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Grove - Temperature&Humidity

Release date: 10/27/2015

Version: 1.0

Wiki: [http://www.seeedstudio.com/wiki/Grove - Temperature&Humidity Sensor \(HDC1000\)](http://www.seeedstudio.com/wiki/Grove_-_Temperature&Humidity_Sensor_(HDC1000))

Bazaar: <http://www.seeedstudio.com/depot/Grove-TemperatureHumidity-Sensor-HDC1000-p-2535.html>

Document Revision History

Revision	Date	Author	Description
1.0	Sep 21, 2015	Victor.He	Create file

Contents

Document Revision History	2
1. Introduction	5
2. Features	6
3. Specification	7
4. Interface Function	8
5. Applications	9
5.1 Hardware Installation	9
5.2 Software Part	9
6. Resources	11

Disclaimer

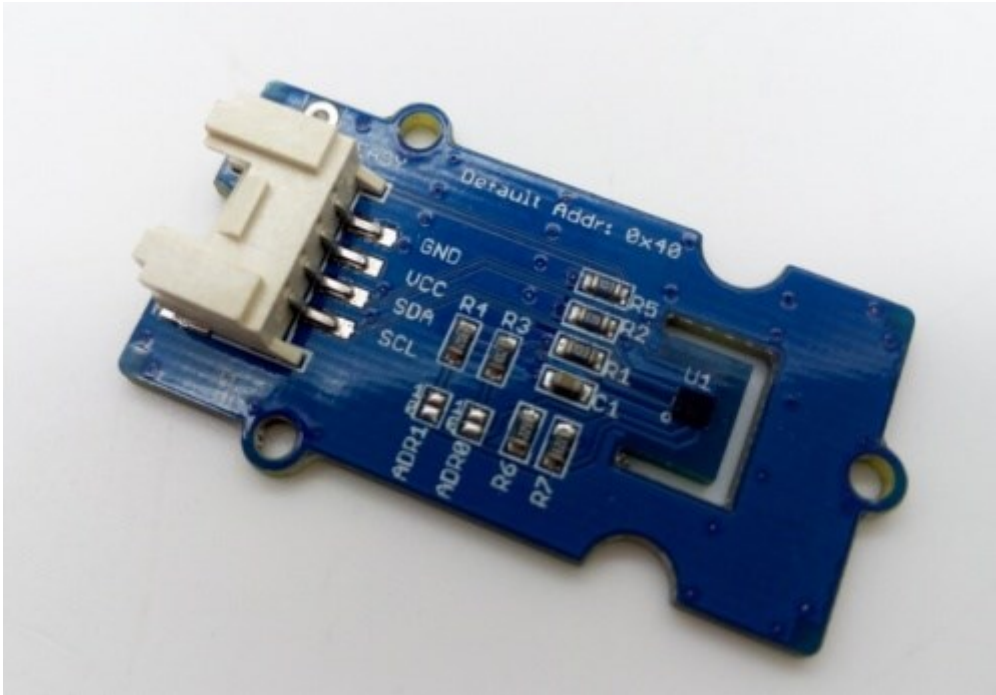
For physical injuries and possessions loss caused by those reasons which are not related to product quality, such as operating without following manual guide, natural disasters or force majeure, we take no responsibility for that.

Under the supervision of Seeed Technology Inc., this manual has been compiled and published which covered the latest product description and specification. The content of this manual is subject to change without notice.

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1. Introduction



Grove – Temperature & Humidity Sensor (HDC1000) utilizes a HDC1000 sensor. HDC1000 was designed by Texas Instruments. It is a digital humidity sensor with integrated temperature sensor that provides excellent measurement accuracy at very low power. The device measures humidity based on a novel capacitive sensor. The humidity and temperature sensors are factory calibrated. The innovative WLCSP (Wafer Level Chip Scale Package) simplifies board design with the use of an ultra-compact package. The sensing element of the HDC1000 is placed on the bottom part of the device, which makes the HDC1000 more robust against dirt, dust, and other environmental contaminants. The HDC1000 is functional within the full -40°C to $+125^{\circ}\text{C}$ temperature range, and 0-100% RH range.

