ESP32 CAMERA MODULE

SBC-ESP32-Cam
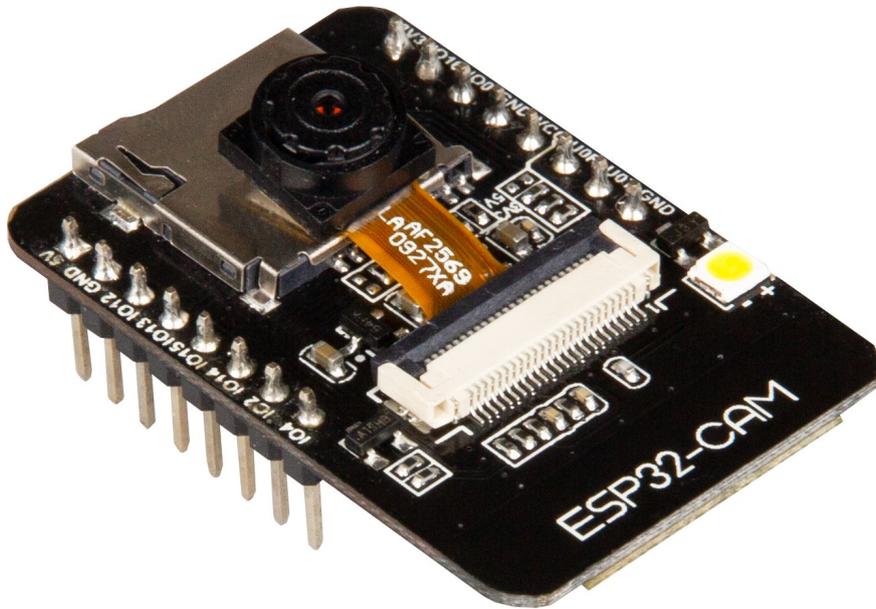
1. GENERAL INFORMATION

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.

5V	3,3V
GND	IO16
IO12	IO0
IO13	GND
IO15	VCC
IO14	IO3 / U0R
IO2	IO1 / U0T
IO4	GND
	LED (IO4)
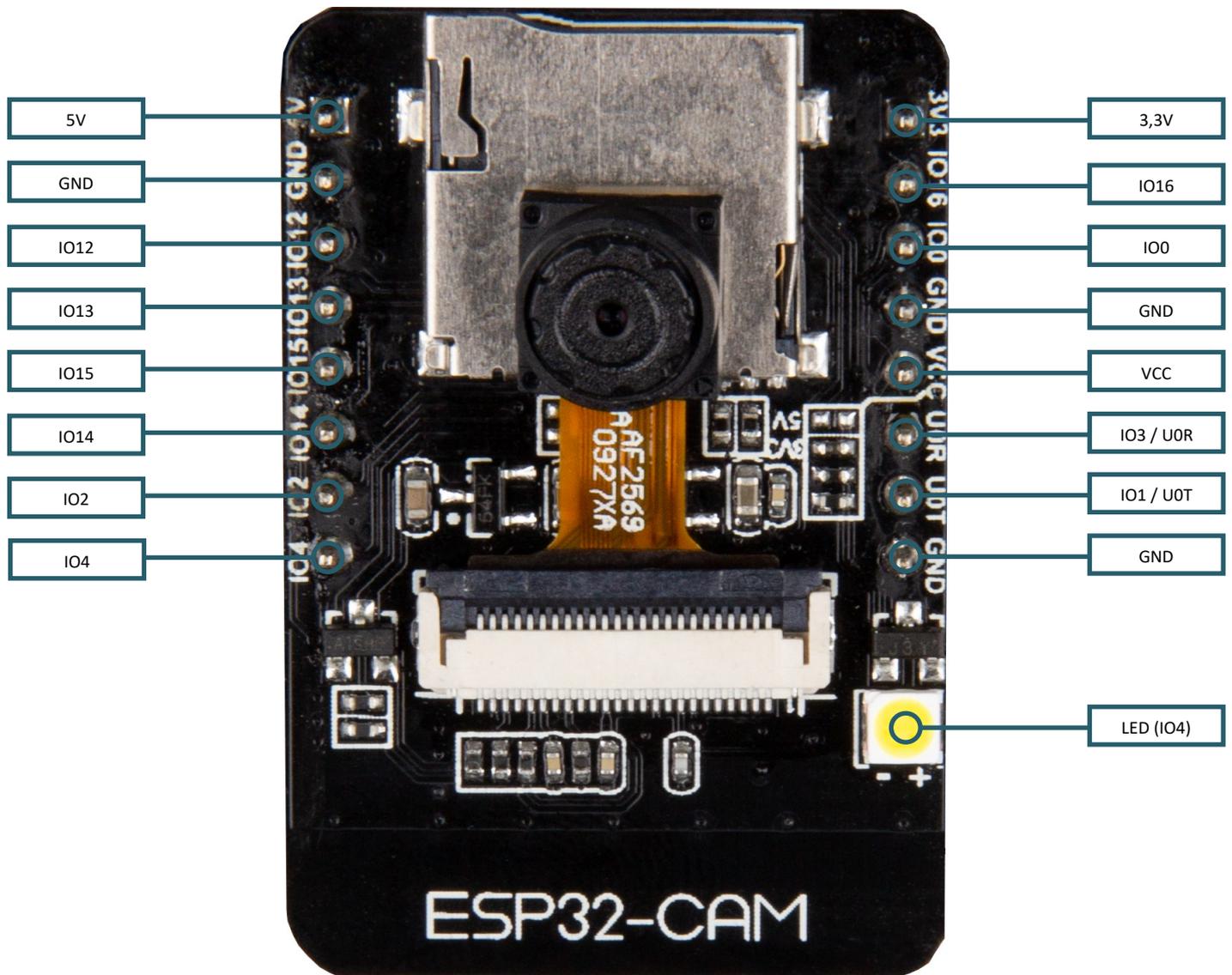
The following pins are internally connected to the SD card slot:

- IO14: CLK
- IO15: CMD
- IO2: Data 0
- IO4: Data 1 (also connected to the on-board LED)
- IO12: Data 2
- IO13: Data 3

To put the device into flash mode, IO0 must be connected to GND.

You can program the camera module using the Arduino IDE.
If you do not have the IDE installed on your computer, you can download it here.

After you have installed the development environment, you can open it to prepare you for using the camera module.

Go to zu File -> Preferences
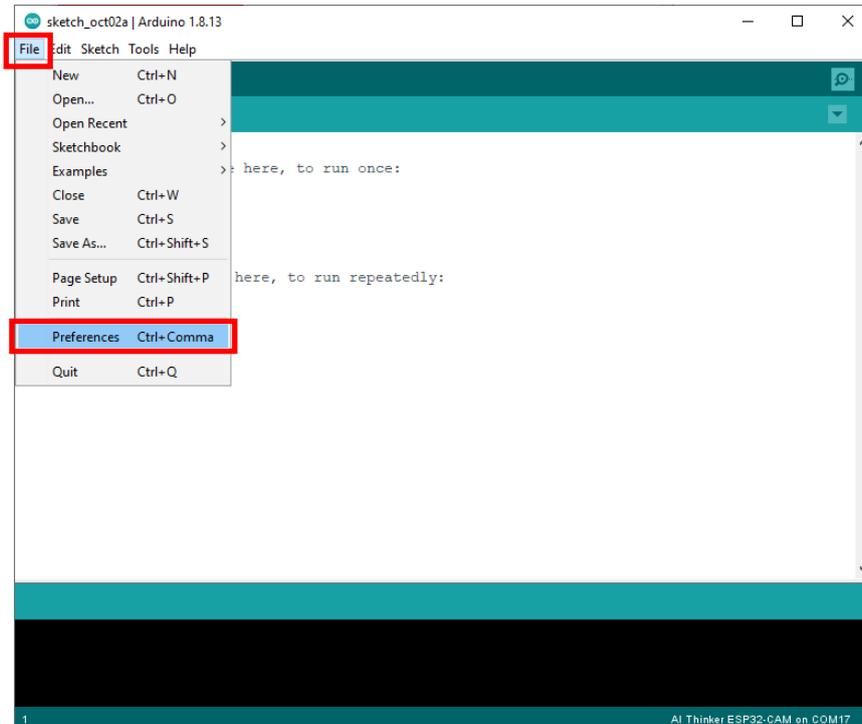
