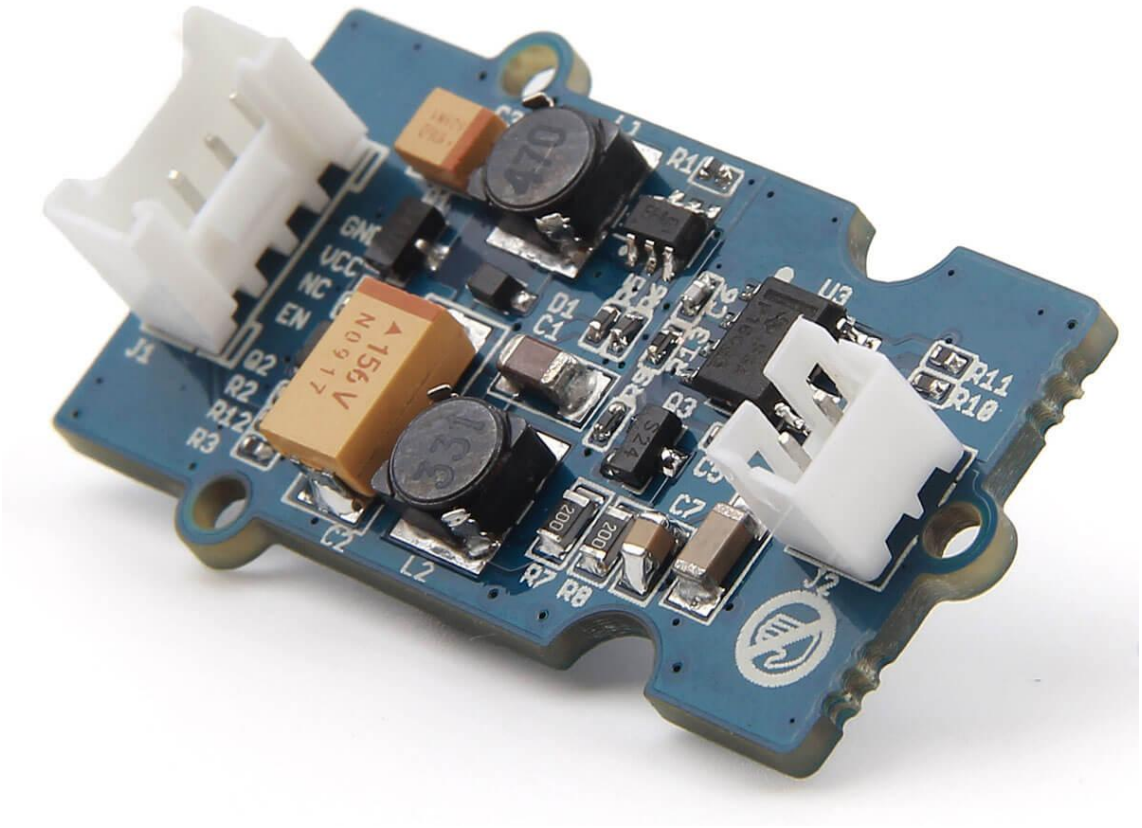
Grove - Water Atomization



Grove - Water Atomization is a fine Grove module for you to develop an atomizer or an atomizer module in your applications easily. With a few simple steps, you can prototype an atomizer. It has grove interface which make it easily applied to plenty of applications. A humidifier is a basic application it can be built with, you can develop

more advanced and interesting objects with digital scent technology and any other situation in which atomization is required.

Get One Now

[https://www.seeedstudio.com/depot/Grove-Water-Atomization-v10-p-2542.html]

Features

- Heated with ultrasound.
- Easy to prototype a new application.
- Well applied to vast applications.
- For various interesting, smart and fashionable applications.

Tip
More details about Grove modules please refer to Grove System [https://wiki.seeedstudio.com/Grove_System/]

Application ideas

- Humidifier.
- Scent emitter in different situations.
- For smart-house applications.
- For smart objects on consumer electronic products.