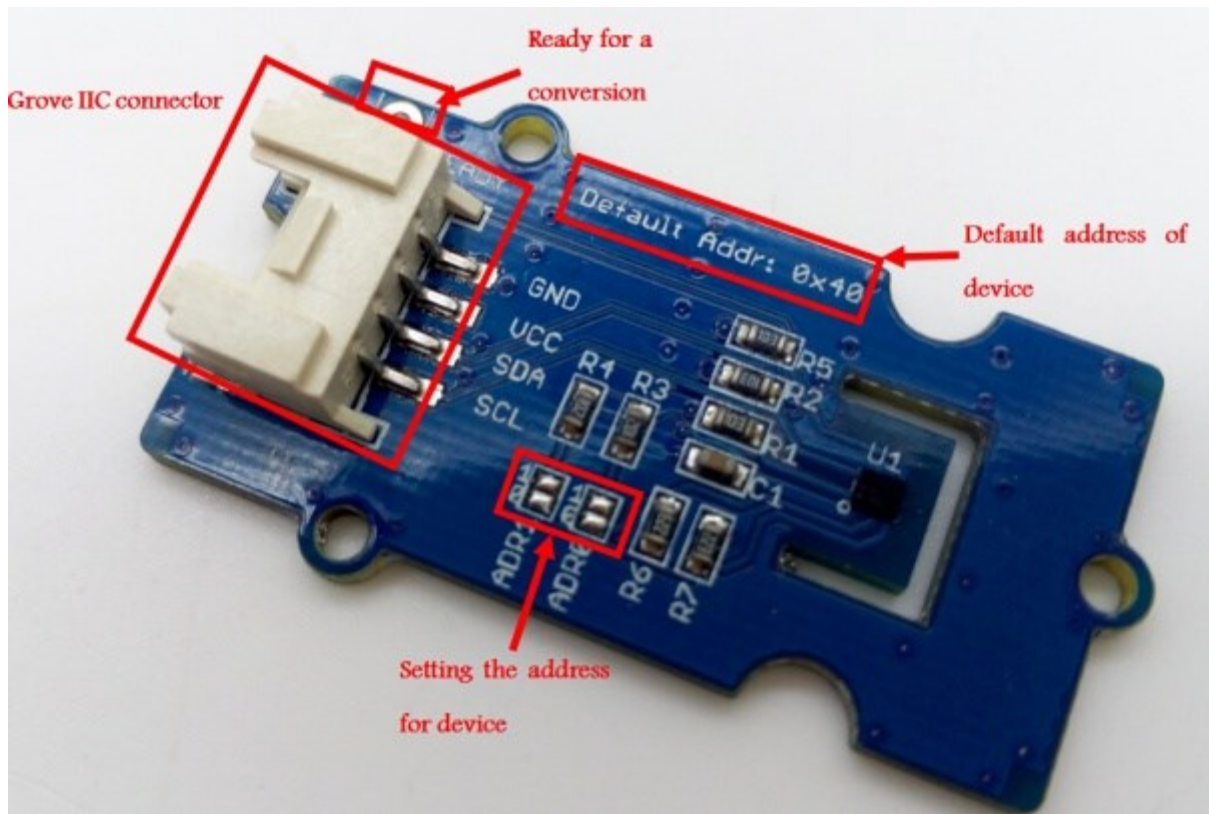
2. Features

- Grove connector compatible
- IIC Interface
- Low Power
- Wide operating voltage range
- I2C Serial Bus Address Configuration

3. Specification

Item	Min	Typical	Max	Unit
Supply Voltage	3	/	5	VDC
Working Current	0.12	/	90	uA
Relative Humidity Accuracy (Typ)	/	±3		%RH
Relative Humidity Operating Range (Typ)	0	/	100	%RH
Temperature Accuracy	/	±0.2	/	°C
Temperature Range	-40	/	125	°C
Operating Temperature Range	-20	/	85	°C
Dimension	40*20			mm

