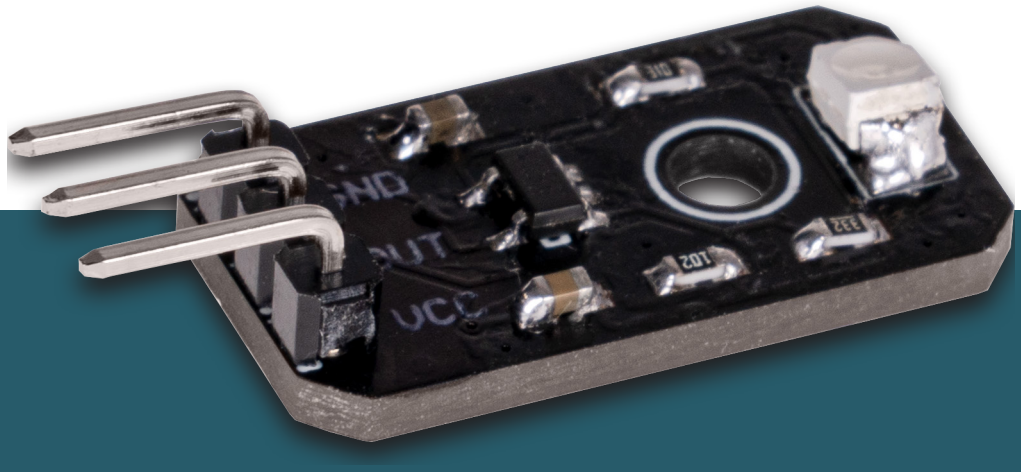


UV-SENSOR

Analog GUVA-S12SD UV-Photodiode

Joy-IT powered by SIMAC Electronics GmbH - Pascalstr. 8 - 47506 Neukirchen-Vluyn - www.joy-it.net

1. GENERAL INFORMATION

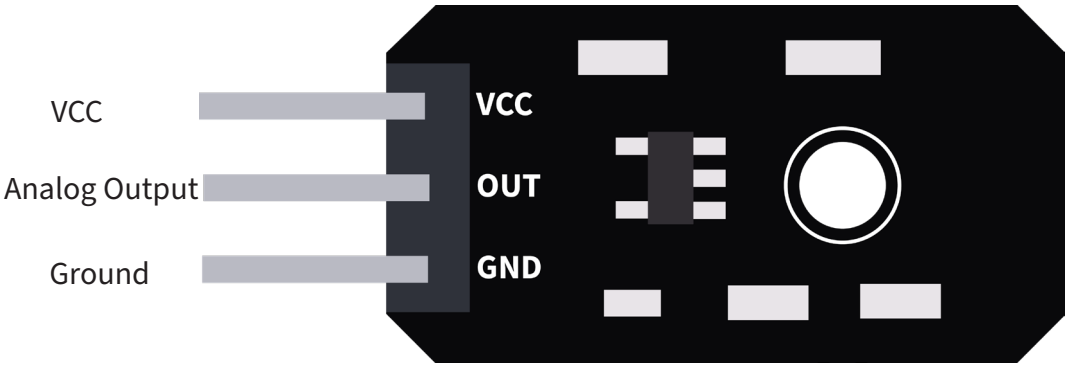
Dear customer,
thank you for choosing our product. In the following, we will show you what to consider during commissioning and use.

Should you encounter any unexpected problems during use, please feel free to contact us.

2. BASICS & CONNECTION OF THE MODULE

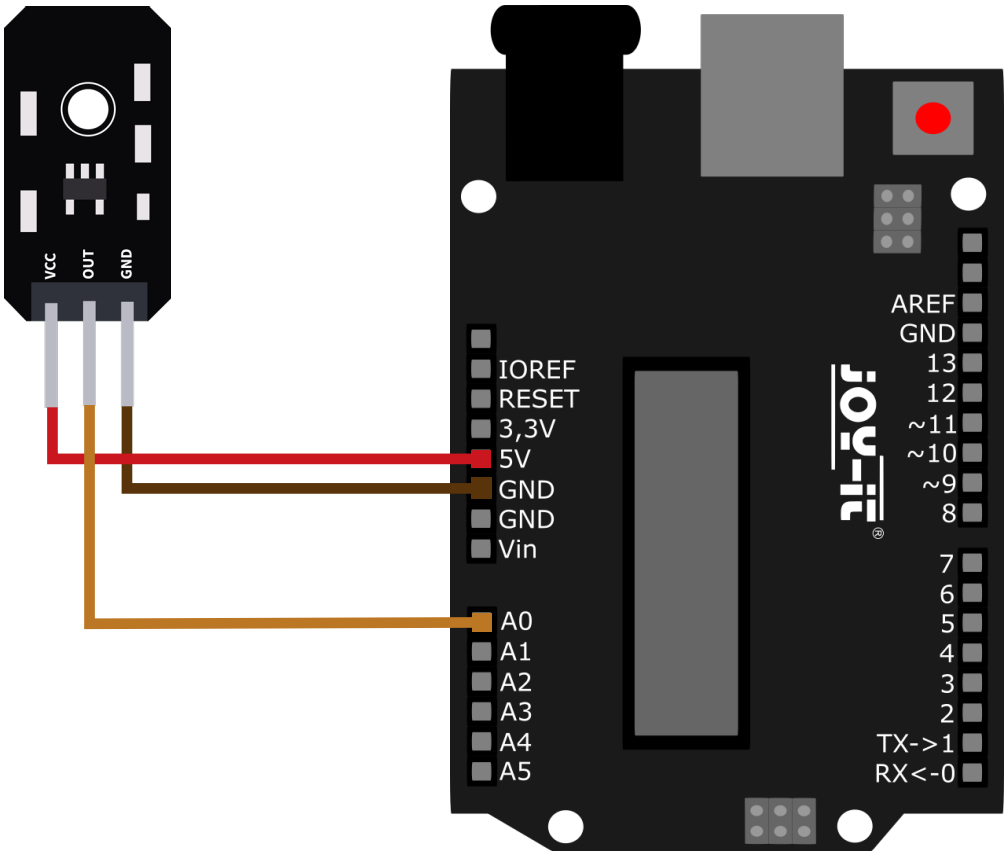
The module is equipped with a GUVA-S12SD photodiode, which can measure the intensity of UV-B and UV-A rays.

