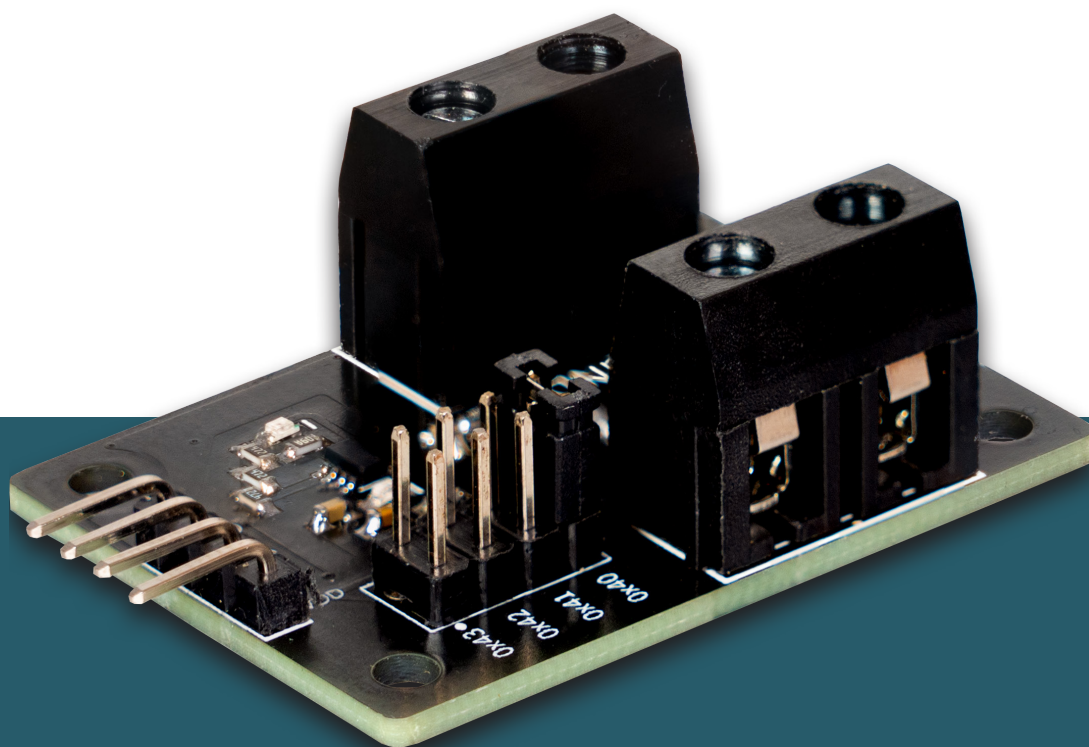




16-BIT DIGITAL I2C AMMETER

SBC-DVA

1. GENERAL INFORMATION

Dear customer

Thank you for choosing our product. In the following, we will show you what you need to bear in mind during commissioning and use. Should you encounter any unexpected problems during use, please do not hesitate to contact us.

2. CHANGING THE I2C ADDRESS

This digital ampere meter can be configured to 4 possible I2C addresses. These can be freely selected, but the standard address **0x40** is used in the further course.

In the following illustration you can see which pins can be set with a jumper to change the I2C address.

You can choose between 4 different positions.

