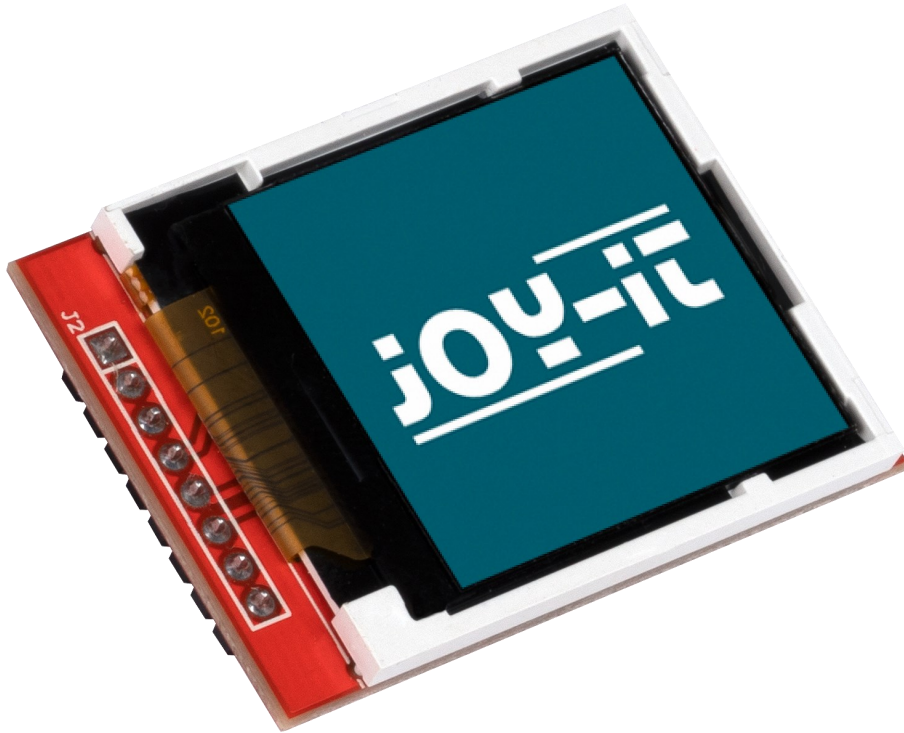# 1,44" HD IPS TFT LCD

SBC-LCD02
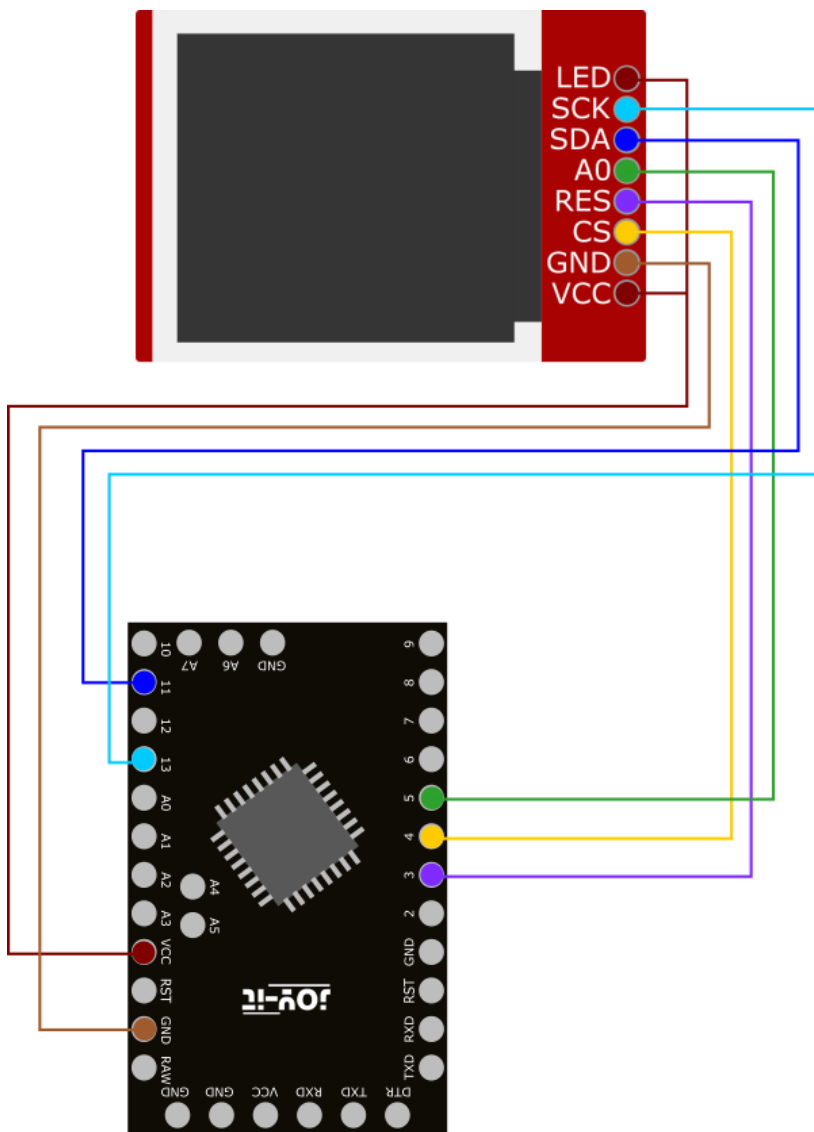
1. GENERAL INFORMATION

Dear customer,

thank you for choosing our product. In the following, we will show you how to use this device.

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

2.1 Connection

Arduino	Display
VCC	LED
Pin 13	SCK
Pin 11	SDA
Pin 5	A0
Pin 3	Reset
Pin 4	CS
