FINE DUST SENSOR

SEN-SDS011

1. GENERAL INFORMATION

Dear customer,

thank you very much for choosing our product.
In the following, we will introduce you to what to observe while starting up and using this product.

Should you encounter any unexpected problems during use, please do not hesitate to contact us.

2. USAGE WITH THE RASPBERRY PI

2.1 Connection
This fine dust sensor is connected to one of the USB ports of the Raspberry Pi using an included USB-UART adapter.

2.2 Code example
For this sensor, we use the library **SDS011-SDS018-and-SDS021-dust-sensors-reader**, which was released by **Matej Kovacic** under the **GPL-3.0 license**. However, before you can install this library, run the following commands in your console to install the previously required dependencies.

```
sudo apt-get update
```

```
sudo apt-get upgrade
```

```
sudo apt-get install git
```

```
sudo apt-get install python3-dev
```

```
sudo apt-get install python3-serial
```

Now download the library using the following commands and go to the folder you just downloaded. Be aware that the file path may be different for you.

```
git clone https://github.com/MatejKovacic/SDS011-SDS018
-and-SDS021-dust-sensors-reader.git
```

Now that you have downloaded the library you can run the existing code sample with the following commands.

```
cd SDS011-SDS018-and-SDS021-dust-sensors-reader/
```

```
python3 dust-sensor-read.py
```

When you have started the code you will be able to see the measurement results in your console.
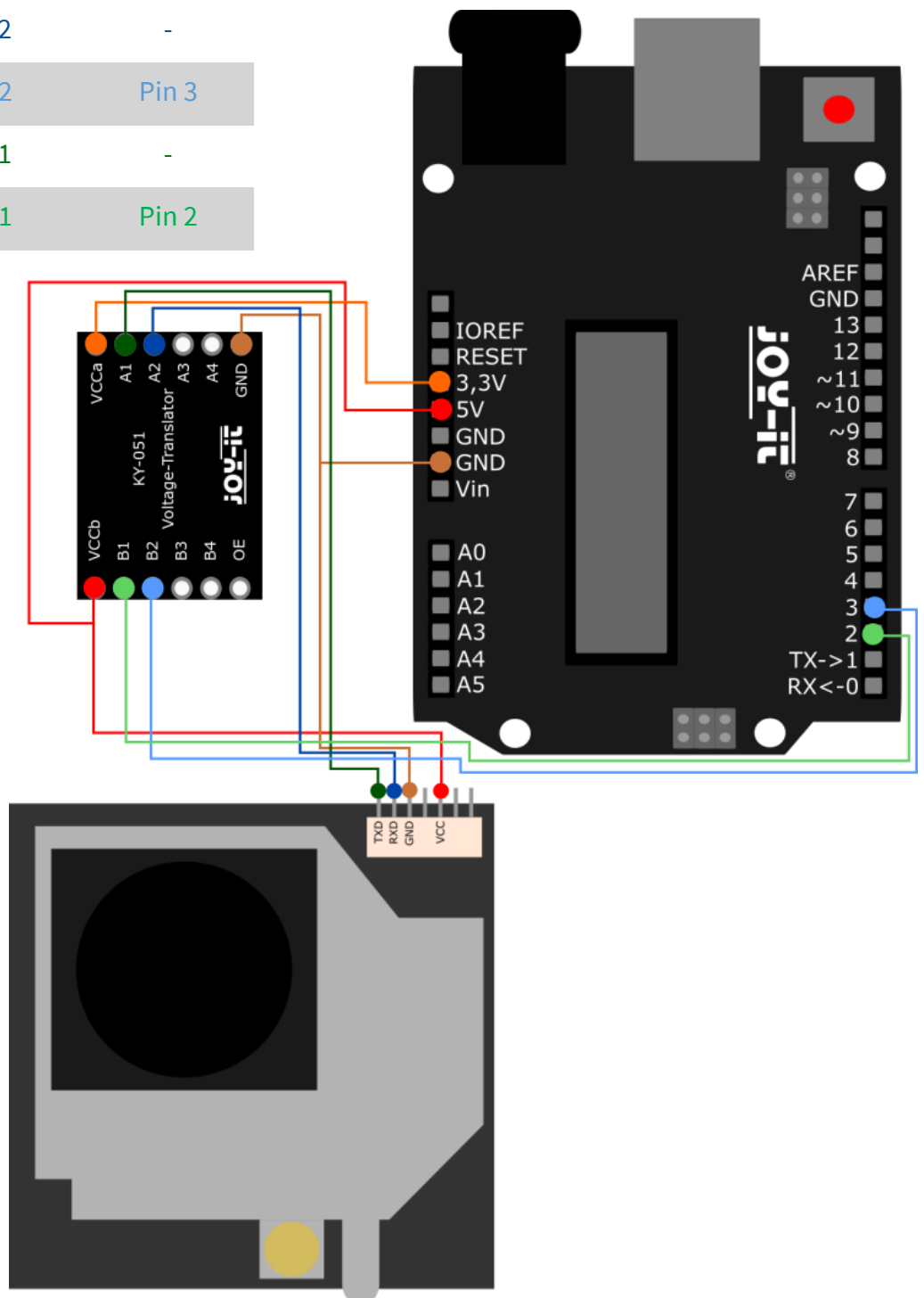
You can exit the code example by pressing **CTRL+C**.

3.1 Connection

This fine dust sensor has a logic level of 3.3 V, therefore a voltage conver-
ter must be used when using it with a device that has a logic level of 5 V
(e.g. Arduino Uno). In our code example, the **COM-KY051VT** is used.

SDS011	KY051	Arduino
VCC	VCCb	5V
-	VCCa	3,3V
GND	GND	GND
RXD	A2	-
-	B2	Pin 3
TXD	A1	-
-	B1	Pin 2

3.2 Code example

For this code example, the **Nova_SDS011 Sensor Library** is used, which was published by **R.Orecki** under the *MIT License*.
 After you have installed this library in your Arduino IDE, you can find a code example at *File → Examples → Nova_SDS011 Sensor Library → NovaSDS011*. You can upload this code to your Arduino using **Upload**. However, make sure that **Board** and **Port** are set correctly under *Tools*. In this example code, the measurement is done in a duty cycle of 5 min.

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

Symbol on electrical and electronic equipment:

This crossed-out dustbin means that electrical and electronic appliances do not belong in the household waste. You must return the old appliances to a collection point.
Before handing over waste batteries and accumulators that are not enclosed by waste equipment must be separated from it.

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

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

Possibility of return in your area:
We will send you a parcel stamp with which you can return the device to us free of charge. Please contact us by email at Service@joy-it.net or by telephone.

Information on packaging:
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.

If there are still any issues pending or problems arising after your purchase, we will support you by e-mail, telephone and with our ticket support system.

Email: **service@joy-it.net**
Ticket system: http://support.joy-it.net
Telephone: +49 (0)2845 9360-50   (Mon - Thu: 09:00 - 17:00 o'clock,
                                                          Fri: 09:00 - 14:30 o'clock)

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

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