Specifications

Parameter	Value
Operating Voltage	5.0V(DC)
Ripple(at Max power)	≤100 mV
Max power	2W
Peak output voltage	65±5V
Operating frequency	105±5kHz
Chips	ETA1617, NE555

Platforms Supported

Arduino	Raspberry Pi		

Caution

The platforms mentioned above as supported is/are an indication of the module's software or theoritical compatibility. We only provide software library or code examples for Arduino platform in most cases. It is not possible to provide software library / demo code for all possible MCU platforms. Hence, users have to write their own software library.

Hardware Overview

Grove interface
Connect main control board such as Seeeduino board with driver board.

Transducer interface
Connect ultrasonic transducer to with driver board.

Grove wire
Connect main control board with driver board.

Parts list

Parts name	Quantity
Driver board	1PC
Grove wire	1PC
Ultrasonic transducer plate	1PC

Get started

Material required

Seeeduino v4.2 x 1

Grove - Base shield v2 x 1

Grove - Wire x 1

Preparations

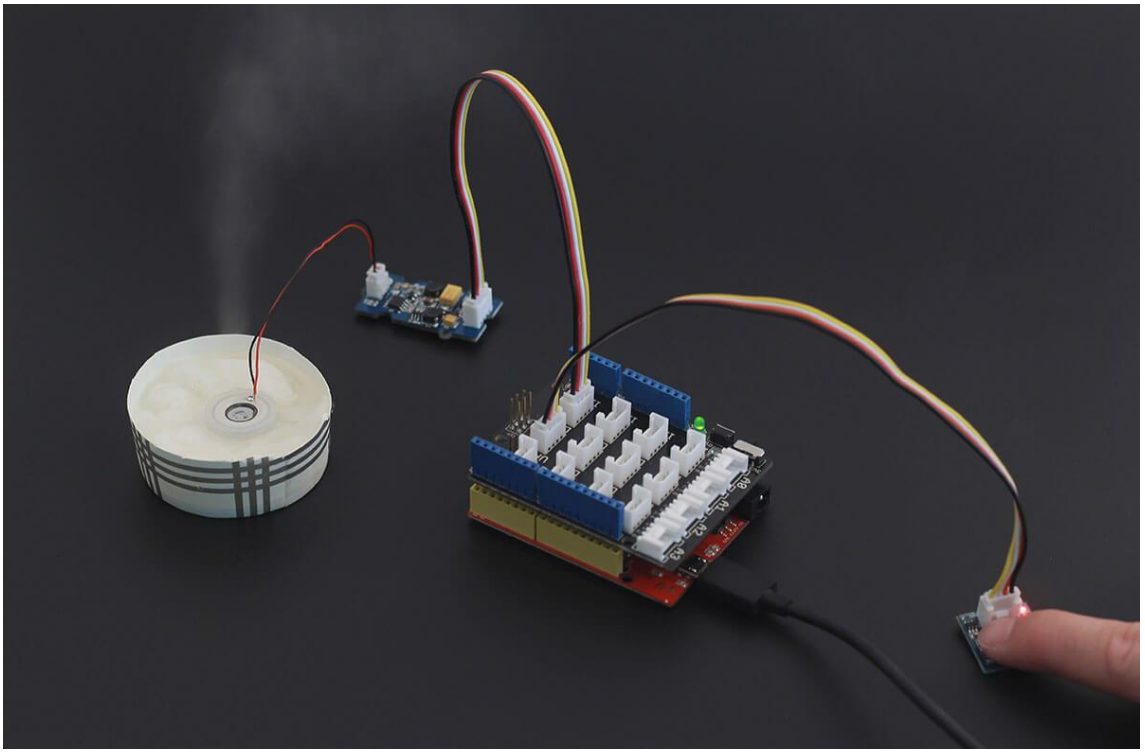
Refer to following guides to build an appropriate IDE:

> **Note**
> We have chosen Seeeduino in this case.

Getting Started on Windows
[/Seeeduino_v4.2#Getting_Started_on_Windows]

Getting Started on Mac OS X
[/Seeeduino_v4.2#Getting_Started_on_Mac_OS_X]

Hardware connections



A little demo

Note
We also need a Grove - Touch Sensor in this demo and also connect it to D5.

