How To Make Arduino Thermometer With DS18B20

by **KonstantinDimitrov** on October 12, 2015

Table of Contents


Author:KonstantinDimitrov author's website
Hello ! My name is Konstantin Dimitrov, and I live in small town, in northern Bulgaria, called Polski Trumbesh (you can find it on Google maps). You can also follow me on twitter - @K98Dimitrov.

Intro: How To Make Arduino Thermometer With DS18B20

Hello, everyone !!! Today I'm going to show you how to make Arduino thermometer with **DS18B20 digital** temperature sensor, builded on breadboard and connected together with jumpers.

Info about the sensor - **DS18B20** is 1-Wire digital temperature sensor from Maxim IC. Reports degrees C with 9 to 12-bit precision, -55C to 125C (+/-0.5C). Each sensor has a unique 64-Bit Serial number etched into it - allows for a huge number of sensors to be used on one data bus.

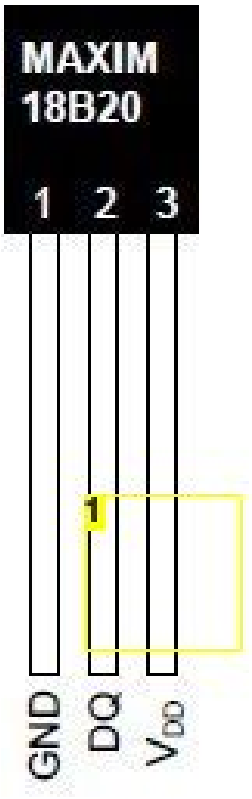


Image Notes
1. Solder the 4.7k resistor to this 2 pins (2 and 3)

Step 1: Gathering The Parts

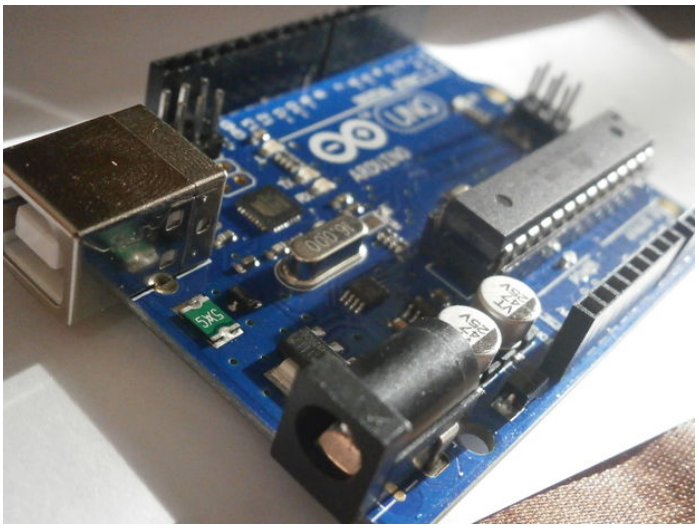
You will need this things:

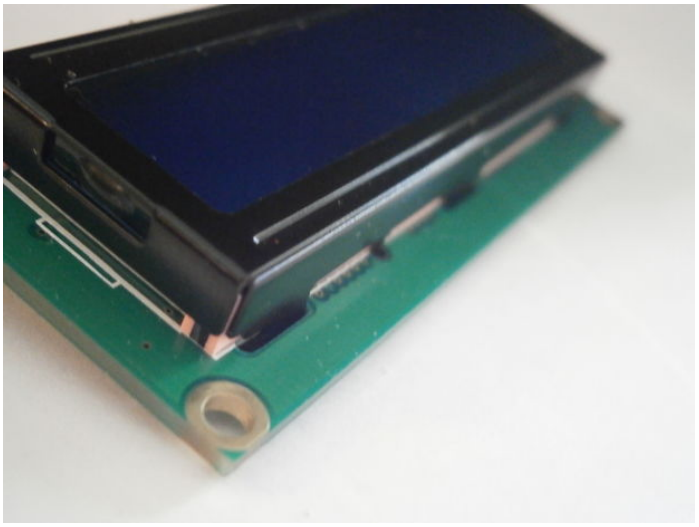
1 - Arduino board (UNO,DUE,Micro, etc..). I used A-star micro by pololu

2 - DS18B20 sensor a waterproof or not and one 4.7k resistor which you must solder between pins 2 and 3 on the sensor so you can read the data from it.

3 - 16x2 LCD display with I2C bus.

4 - Breadboard and some jumpers to connect everything together.