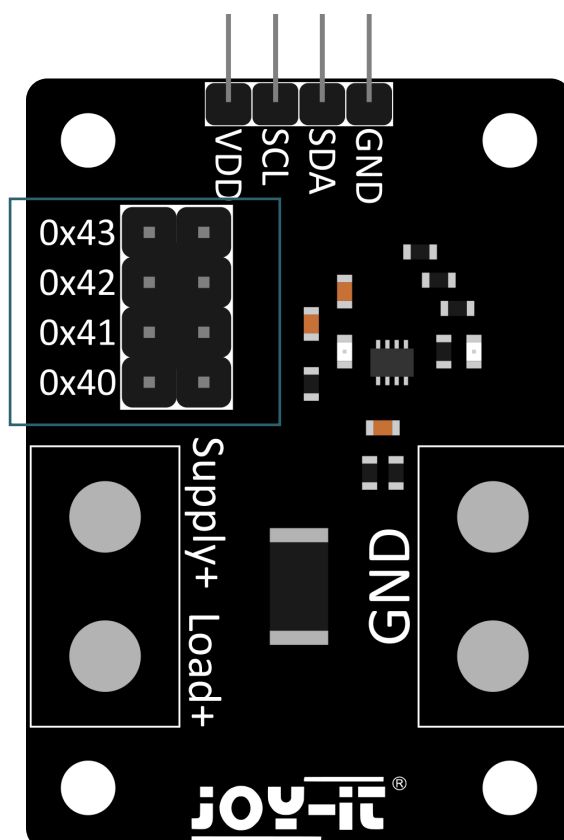
0x43

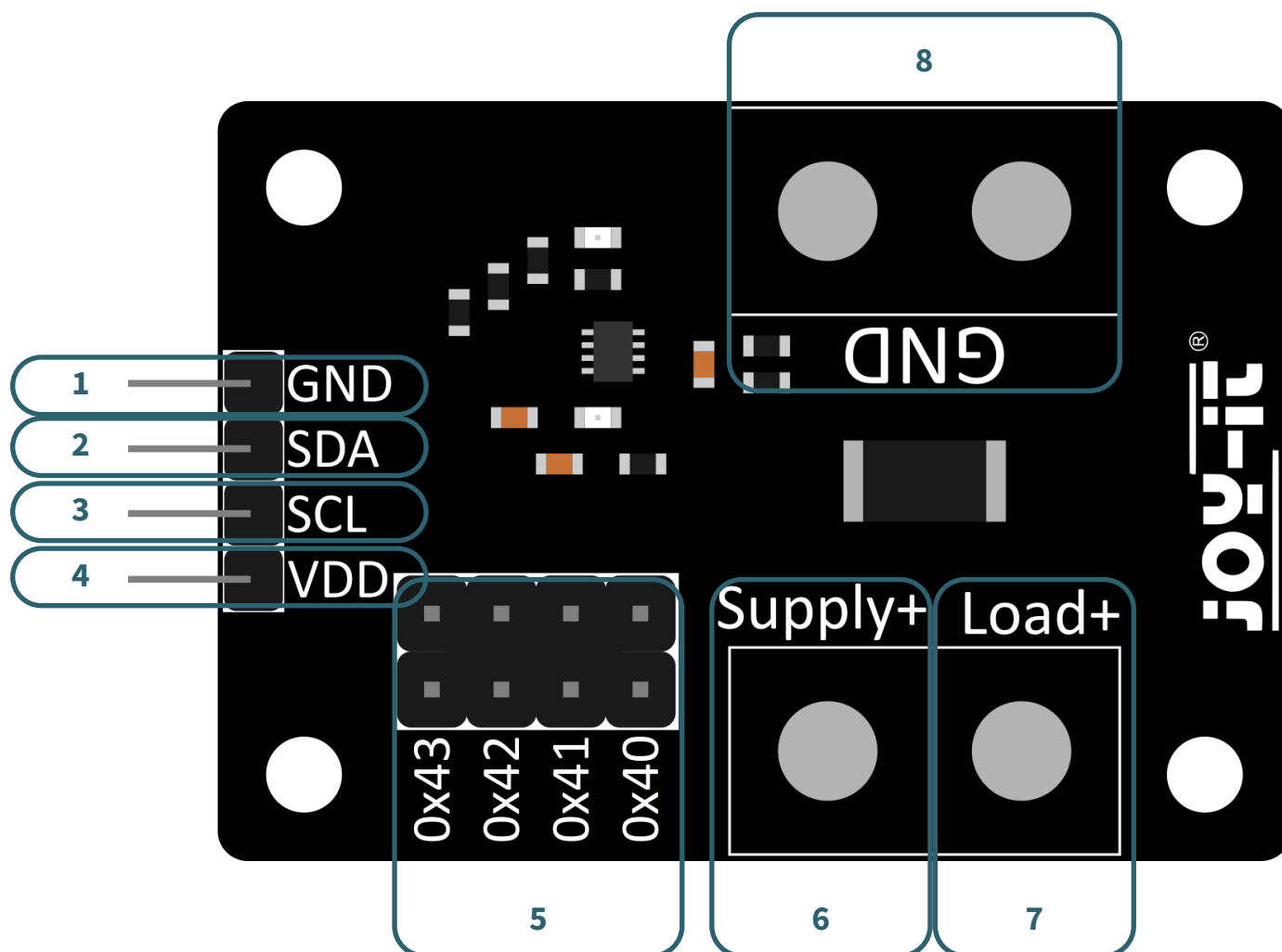
0x42

0x41

0x40

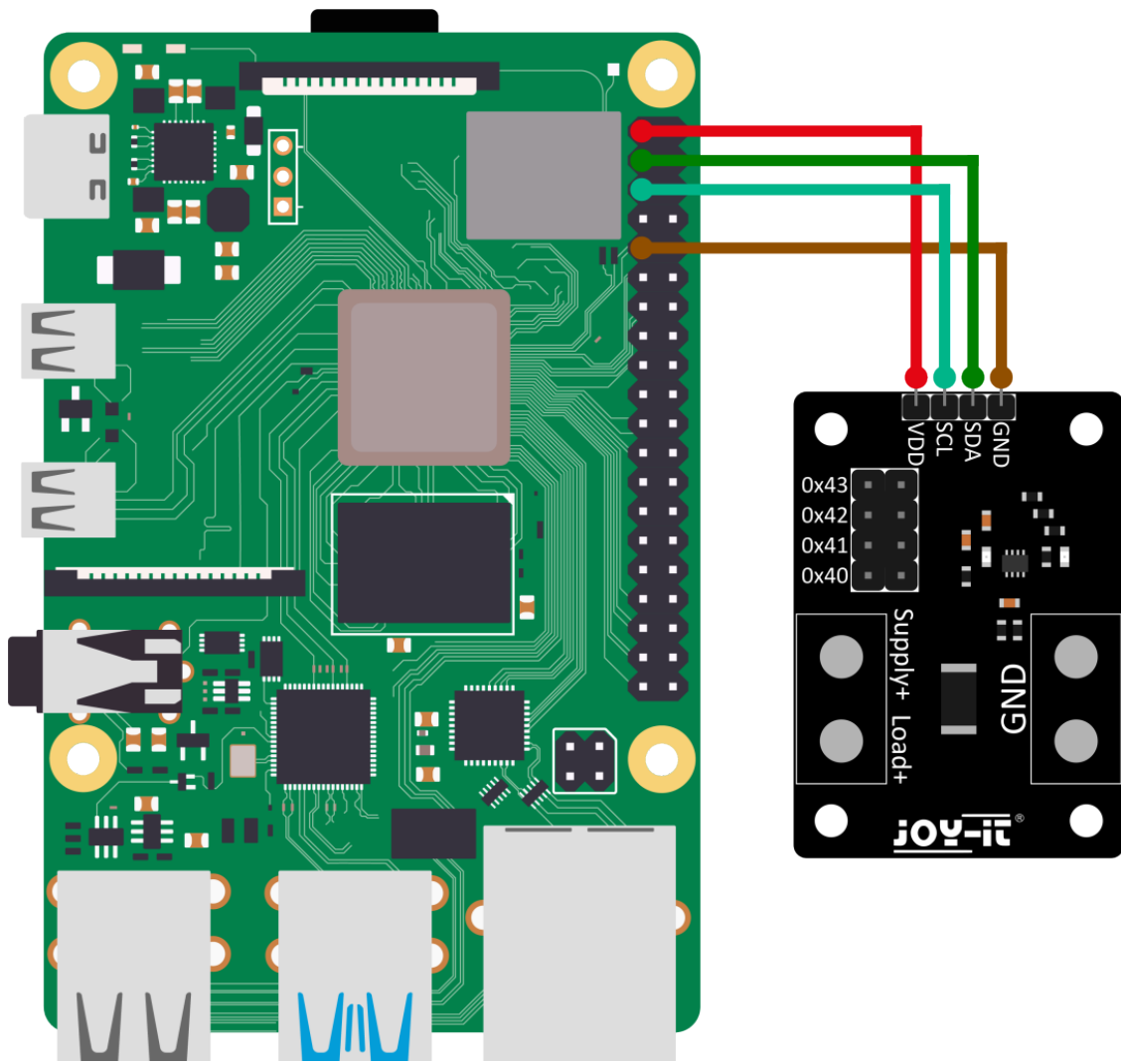
It should be noted that the I2C address should never be changed during operation, as this can lead to unforeseeable problems.