1.Copy code below to Arduino IDE editor.

```
/*
  Demo code for grove  atomization.
  Touch to start atomizing.
  Last modified by he
  by xiaohe
*/

// the setup function runs once when you press reset or
void setup() {
    // initialize digital pin 13 as an output.
    pinMode(A5, OUTPUT);// Set A5 as OUTPUT
    pinMode(5, INPUT); // Use digital pin 5 as output po
}

// the loop function runs over and over again forever
void loop() {
    int D2Sig = digitalRead(5);// read pin 5 signal
    if (D2Sig == 1)
    {
        /* code */
        digitalWrite(A5, HIGH);   // atomize
        delay(10000);              // wait for 10 second
        digitalWrite(A5, LOW);    // atomization stopped

    }
}
```

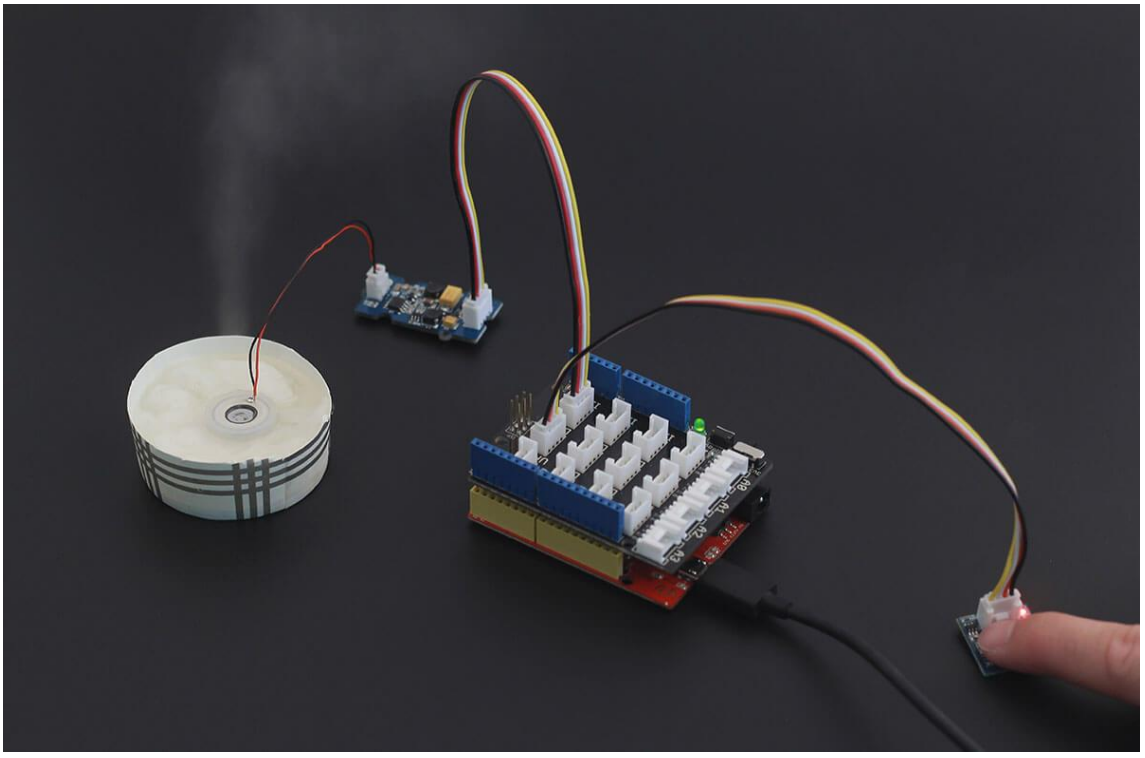
2.Place some tissue into a trimmed paper cup filled with water, put ultrasonic transducer onto tissue.

Note

The bottom side is the side with hollow which is supposed to face downside. Let bottom of transducer plate sink into the water and keep top side above water. The function of tissue is lead water to the transducer and keep upper side of transducer above water.