4. Interface Function



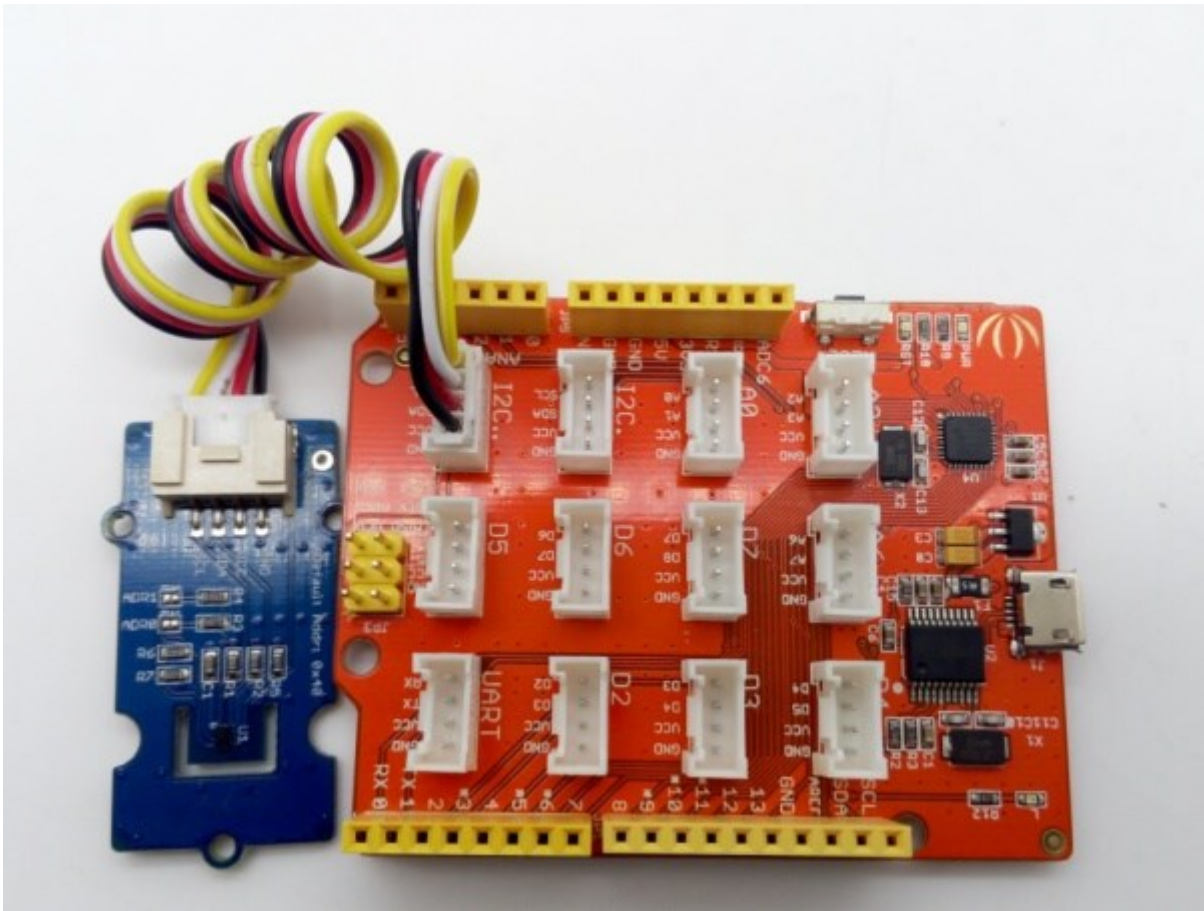
1. Grove connector.
2. Ready : Ready for a conversion.
3. Default address: 0x40.
4. ADDR0,ADDR1:I2C Serial Bus Address Configuration(0x40,0x41,0x42,0x43)

5. Applications

Here is how to use Grove – Temperature & Humidity Sensor (HDC1000) with Seeduino Lotus.

