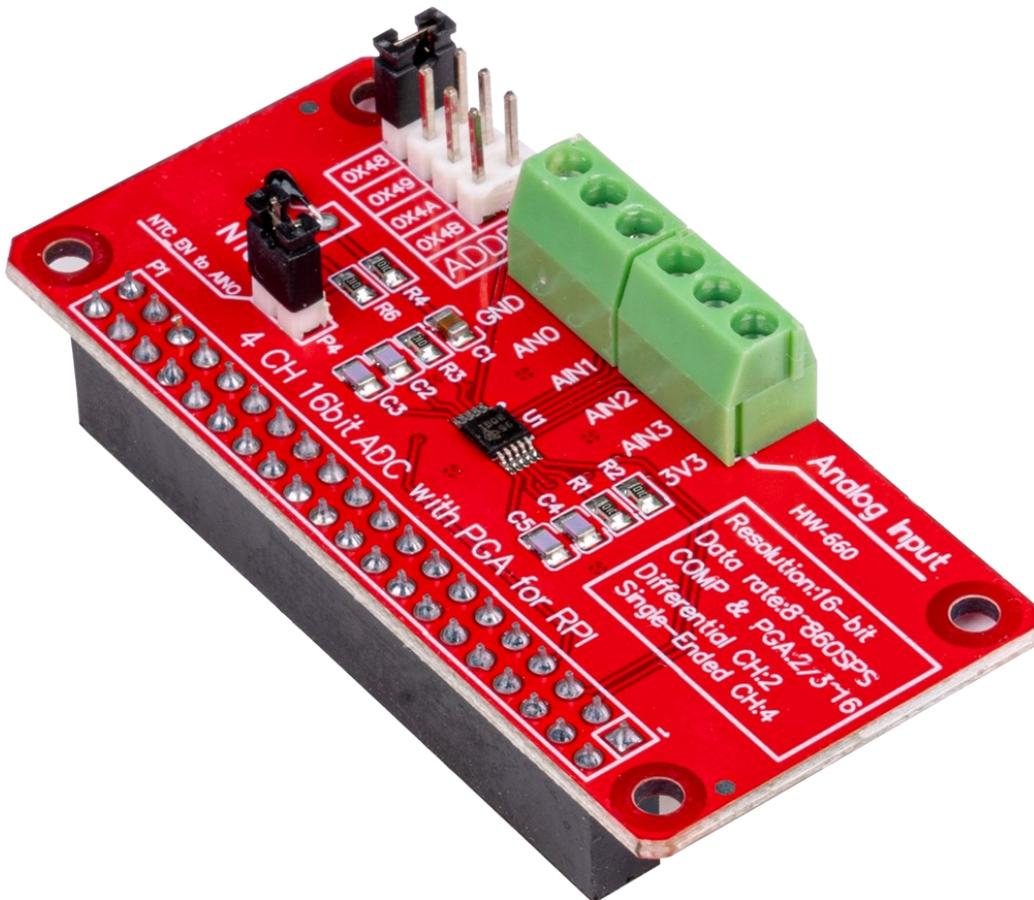# ANALOG-DIGITAL CONVERTER FOR RASPBERRY PI

RB-ADC01

1. GENERAL INFORMATION

Dear customer,

thank you very much for choosing our product.

In 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.

i 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.
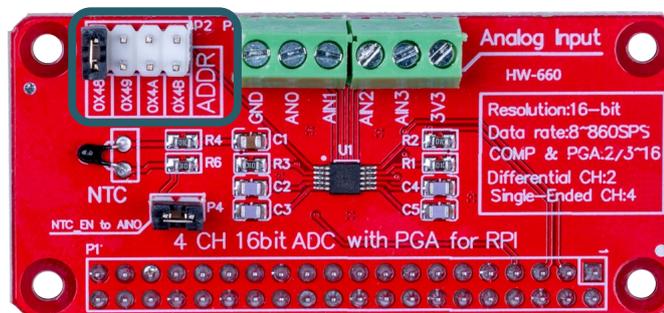
2. CONNECTION