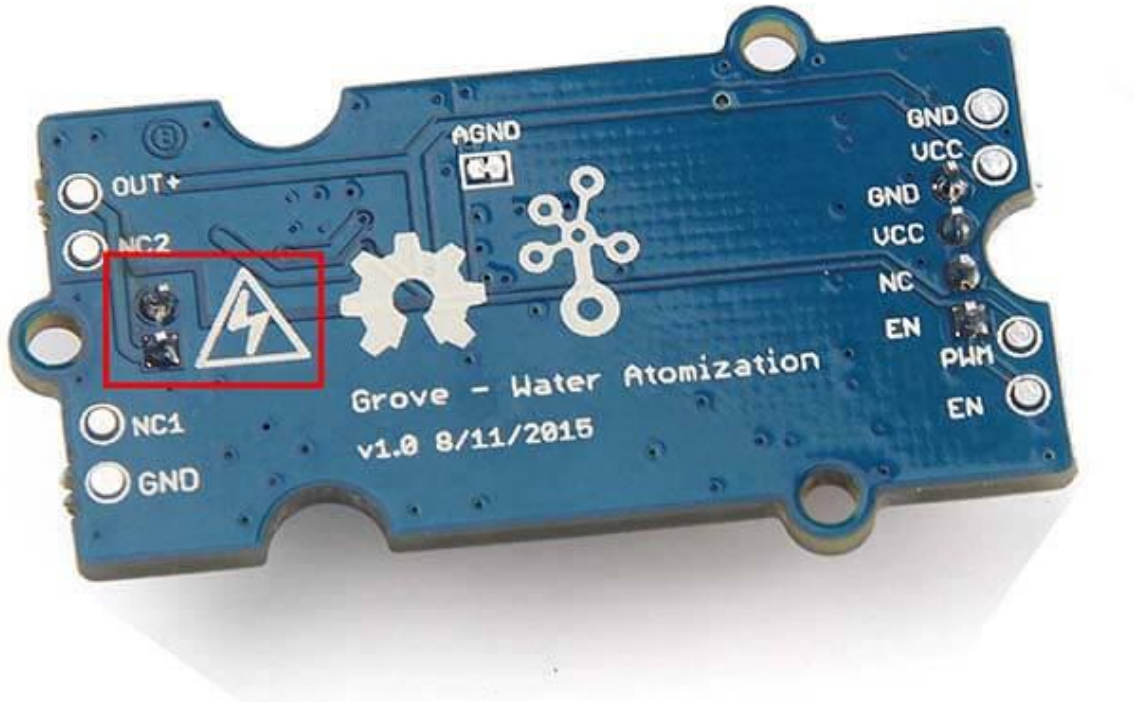
3.Upload code to main control board.

4.Now if you touch Grove touch sensor, you can see vapor produced.



Caution

Do not touch transducer interface pins directly because peak output voltage of Drier board can be 65V.



Caution
The inductor **L2** (marked in red rectangle above) will be heated. So do not touch it directly.

Play with Codecraft

Hardware

Step 1. Connect Grove - Water Atomization to port D2, and connect Grove - Button to port D5 of a Base Shield.

Step 2. Plug the Base Shield to your Seeeduino/Arduino.

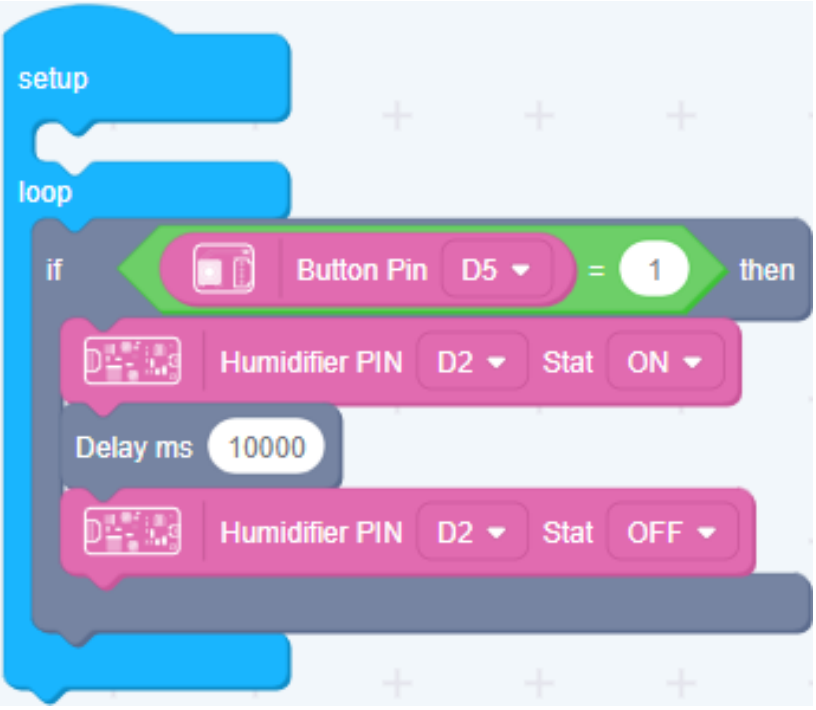
Step 3. Link Seeeduino/Arduino to your PC via an USB cable.

