5 MP CAMERA WITH IR-CUT FILTER
RB-Camera-IR-PRO

1. GENERAL INFORMATION

Dear Customer,

thank you for choosing our product. In the following, we will show you what to pay attention to during commissioning and use.

Should you encounter any unexpected problems during use, please feel free to contact us.

During use, particular attention must be paid to the right of privacy and the right to informational self-determination that apply in Germany.

> **i** These instructions were developed and tested for the Raspberry Pi 4 and Raspberry Pi 5 with the Bookworm OS operating system. It has not been tested with newer operating systems or newer hardware.

2. CONNECTING THE IR MODULES TO THE CAMERA

The IR-PRO camera is a high-resolution camera for your Raspberry Pi that can be equipped with two infrared LED modules. This means that recording in poor lighting conditions, and even at night, is no longer a problem!

Simply take the two infrared modules and screw them to your camera module as shown in the following pictures.
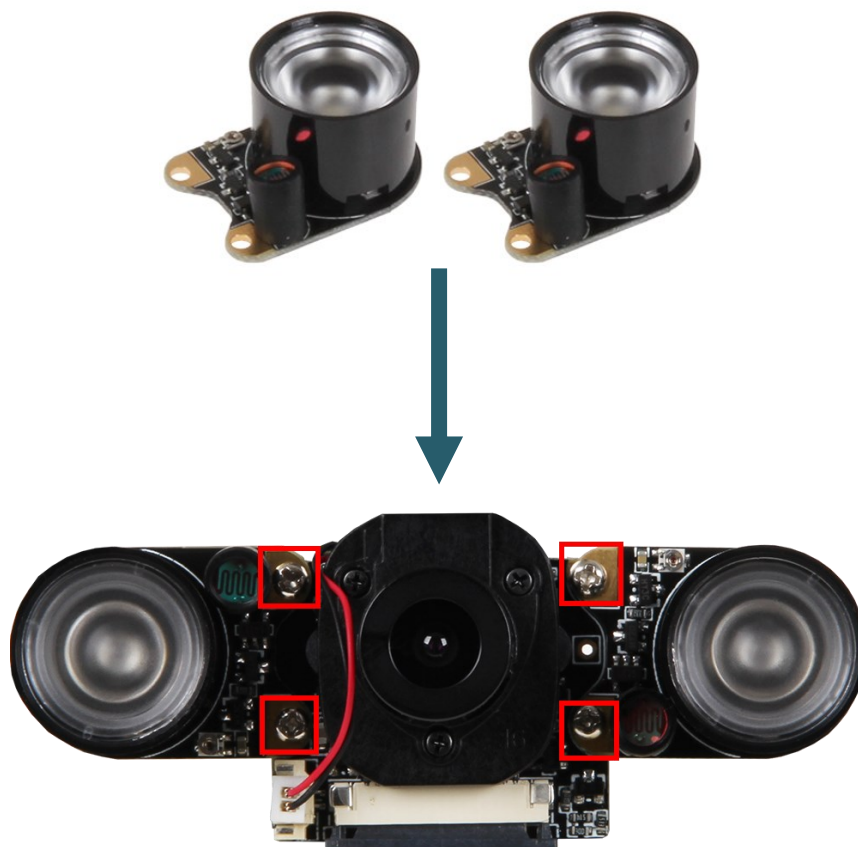
3. CONNECTING THE CAMERA

Connect the camera module to the CSI interface of your Raspberry Pi using a suitable ribbon cable, as shown in the picture. Please note that the cable supplied can be used for the Raspberry Pi 4, while a different cable must be used for the Raspberry Pi 5; we recommend using the original Raspberry Pi cable.

Pay attention to the orientation of the cable, on the camera module the wide black section of the cable must point upwards, while the thin black section on the Raspberry Pi 5 must point towards the clip. The connection via the CSI interface is sufficient, so no further connection is required.