Step 2: Serial Thermometer

To measure the temperature trough the **Serial monitor** connect the DS18B20 sensor to the Arduino using the jumpers and the breadboard also don't forget to connect or solder the 4.7k resistor between pin 2 an 3 of the sensor.Then download, open and upload the **.ino** file which is named - DS18B20_Serial.

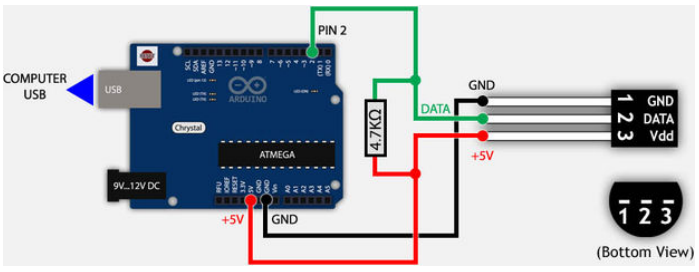
If everything is ok you should see the temperature being measured and showed in the **Serial monitor of the arduino IDE** like on the screenshot above.

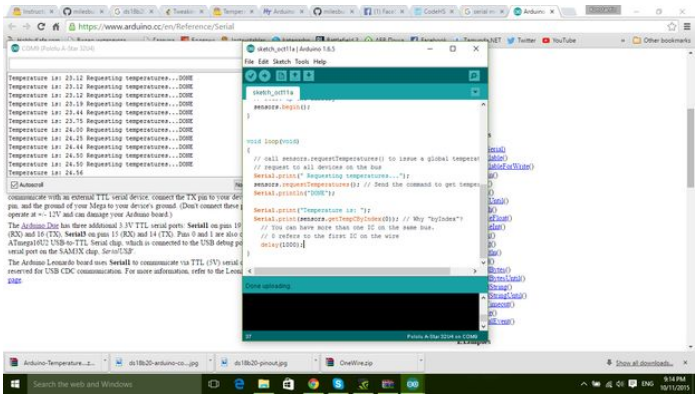
NEEDED LIBRARIES:

1-wire

DallarTemperature

Download and unzip them at /Program Files(x86)/Arduino/Libraries





File Downloads

DS18B20_Serial.ino (1 KB)
[NOTE: When saving, if you see .tmp as the file ext, rename it to 'DS18B20_Serial.ino']

Step 3: LCD Thermometer

If you don't want to measure the temperature trough the serial monitor then this step is for you !

Connect the I2C LCD to pins **UNO,- A4 (SDA) , A5 (SCL)** andthe sensor to digital pin 2. Then download and upload the .ino file which is named - **DS18B20_I2C_LCD** . If everything is OK you will see the temperature readings on the display.

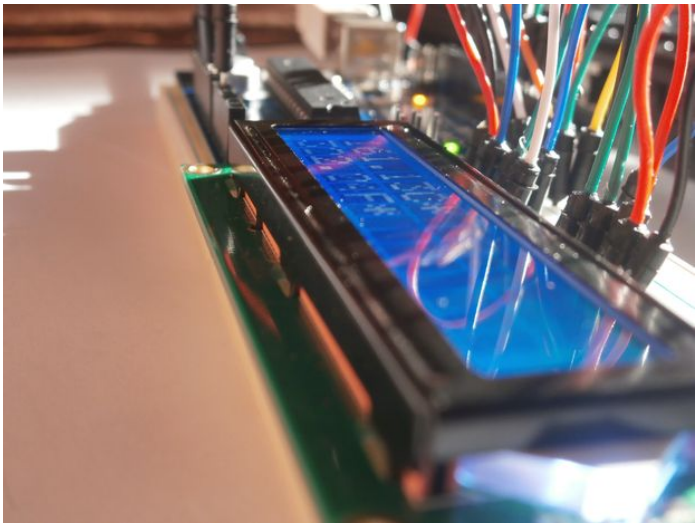
NEEDED LIBRARIES:

1-Wire

DallasTemperature

I2C LCD **Download and unzip them at /Program Files(x86)/Arduino/Libraries**

Also visit my previous instructable Arduino Thermometer With LM35 - here



File Downloads

DS18B20_I2C_LCD.ino (573 bytes)
[NOTE: When saving, if you see .tmp as the file ext, rename it to 'DS18B20_I2C_LCD.ino']

Related Instructables

How to use DS18B20 Temperature Sensor - Arduino Tutorial by codebender_cc

L.O.G. sous vide by msuzuki777

Arduino Digital Thermometer (with DS18B20) by Ardumotive_com

LOG Wireless Temperature Monitoring by msuzuki777

DS18B2O - Temperature probe with RJ45 connector by rik

Digital Arduino Voltmeter with Temperature by sspence

Comments