Software

Step 1. Open Codecraft [https://ide.chmakered.com/], add Arduino support, and drag a main procedure to working area.

> **Note**
> If this is your first time using Codecraft, see also Guide for Codecraft using Arduino [https://wiki.seeedstudio.com/Guide_for_Codecraft_using_Arduino/].

Step 2. Drag blocks as picture below or open the cdc file which can be downloaded at the end of this page.



Upload the program to your Arduino/Seeeduino.

> **Success**
> When the code finishes uploaded, the water atomization starts atomize when you push the button.

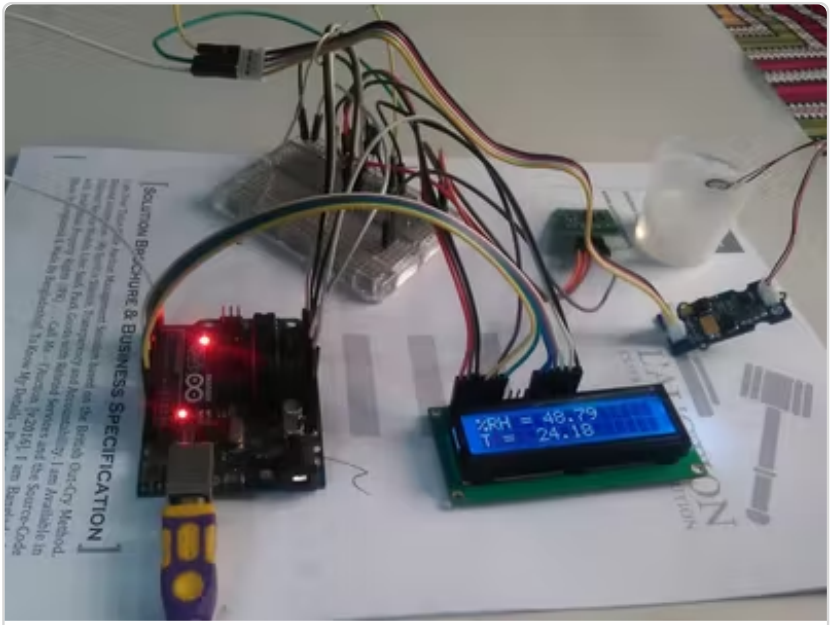
Resources

- Schematic files in Eagle [https://files.seeedstudio.com/wiki/Grove-Water_Atomization/res/Schematic_file_in_Eagle.zip]
- Schematic files in PDF [https://files.seeedstudio.com/wiki/Grove-Water_Atomization/res/Schematic_file_in_PDF.zip]

- Codecraft CDC File [https://files.seeedstudio.com/wiki/Grove-Water_Atomization/res/Grove_Water_Atomization_CDC_File.zip]

Project

Smart Humidifier Make your room comfortable in winter.



(https://www.hackster.io/taifur/smart-humidifier-dac66f)

Tech Support

Please submit any technical issue into our forum [https://forum.seeedstudio.com/].

[https://www.seeedstudio.com/act-4.html?utm_source=wiki&utm_medium=wikibanner&utm_campaign=newproducts]