SPI-ETHERNET INTERFACE CONVERTER

SBC-USR-ES1

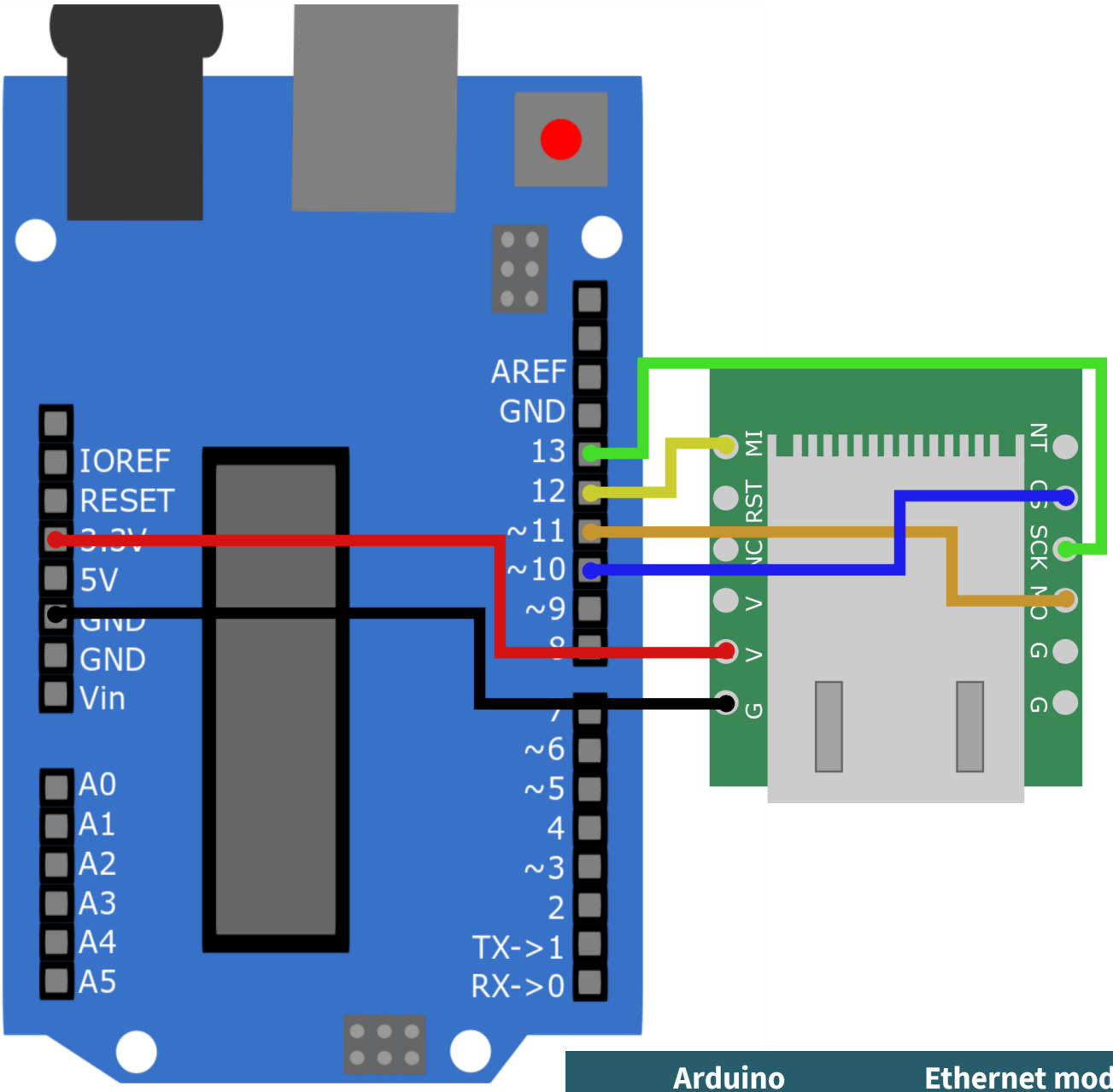
1. GENERAL INFORMATION

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.

2. USE WITH THE ARDUINO

Wiring:

Connect your Ethernet module to your Arduino as shown in the diagram and table below. In this example, we use an Arduino Uno.