If you want to use the camera module on a Raspberry Pi 5, you must push the clip holding the ribbon cable to the end in the direction of the arrows to remove the ribbon cable already connected to the camera module as shown in the picture below.
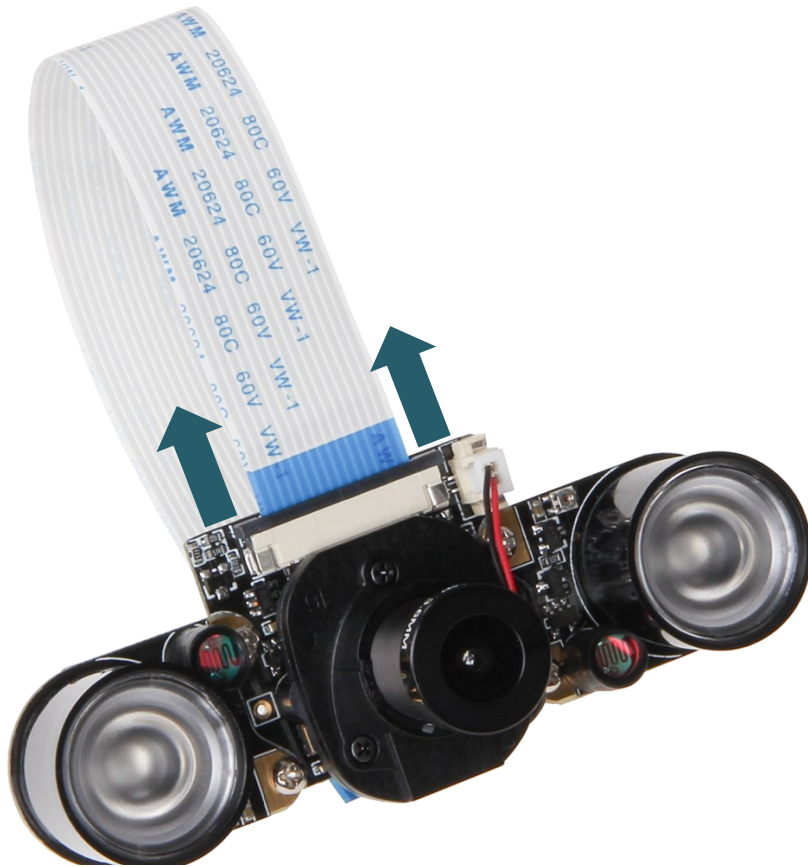
Next, you can now simply remove the ribbon cable and insert the appropriate ribbon cable for the Raspberry Pi 5 and **push the clip in the opposite direction of the arrows shown above to reattach the ribbon cable.**

4. USE OF THE CAMERA

If you are already using the latest Raspbian software, you do not need to install any additional libraries and can simply execute the following commands.

1. Taking pictures

To be able to take pictures with the camera now, the following three console commands can be used:

```
libcamera-jpeg -o jpeg_test.jpg -n
```

The image is then saved under the name **jpeg_test.jpg** in the user directory (/home/pi).

```
libcamera-still -o still_test.jpg -n
```

The image is then also saved in the user directory (/home/pi) under the name **still_test.jpg**.

It is also possible to capture several images one after the other. For this you have to set 2 following parameters for the following command.
"-o xxxxxx" which defines the time how long the command should run.
"--timelapse xxxxxx" which defines the time between each photo.

```
libcamera-still -t 6000 --datetime -n --timelapse 1000
```

The images are then also saved in the user directory (/home/pi) under the name ***datetime*.jpg** where ***datetime*** corresponds to the current date and time.

3. Recording videos

To be able to record videos with the camera now, the following console command can be used:

```
libcamera-vid -t 10000 -o vid_test.h264 -n
```

The video is then saved under the name **vid_test.h264** in the user directory (/home/pi).

3. Recording RAWs

If you prefer to capture RAWs with the camera, the following console command can be used:

```
libcamera-raw -t 2000 -o raw_test.raw
```

The RAWs are stored like all other photos and videos in the user directory (/home/pi). Under the name **raw_test.raw**.

In this case, the RAW files are Bayer frames. These are the raw files of the photo sensor. A Bayer sensor is a photo sensor that - similar to a chess-board - is covered with a color filter, which usually consists of 50% green and 25% each red and blue.

4. activation/deactivation of the IR CUT filter

The IR CUT filter uses the built-in infrared LEDs to enable good shots even in very dark surroundings or even at night. There are two different ways to deactivate the filter (e.g. for daytime shots):

CONFIGURATION VIA SETTINGS

Open the config.txt file with the following command:

```
sudo nano /boot/config.txt
```

Insert the following command here to operate the camera in night mode from the next reboot:

```
disable_camera_led=1
```

Simply remove the same line to operate the camera in normal mode again. The changes will also be applied here after a system reboot.

CONFIGURATION VIA GPIO

The IR CUT filter does not have to be activated or deactivated via the settings file. Alternatively, this can also be done via the GPIO configuration. Simply connect the marked contact to a GPIO pin of your choice. A GPIO HIGH signal operates the camera in normal mode. A GPIO LOW signal operates the camera in night mode.
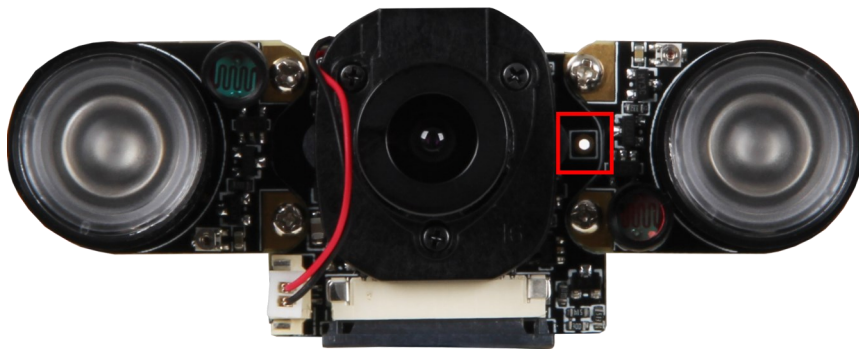
Our information and take-back obligations according to the Electrical and Electronic Equipment Act (ElektroG)

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 fulfills 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.

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**
Telefon: +49 (0)2845 9360-50   (Mon - Thu: 10:00 - 17:00 o'clock,
                                              Fri: 10:00 - 14:30 o'clock)

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

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