16X2 AND 20X4 LCD DISPLAY

RB-LCD-16x2 and RB-LCD-20x4
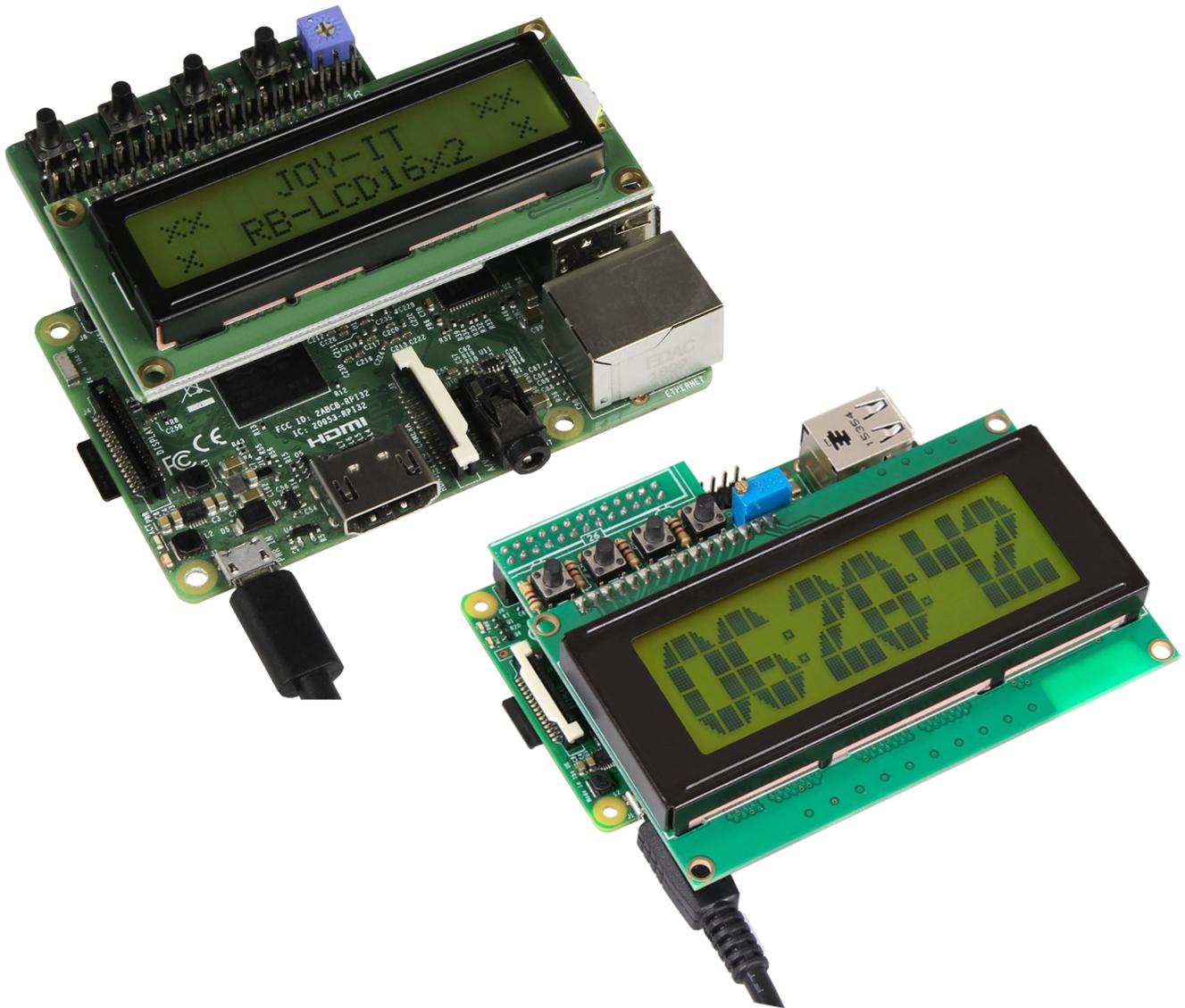
1. GENERAL INFORMATION

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.

This manual is suitable for the RB-LCD-16x2 and the RB-LCD-20x4, because both LCDs are controlled by the IO-Expander PCF8574.

2. CONNECTION

Your LCD is connected by plugging it onto the GPIO strip of your Raspberry Pi. This should look like this.
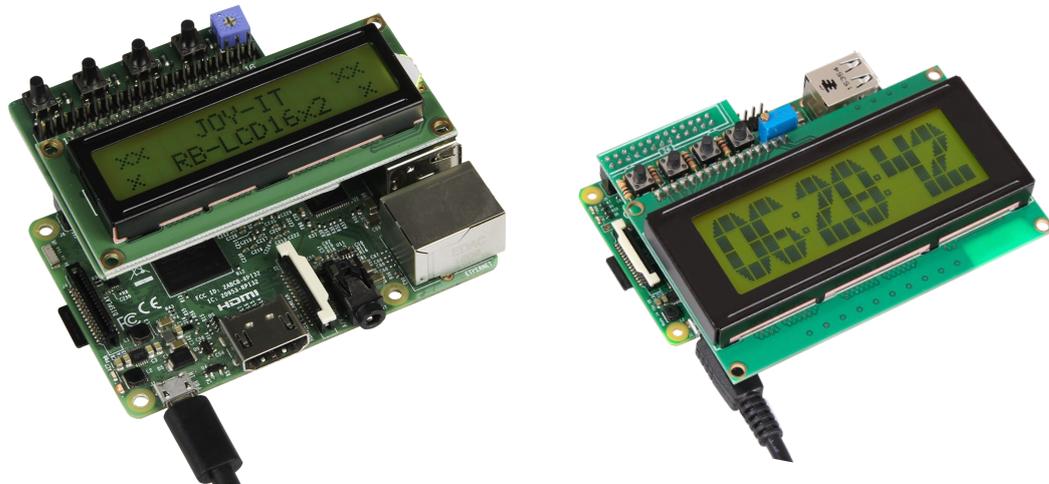
The buttons are connected to the GPIOs of the Raspberry Pi. The backlight is permanently activated on this display and cannot be switched off.