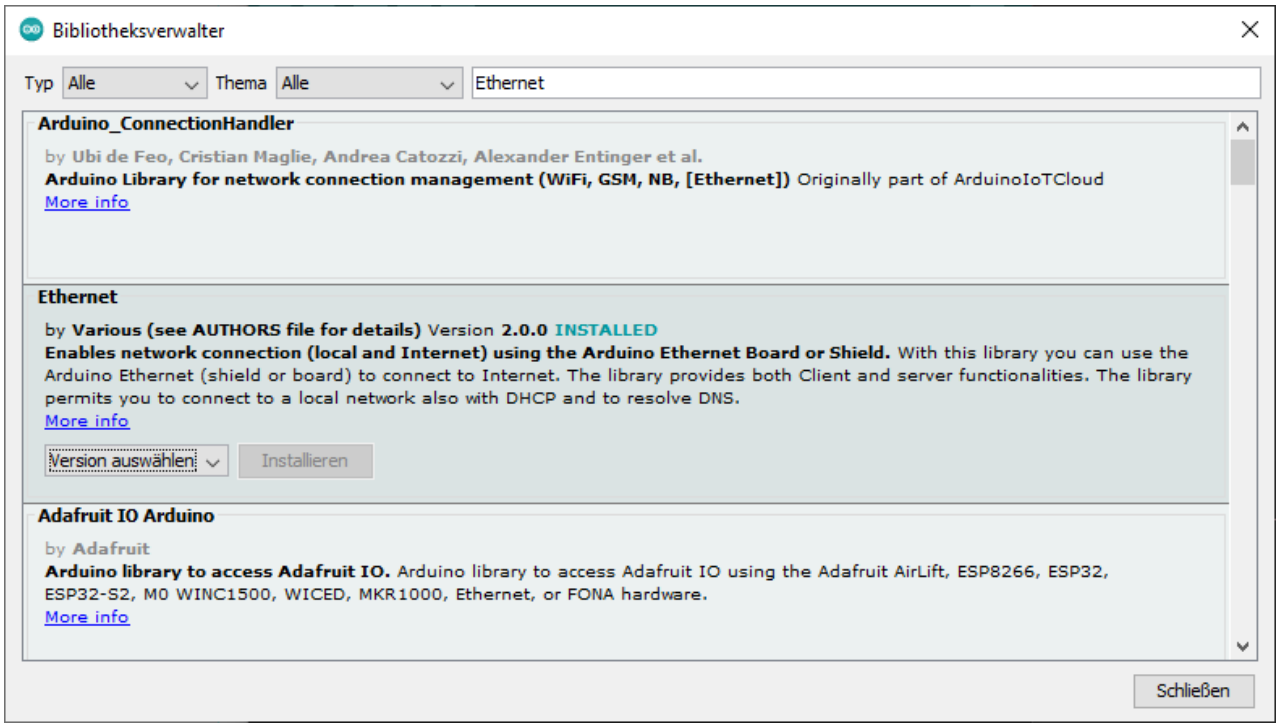


Arduino	Ethernet module
3.3 V	V
GND	G
Pin 13	SCK
Pin 12	MI
Pin 11	MO
Pin 10	CS

Installation of the library:

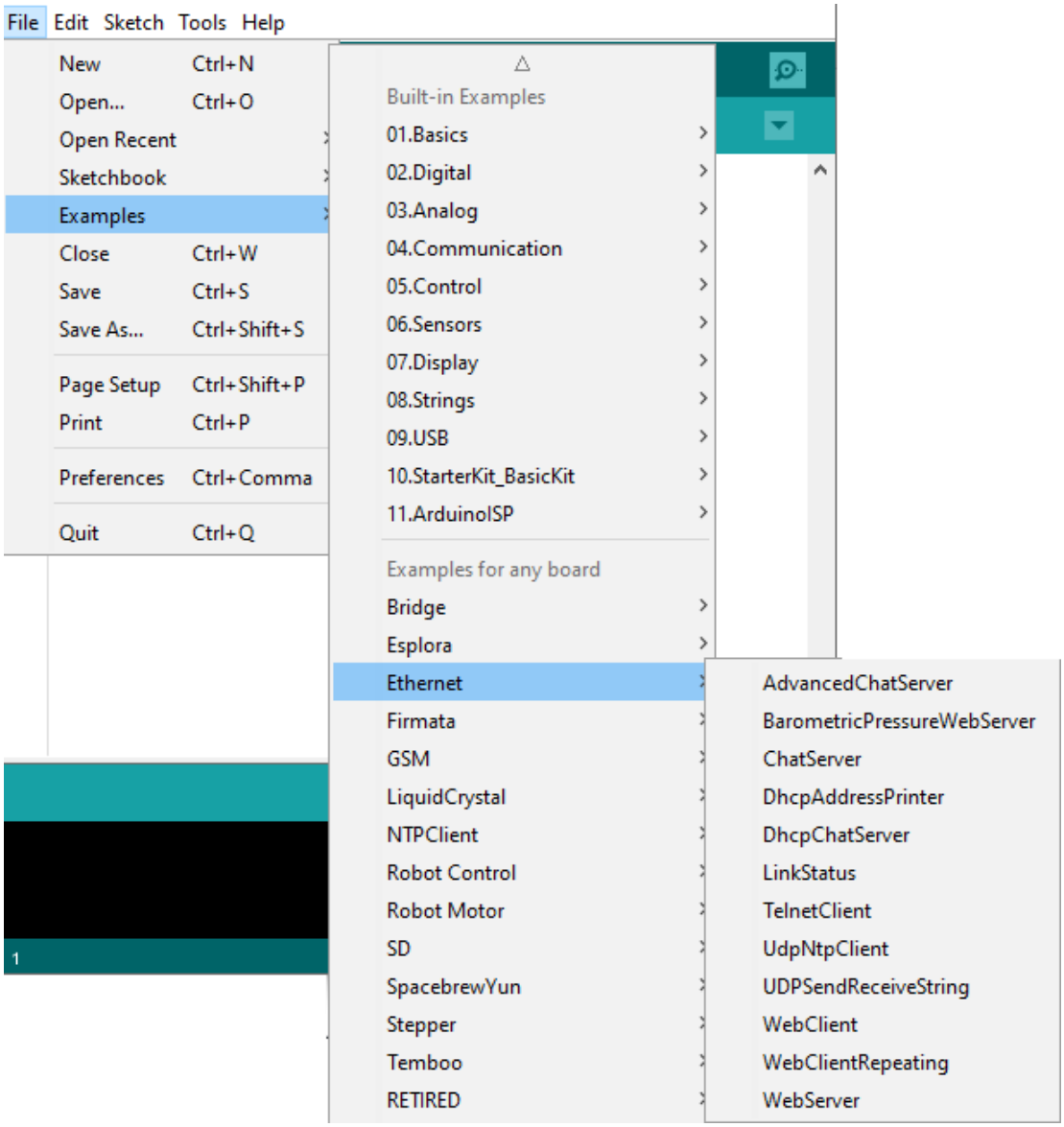
In the code example, we will use the Ethernet library to create a webserver that displays the status of the analog pins.

First, if you have not already done so, you need to install the Ethernet library. To do this, click:
Sketch -> **Include Library** -> **Manage libraries...**
There, enter Ethernet in the search bar and install the library Ethernet by Various.



Code example**:**

To open the example code, click in your Arduino IDE on:
File –> **Examples** -> **Ethernet** -> **Webserver**



In line 28 of the sample code, the IP address of the webserver is set. Make sure that the address is in the address range of your network and that this address is not already in use.

```
27 };
28 IPAddress ip(192, 168, 1, 177);
29
```