Digit	Function
1	Negative connection Supply voltage for the IC on the board
2	I2C data line
3	I2C clock line
4	Positive connection Supply voltage for the IC on the board
5	Jumper for selecting the I2C address
6	Positive connection of the voltage and power supply to be measured
7	Positive connection of the connected load/consumer
8	Ground Connection of the voltage and power supply as well as the load/consumer

4. USE WITH THE RASPBERRY PI



Raspberry Pi	SBC-DVA	External
GPIO2	SDA	-
GPIO3	SCL	-
GND	GND	-
3V3	VDD	-
-	Supply +	Positive connection of the external power supply
-	Load +	Positive connection of a load/consumer
-	GND	Ground Connection of the external power supply and the load/consumer

Before you can use the module, you must first enable the I2C interface. To do this, enter the following command in your terminal:

```
sudo raspi-config
```

Select 3 **Interface Options** → **P5 I2C** and enable the I2C interface.

Next, you must download the required additional libraries enter the following commands:

```
sudo apt-get install i2c-tools -y
```

```
sudo apt install -y python3-dev
```

```
sudo apt install -y git
```

For our code example we use the [SBC-DVA-RaspberryPi library](#) from [Joy-IT](#) which was published under the [MIT license](#) and already contains a code example. Use the following command to download this library from GitHub.

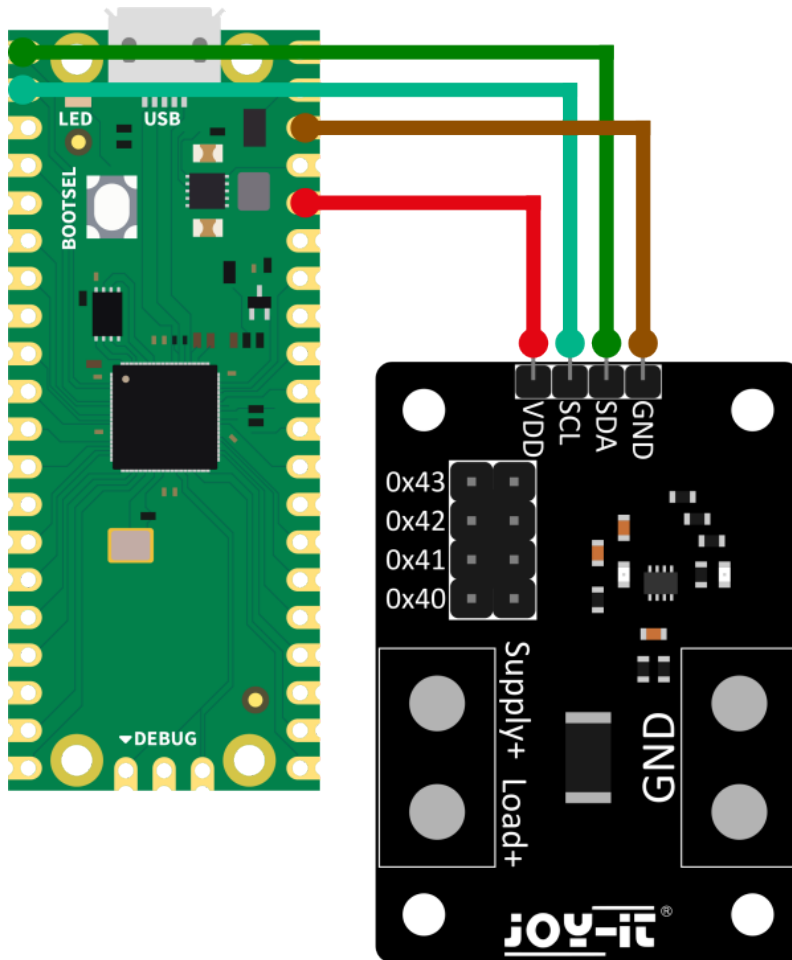
```
git clone https://github.com/joy-it/SBC-DVA-RaspberryPi.git
```

You can then execute the sample program with the following commands.

```
cd SBC-DVA-RaspberryPi
```

```
python3 SBC-DVA-Example.py
```