GND	GND
VCC	VCC

i   Since the display works with a 3 V logic level and most Arduinos work with 5 V, we use an Arduino Pro Mini 3.3 V in this example.
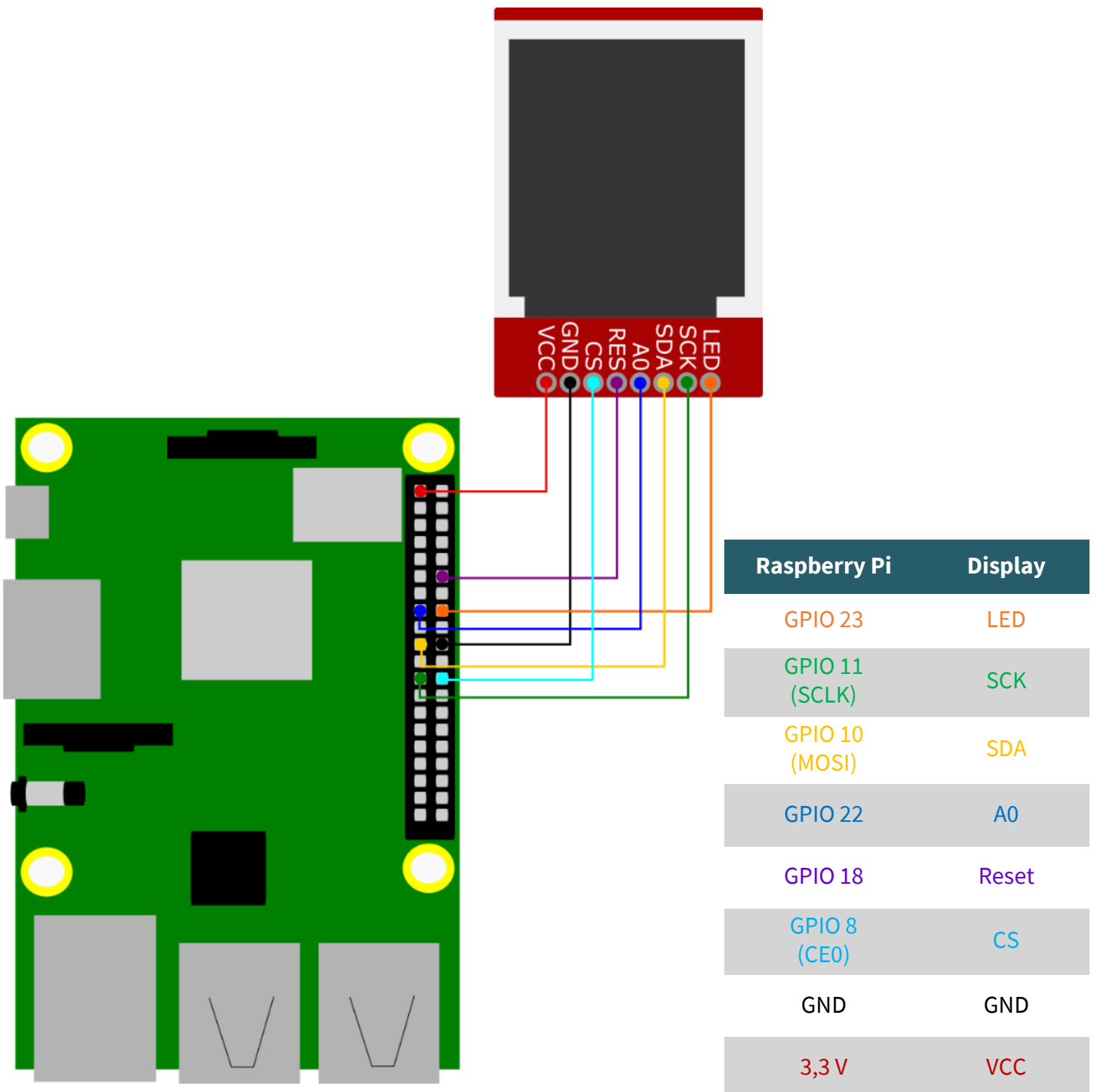
If you want to use an Arduino with a logic level of 5 V, such as an Arduino Uno, you have to reduce all data lines leading from the Arduino to the display from 5 V to 3.3 V with a voltage translator.