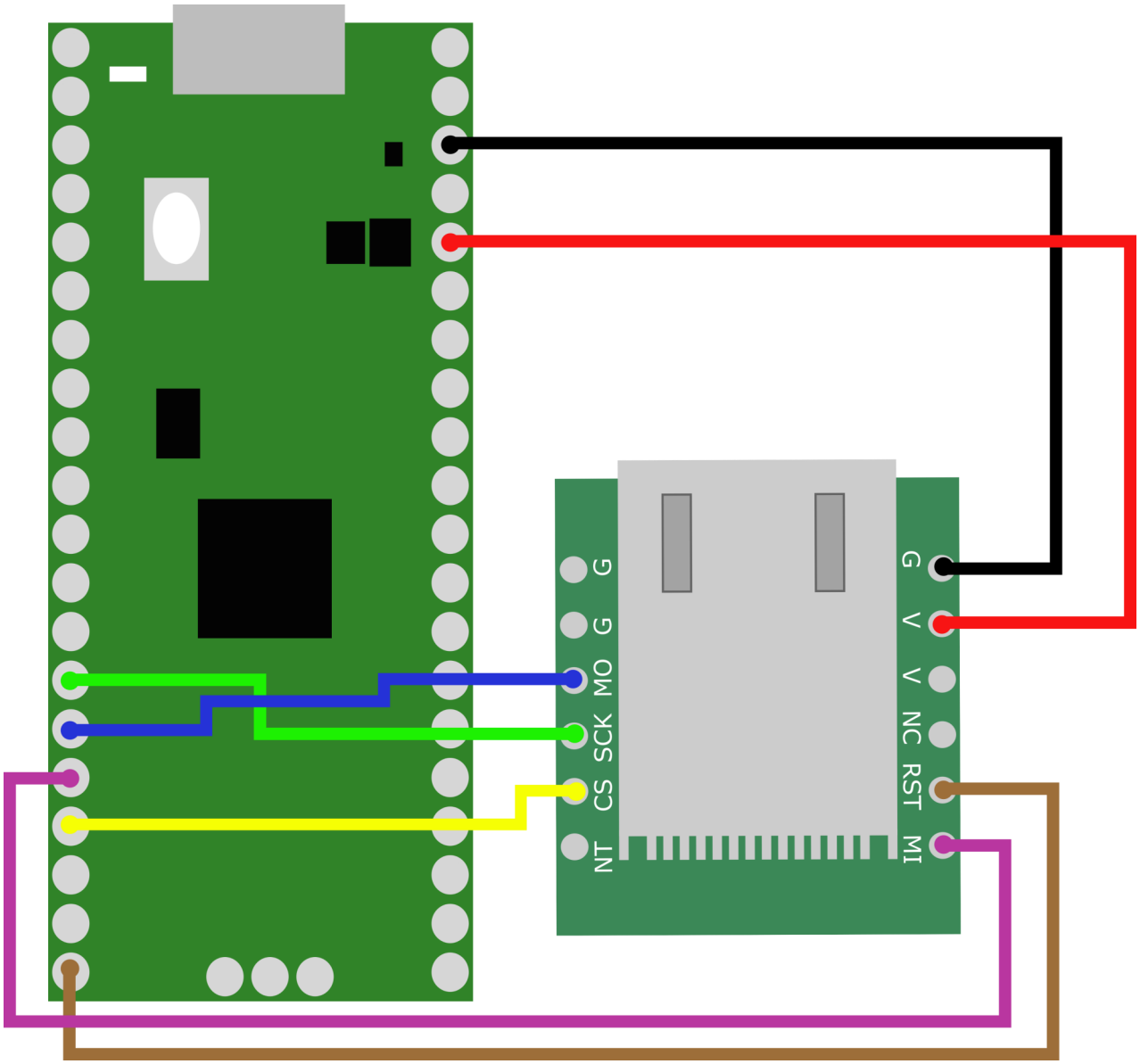
Now you can upload the programm to your Arduino.

You can open the webserver from any computer on the same network. To do this, enter the IP address of your webserver into your internet browser.

3. USE WITH THE RASPBERRY PI PICO

Wiring:

Connect the module to your Raspberry Pi Pico as shown in the diagram and table below.



Raspberry Pi Pico	Ethernet module
3.3 V	V
GND	G
GPIO 10	SCK
GPIO 11	MO
GPIO 12	MI
GPIO 13	CS
GPIO 15	RST

Code example:

We use a modified version of the Adafruit_CircuitPython_Wiznet5k library. If you don't have Circuit Python installed on your Raspberry Pi Pico yet, download the .UF2 file here and copy it to your Raspberry Pi Pico.

Now you can download the library used here. Unzip the downloaded zip file and copy the contents of the lib folder to the lib folder on your Raspberry Pi Pico. Now you can copy the contents of one of the sample library files, e.g. Pico_W5500_Ping_Test.py into your code.py file on your Raspberry Pi Pico.

In the lines 18 and 19, you must adapt the IP address and subnet mask to your network:

```
15  # Setup your network configuration below
16  # random MAC, later should change this value on your vendor ID
17  MY_MAC = (0x00, 0x01, 0x02, 0x03, 0x04, 0x05)
18  IP_ADDRESS = (192, 168, 0, 111)
19  SUBNET_MASK = (255, 255, 0, 0)
20  GATEWAY_ADDRESS = (192, 168, 0, 1)
21  DNS_SERVER = (8, 8, 8, 8)
```

If you now run the example, you should be able to see the following output in the command line of your development environment.

```
Kommandozeile ×
>>>

  soft reboot

  Auto-reload is on. Simply save files over USB to run them or enter REPL to disable.

  code.py output:
  Wiznet5k Ping Test (no DHCP)
  Chip Version: w5500
  MAC Address: ['0x0', '0x1', '0x2', '0x3', '0x4', '0x5']
  My IP address is: 192.168.0.111
```

4. ADDITIONAL 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 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.

5. 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.

Email: **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

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