The module can be connected as follows:



3. APPLICATION EXAMPLE ARDUINO

First connect the module to your Arduino:



UV-SENSOR	ARDUINO
GND	GND
OUT	A0
VCC	5 V

Now transfer the following code example to your Arduino. Alternatively you can download it **here**.

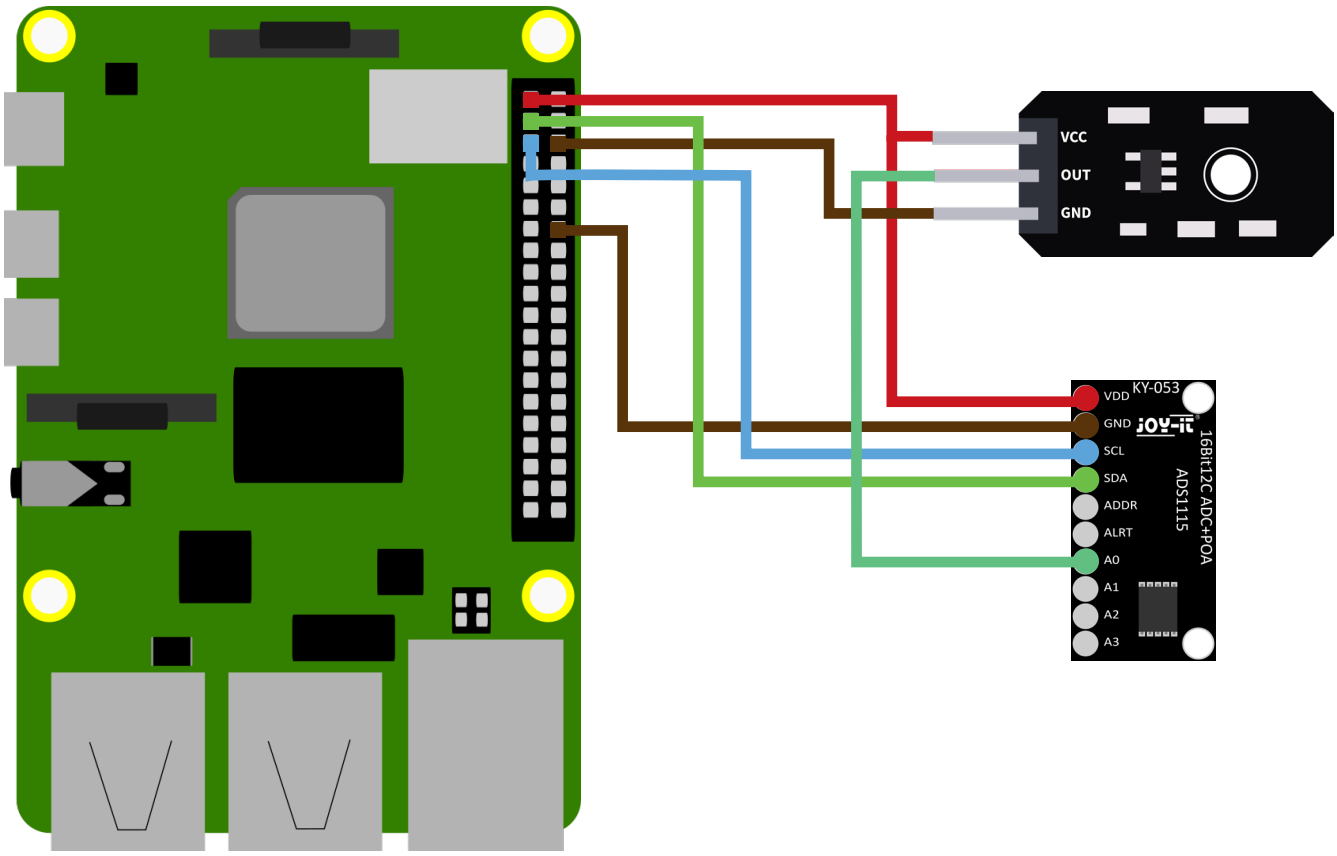
```
void setup()
{
  Serial.begin(9600);
}

void loop()
{
  float sensorVoltage;
  float sensorValue;

  sensorValue = analogRead(A0);
  sensorVoltage = sensorValue/1024*5;
  Serial.print("sensor reading = ");
  Serial.print(sensorValue);
  Serial.println("");
  Serial.print("sensor voltage = ");
  Serial.print(sensorVoltage);
  Serial.println(" V");
  delay(1000);
}

  delay(500);
}
```