2.2 Code example

For the SBC-LCD02 we use the library **lcdgfx** from **lexus2k** (in the Library Manager you can find the library under the name ssd1306, published by Alexey Dynda), which was released under the *MIT-License*. You can download the library under *Sketch → Include Library → Manage libraries...* .
Now, you can run the code under *File → Examples → lcdgfx → demos → il9163_demo*. You can upload the code using **Upload**. First, make sure that the **Board** and **Port** are correctly selected under *Tools*.

3. USAGE WITH RASPBERRY PI

3.1 Connection

Raspberry Pi	Display
GPIO 23	LED
GPIO 11 (SCLK)	SCK
GPIO 10 (MOSI)	SDA
GPIO 22	A0
GPIO 18	Reset
GPIO 8 (CE0)	CS
GND	GND
3,3 V	VCC

3.2 Code example

First, run the following commands to install the necessary dependencies.

```
sudo apt-get update
```

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

```
sudo apt-get install python3-dev python3-rpi.gpio
```
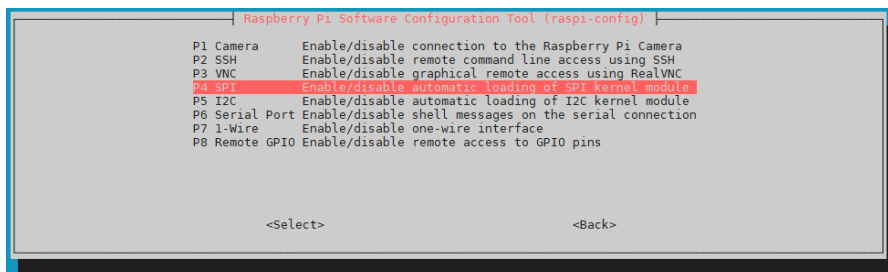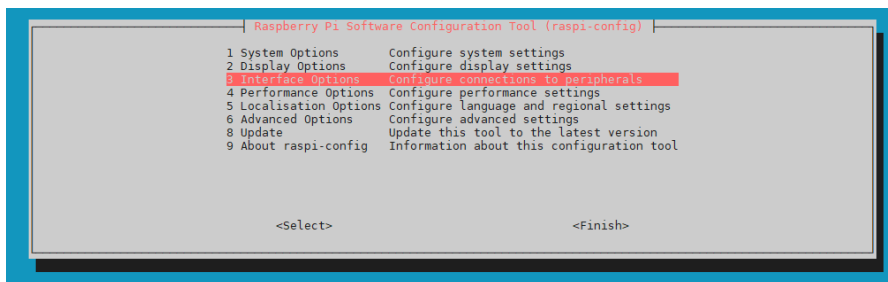
```
sudo apt-get install python3-pip
```

```
sudo pip3 install spidev
```
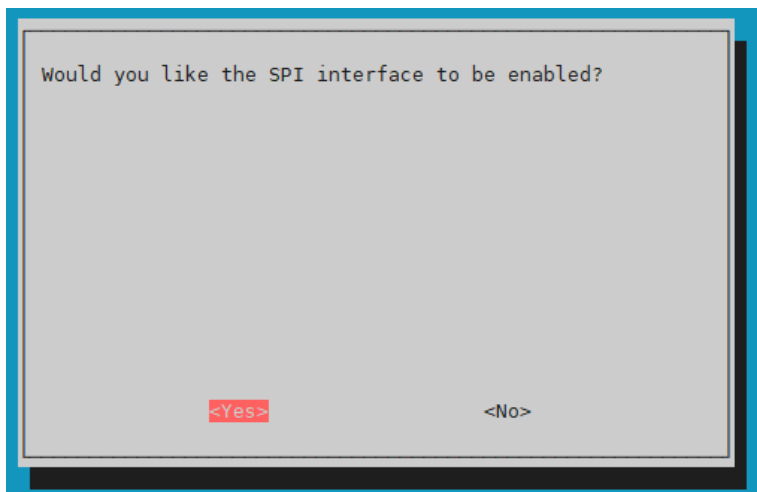
Now, enable SPI in the settings of your Raspberry Pi. Therefore, call the settings with the following command.

```
sudo raspi-config
```

There select **3 Interface Options → P4 SPI** .

In the following, confirm the question ***Would you like the SPI interface to be enabled?***.

Now, restart the Raspberry Pi with the following command.

```
sudo reboot
```

Next, download the library **LIBtft144**from **BLavery**, which is released under the *GNU General Public License version 3* .

```
git clone https://github.com/BLavery/LIBtft144.git
```

```
cd LIBtft144
```

We have modified the library file and created a code example.
You can download the files with the following command.

```
wget https://joy-it.net/files/files/Produkte/SBC-LCD02/SBC-LCD02.zip
```

