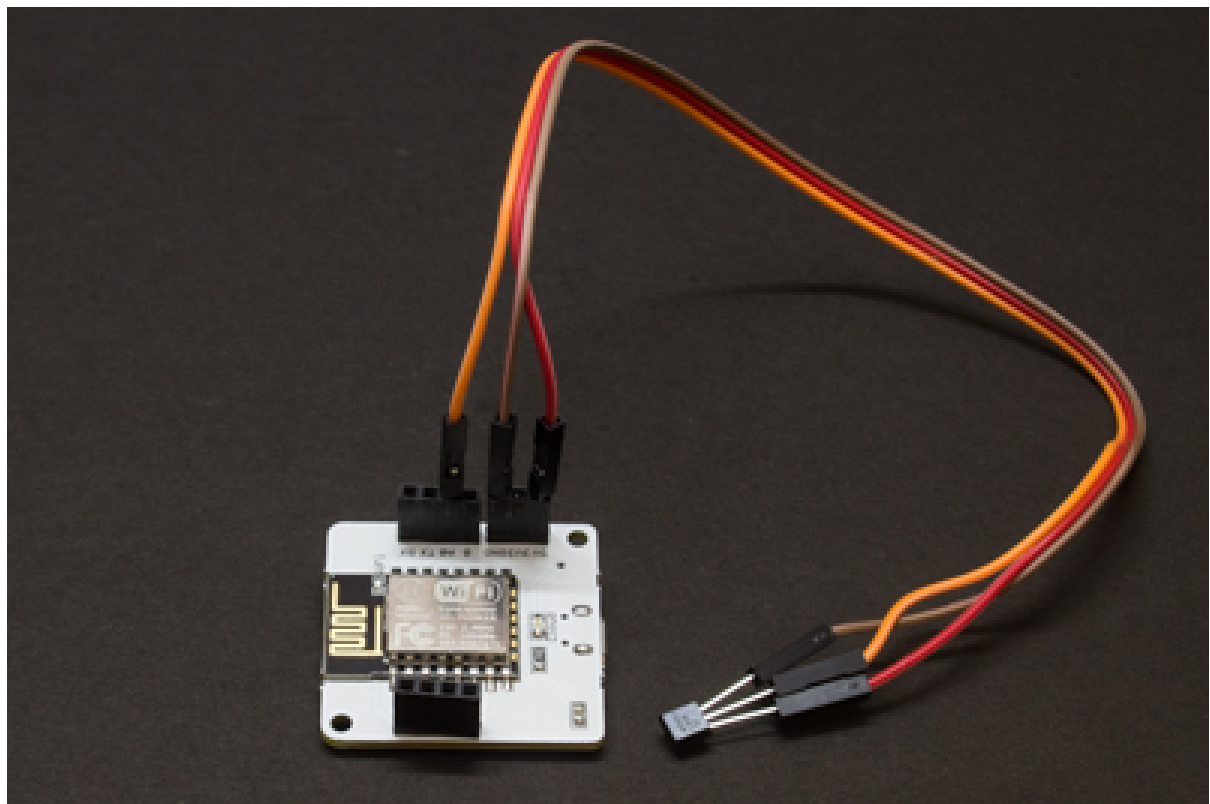
In the above image, VCC is connected to the red wire, Output is connected to the orange wire and Gnd is connected to the brown wire.

Step 3: Using male to female wire connect the 3 pins of the LM35 to the Bolt Wifi Module as follows:

- VCC pin of the LM35 connects to 5v of the Bolt Wifi module.
- Output pin of the LM35 connects to A0 (Analog input pin) of the Bolt Wifi module.
- Gnd pin of the LM35 connects to the Gnd.



The final circuit should look like the image below:



That's it. In the next lesson, we will learn about Twilio and how to collect data from LM35 sensor.

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**Q. I am not able to sign into the Twilio account, it is like I have to solve the CAPTCHA in order to sign in? What is meant by CAPTCHA?**

Here is a video which will explain to you what is a CAPTCHA: <https://www.youtube.com/watch?v=MWu2UiLLJl8>

**Q. How long does the temp\_sms.py code send an sms? Does it send sms only once, or does it send sms everytime the temperature goes beyond bounds?**

The code will send you an sms everytime the temperature goes beyond its bounds.

However, if you execute the command

```
sudo python temp_sms.py
```

You will need to stay logged into the digital Ocean droplet for the code to keep monitoring the temperature and send you an sms.

[see more \(\)](#)

**Q. When I execute temp\_email it is showing unexpected indent error. How do I fix this?**

In python, the leading whitespace (spaces and tabs) at the beginning of a logical line is used to compute the indentation level of the line, which in turn is used to determine the grouping of statements.

The levels number of white spaces is known as an indentation level.

If you are facing unexpected indent error, it probably means that the white spaces before and after a logical grouping of instructions is different without having any function declaration or any kind of

[see more \(\)](#)

**Q. I am getting an indentation error. How do I solve it?**

This means that you have not given proper indentation i.e. spaces before the start of each line of code. Do check the code given as part of the tutorial carefully and make suitable changes. I suggest you read the course content again to be sure that there are no errors.

**Q. If I have multiple input-output devices how are they to be arranged? in series or parallel?**

The question of using multiple input-output devices in series or in parallel only comes in if you want to sense or control these devices using a single pin of the Bolt module.

It is not recommended that you try to sense or control multiple devices using a single pin of the Bolt unit.

Using multiple input-output devices with a single pin in the right manner is a skill-intensive task, where the method depends on the devices used and desired system behaviour.

[see more \(\)](#)[View more](#)

Ask your doubts to the instructor personally if they are not already answered on forum.

Type what you want to ask the instructor



**ASK THE INSTRUCTOR**

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