5.1 Hardware Installation

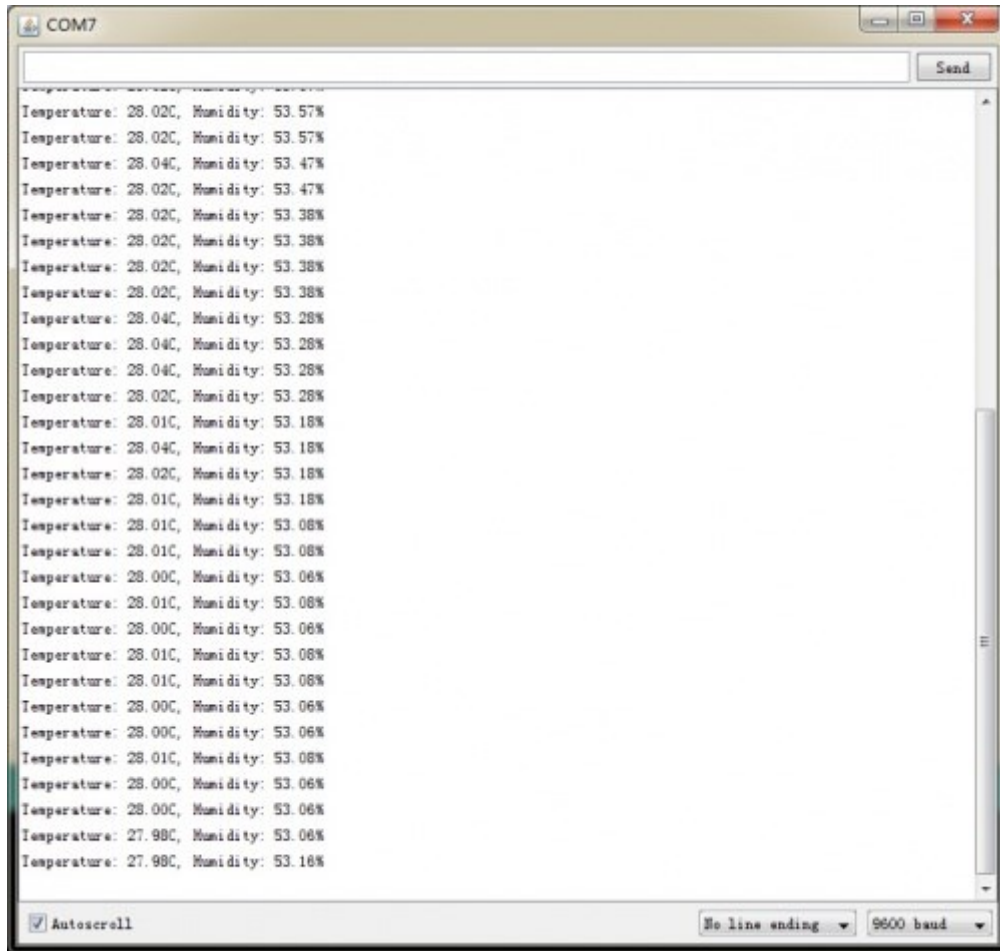
1. Part lists: Seeduino Lotus v1.0 or other Microcontroller development board that combination of Seeduino. Grove – Temperature & Humidity Sensor (HDC1000).
2. Hardware linking is very easy. Grove – Temperature & Humidity Sensor (HDC1000) communicate over I2C. Connecting Grove – Temperature & Humidity Sensor (HDC1000) and Seeduino Lotus v1.0 by Grove cable, as the following.



5.2 Software Part

1. To download the demo code in Github, [click here](#).
2. To install Arduino Library, [please click here](#).
3. Open the HDC1000 example sketch.
4. In the Tools > Board menu, select right board and serial port.
5. Upload demo code to Seeduino Lotus v1.0.

We can get the temperature and relative humidity information from the serial terminal



6. Resources

- [File:Grove - Temperature&Humidity Sensor\(HDC1000\) v1.0 sch pcb.zip](#)
- [File:Grove - Temperature&Humidity Sensor\(HDC1000\) v1.0 sch.pdf](#)
- [Demo code](#)
- [HDC1000 DataSheet.pdf](#)