Now unzip the zip file with the following command and replace the library file with the one we modified.

```
unzip SBC-LCD02.zip && rm SBC-LCD02.zip
```

At this point, you can use the following command to run the sample code.

```
python3 SBC-LCD02.py
```

4. OTHER INFORMATION

Our information and redemption obligation according to the Electrical and Electronic Equipment Act (ElektroG)

Symbol on electrial and electronic products :
This crossed-out bin means that electrical and electronic products do not belong into the household waste. You must hand over your old appliance to a registration office. Before you can hand over the old appliance, you must remove used batteries and accumulators which are not enclosed by the device.

Return options :
As the end user, you can hand over with the purchase of a new device your old appliance (which has essentially the same functions as the new one) free of charge for disposal. Small devices which do not have outer dimensions greater than 25 cm can be submitted independently of the purchase of a new product in normal household quantities.

Possibility of restitution at our company location during our opening hours:
Simac GmbH, Pascalstr. 8, D-47506 Neukirchen-Vluyn

Possibility of restitution nearby :
We send you a parcel stamp with which you can send us your old appliance free of charge. For this possibility, you must contact us via e-mail at service@joy-it.net or via telephone.

Information about packaging:
Please package your old appliance safe during transport. Should you not have a suitable packaging material or you do not want to use your own material, you can contact us and we will send you an appropriate package.

5. SUPPORT

If any questions remain open or problems arise after your purchase, we are available by email, telephone and ticket support system to answer these.

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

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