Button	Raspberry Pi
S1	GPIO 4
S2	GPIO 16
S3	GPIO 10
S4	GPIO 9

The display can be accessed under the I2C address 0x27.

3. INSTALLATION

To use your new LCD, it is necessary to install some libraries. First, open the Raspberry Pi configuration with the following command, which you have to enter into your console.

```
sudo raspi-config
```
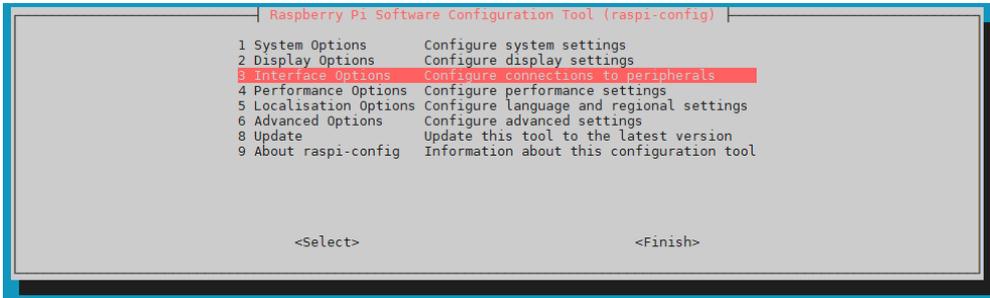

Now activate I2C under **3 Interface Options** → **I5 I2C**.
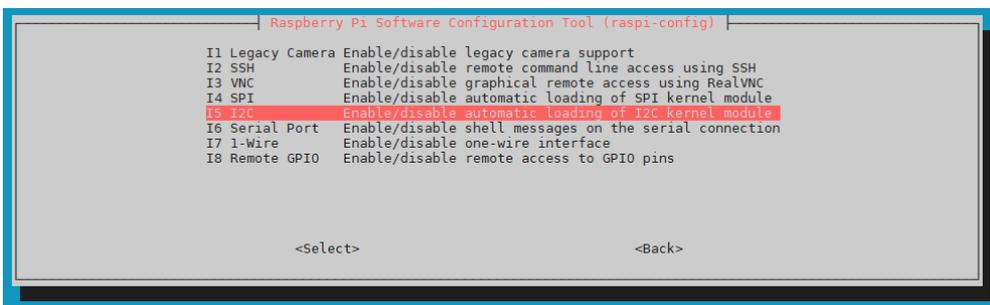
Agree with the question **Would you like the ARM I2C interface to be enabled?**.
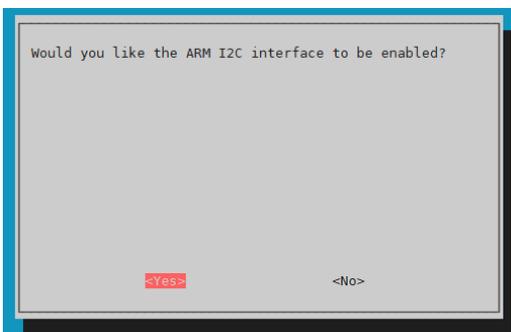
Now, install the following libraries, which are needed for the LCD, using the following commands.

```
sudo apt update && sudo apt upgrade
```

```
sudo apt-get install i2c-tools python3-smbus libi2c-dev python3-pip
```

```
sudo pip3 install RPi.GPIO
```

```
sudo apt install git-all
```

```
sudo pip3 install adafruit-circuitpython-busdevice
```

We use the **PCF8574-LCD library** adapted for our display. You install this with the following commands.

```
git clone https://github.com/joy-it/PCF8574-LCD.git
```

```
cd ~/PCF8574-LCD/
```

```
sudo python3 setup.py install
```

4. CODE EXAMPLE

In our library, you will find examples for the RB-LCD-16x2 and the RB-LCD-20x4. In this example, the LCD shows you, which button you have pressed.

```
cd ~/PCF8574-LCD/examples/
```

For the RB-LCD-16x2, execute the following command:

```
python3 example-16x2.py
```

For the RB-LCD-20x4, execute the following command:

```
python3 example-20x4.py
```

5. OTHER INFORMATION

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 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 purchase of a new appliance.

Possibility of return at our company location during opening hours:
Simac 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 e-mail 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.

6. SUPPORT

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.

E-Mail: **service@joy-it.net**
Ticket system: **http://support.joy-it.net**
Telephone: +49 (0)2845 98469-66 (10-17 o'clock)

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

Published: 22.02.2022