4. APPLICATION EXAMPLE RASPBERRY PI

This guide was written under Raspberry Pi OS Bookworm for the Raspberry Pi 4 and 5. It has not been checked with newer operating systems or hardware.

First connect the module to your Raspberry Pi.

ATTENTION! Please note that this sensor only outputs analog signals. These cannot be processed directly by the Raspberry Pi. To use this module with a Raspberry Pi an additional analog-to-digital converter (ADC) is required. Our **KY-053 Analog-Digital converter** is suitable for this purpose:



RASPBERRY PI	UV-SENSOR	KY-053 ADC
3,3 V	VCC	VDD
GND	GND	GND
SDA	-	SDA
SCL	-	SCL
-	OUT	A0

To use the KY-053 analog-to-digital converter, you first need to install enable the I2C interface. To do that enter the following command:

```
sudo raspi-config
```

Go to **Interface Options** and enable the **I2C** interface.

The next step is to install pip3. For that enter the follwoing command:

```
sudo apt install python3-pip
```

The next step is to set up the virtual environment required for this project. To do this, enter the following commands:

```
mkdir project-name && cd project-name
```

```
python -m venv --system-site-packages env
```

```
source env/bin/activate
```

To use the KY-053 analog-to-digital converter, you now need to install the **Adafruit CircuitPython ADS1x15 library**. Therefore install it with the help of the following command:

```
pip3 install adafruit-circuitpython-ads1x15
```

You can now create a new python file with the following command:

```
nano SEN-UV01-RPI.py
```

Now transfer the following code example to your Raspberry Pi:

```
import time
import board
import busio
import adafruit_ads1x15.ads1115 as ADS
from adafruit_ads1x15.analog_in import AnalogIn

i2c = busio.I2C(board.SCL, board.SDA)
ads = ADS.ADS1115(i2c)

chan0 = AnalogIn(ads, ADS.P0)

while True:
    print("SEN-UV01: ","{:>5}\t{:>5.3f}".format(chan0.value, chan0.voltage))
    print("---------------------------------------------------")
    time.sleep(1)
```

Alternatively, you can download the code sample **here**. You can use the following commands for this purpose:

```
wget https://joy-it.net/files/files/Produkte/SEN-UV01/SEN-UV01-RPi.zip
unzip SEN-UV01-RPi.zip
```

You can now start the example with this command:

```
python3 SEN-UV01-RPi.py
```

5. INFORMATION & TAKE-BACK OBLIGATIONS

Our information and take-back obligations under the Electrical and Electronic Equipment Act (ElektroG)

Symbol on electrical and electronic equipment: 

This crossed-out trash can means that electrical and electronic equipment does **not** belong in the household trash. You must hand in the old equipment at a collection point. Before dropping off, you must separate used batteries and accumulators that are not enclosed in the old device from the old device.

Return options:
As an end user, when you purchase a new appliance, you can return your old appliance (which performs essentially the same function as the new one purchased from us) for disposal free of charge. Small appliances with no external dimensions larger than 25 cm can be returned in normal household quantities, regardless of the purchase of a new appliance.

Possibility return to our company location during opening hours:
SIMAC Electronics GmbH, Pascalstr. 8, D-47506 Neukirchen-Vluyn

Possibility return in your area:
We will send you a parcel stamp with which you can return the device to us free of charge. To do this, please contact us by e-mail at service@joy-it.net or by phone.

Packaging information:
Please pack your old device securely for transport. If you do not have suitable packaging material or do not wish to use your own, please contact us and we will send you suitable packaging.

6. SUPPORT

We are also there for you after the purchase. If you have any questions or problems arise, we are also available by e-mail, telephone and ticket support system.

E-Mail: service@joy-it.net
Ticket-System: https://support.joy-it.net
Phone: +49 (0)2845 9360 – 50 (Mon - Thur: 09:00 - 17:00 o'clock CET,
Fri: 09:00 - 14:30 o'clock CET)

For more information visit our website:
www.joy-it.net

Published: 2024.04.22