5. USE WITH THE RASPBERRY PI PICO



Pi Pico	SBC-DVA	External
GP0	SDA	-
GP1	SCL	-
GND	GND	-
3V3	VDD	-
-	Supply +	Positive connection of the external power supply
-	Load +	Positive connection of a load/consumer
-	GND	Ground Connection of the external power supply and the load/consumer

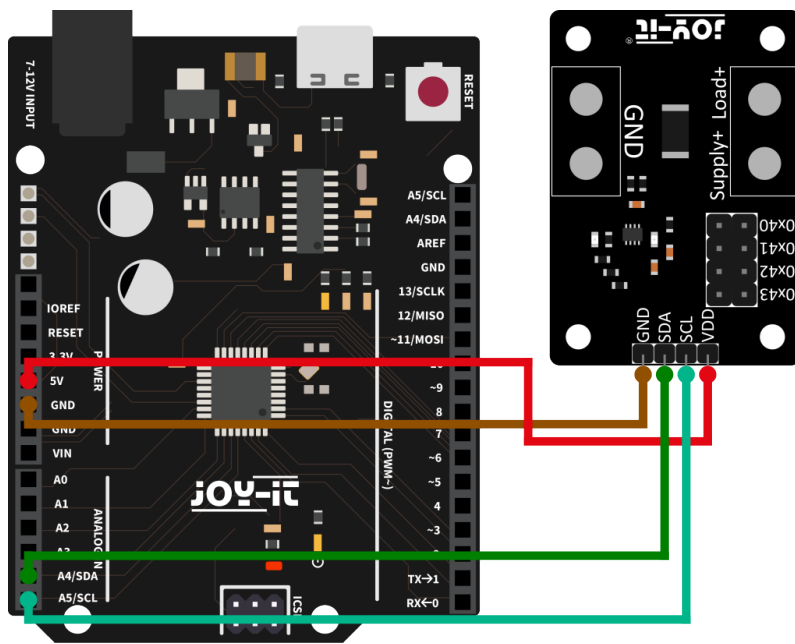
Once you have connected the module to your Pico, you can download the required library from GitHub. For our code example, we use the [SBC-DVA-RaspberryPiPico library](#) from [Joy-IT](#) which was published under the [MIT license](#).

After downloading the *.zip file, you need to unzip it and copy the file SBC_DVA_lib.py into the "lib" folder on your Pico.

Now you can execute the example file SBC-DVA-Example.py.

For more help on using the Raspberry Pi Pico, you can download our beginner's guide for the Pico [here](#).

5. USE WITH THE ARDUINO



Arduino	SBC-DVA	External
A4	SDA	-
A5	SCL	-
GND	GND	-
5V	VDD	-
-	Supply +	Positive connection of the external power supply
-	Load +	Positive connection of a load/consumer
-	GND	Ground Connection of the external power supply and the load/consumer

For our code example we use the [SBC-DVA Arduino library](#) from [Joy-IT](#) which [is](#) licensed under the [MIT license](#). To use this library, you need to download it from GitHub. You can install this library by going to Sketch → Include library → add .zip library... search for the library you have just downloaded and select it.

To run the code example, simply go to File → Examples → SBC-DVA-Arduino in your Arduino IDE and then to SBC-DVA-Example.... Click on Upload to upload the code example to your Arduino.

5. INFORMATION & TAKE-BACK OBLIGATIONS

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



Symbol on electrical and electronic equipment:

This crossed-out garbage can means that electrical and electronic appliances do not belong in household waste. You must hand in the old appliances at a collection point. Before handing them in, you must separate used batteries and accumulators that are not enclosed by the old appliance.

Return options:

As an end user, you can hand in your old appliance (which essentially fulfills the same function as the new appliance purchased from us) for disposal free of charge when purchasing a new appliance. Small appliances with no external dimensions greater than 25 cm can be disposed of in normal household quantities regardless of whether you have purchased a new appliance.

Possibility of return at our company location during opening hours:

SIMAC Electronics GmbH, Pascalstr. 8, D-47506 Neukirchen-Vluyn

Return option in your area:

We will send you a parcel stamp with which you can return the device to us free of charge. To do so, please contact us by e-mail at Service@joy-it.net or by telephone.

Packaging information:

Please pack your old appliance securely for transportation. 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 your purchase. If you still 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 - Thu: 09:00 - 17:00,
Fri: 09:00 - 12:15)

For further information, please visit our website:

www.joy-it.net