The analog-digital converter is connected as shown in the following picture.
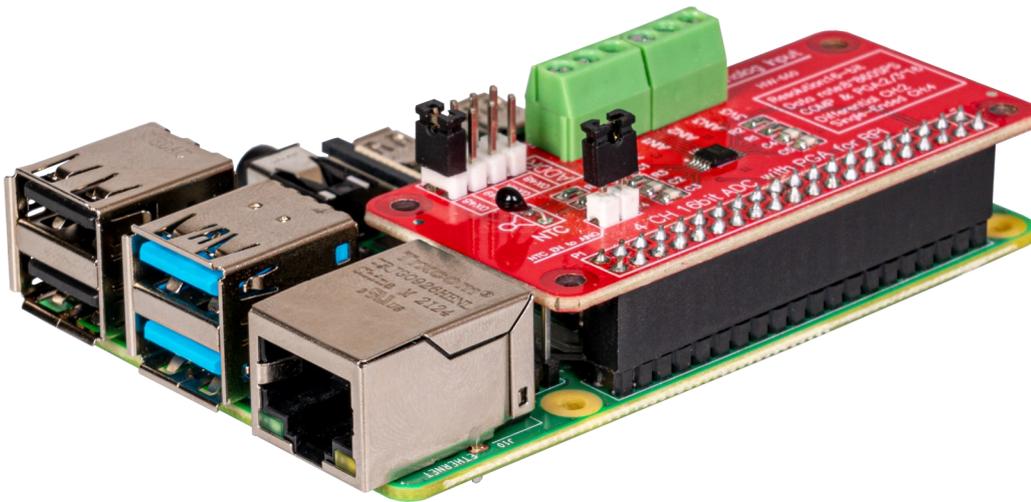
3. I2C-ADRESSE

This analog-digital converter is able to change the I2C address by means of jumpers. For this you can change the following jumper to use `0x49`,`0x4A` or `0x4B`. By default the address is set to `0x48`.

4. NTC

There is an NTC placed on the converter. This NTC is connected to **AN0**. In the following example, this can be used to measure the temperature. However, if you want to use **AN0**, you should remove the jumper, which is marked in the following picture. Furthermore, you must additionally remove the calculation of the temperature from the code example, otherwise an error message will occur.
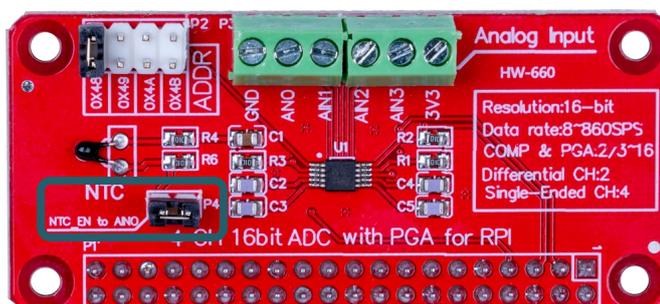
5. CODE EXAMPLE

First you need to enable I2C on your Raspberry Pi. To open the configuration, enter the following command:

```
sudo raspi-config
```

There select *3 Interface Options → I4 I2C* and enable the I2C interface.

You have now successfully activated I2C. The analog-to-digital converter is now accessible under the I2C address 0x48, which is set by default for this sensor. The I2C address will be different if you have already configured it before configuring your Raspberry Pi.

Now install pip3 with the following command:

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

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

```
mkdir dein_projekt
```

```
cd dein_projekt
```

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

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

We use the **Adafruit_CircuitPython_ADS1x15** library for our code example, which is released under the **MIT license**. Use the following commands to download and install this library.

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

The code sample we provide can be downloaded **here** or you can run the following command in your console.

```
wget https://www.joy-it.net/files/files/Produkte/RB-ADC01/RB-ADC01_CodeExample.zip
```

Now, unpack the file with the following command:

```
unzip RB-ADC01_CodeExample.zip
```

You can now execute the script with the following command. Be aware that your file path may be differ.

```
python3 RB-ADC01_CodeExample/RB-ADC01.py
```

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 applianc-es to a collection point.
Before handing over waste batteries and accumulators that are not en-closed by waste equipment must be separated from it.

Return options:
As an end user, you can return your old device (which essentially fulfils 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 pur-chase of a new appliance.

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

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 - Thur: 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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