Add the URL: *https://dl.espressif.com/dl/package_esp32_index.json*
under Additional Board Manager URLs.
Multiple URLs can be separated with a comma.
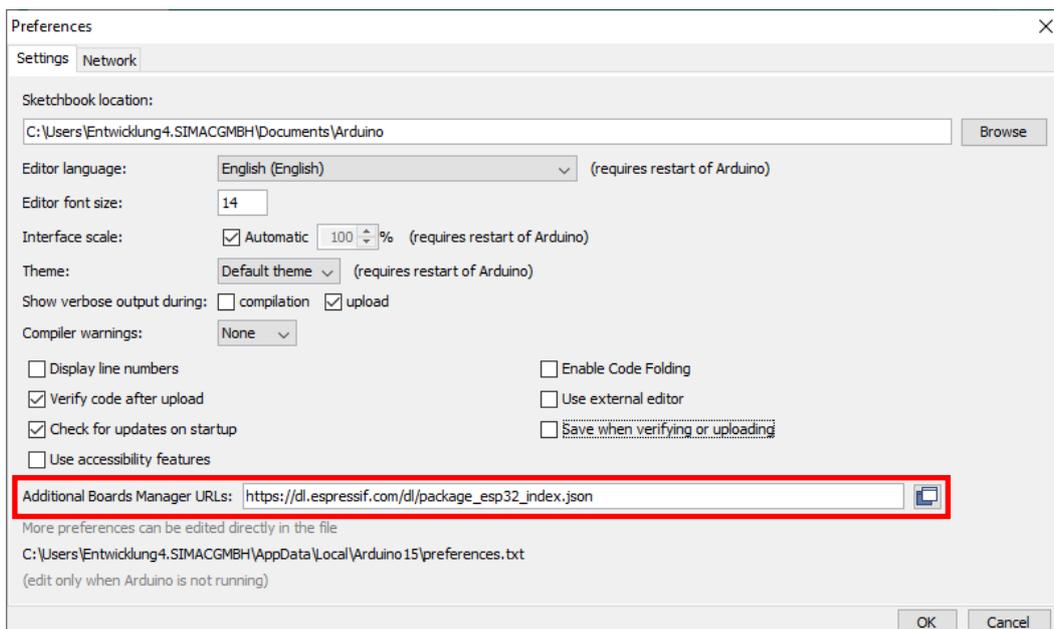
Now go to **Tools** -> **Board** -> **Boards Manager...**
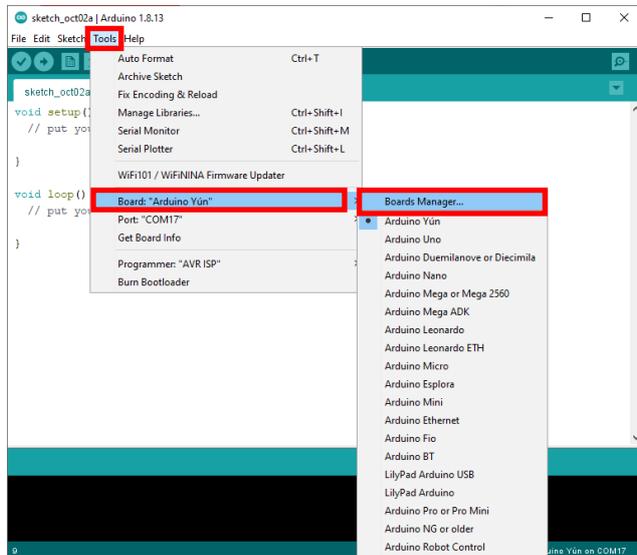
Enter esp32 in the search bar and install the ESP32 board manager
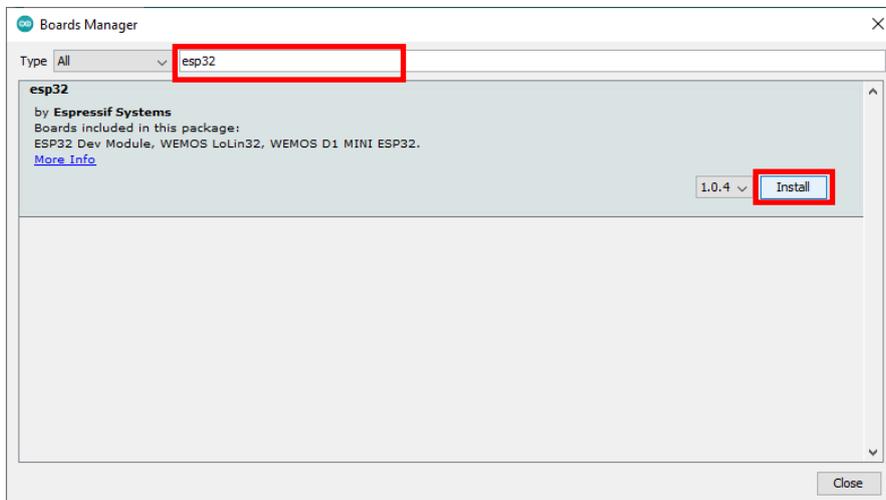
Now you can select under **Tools** -> **Board** -> **ESP 32 Arduino**, the board **AI Thinker ESP32-CAM.**
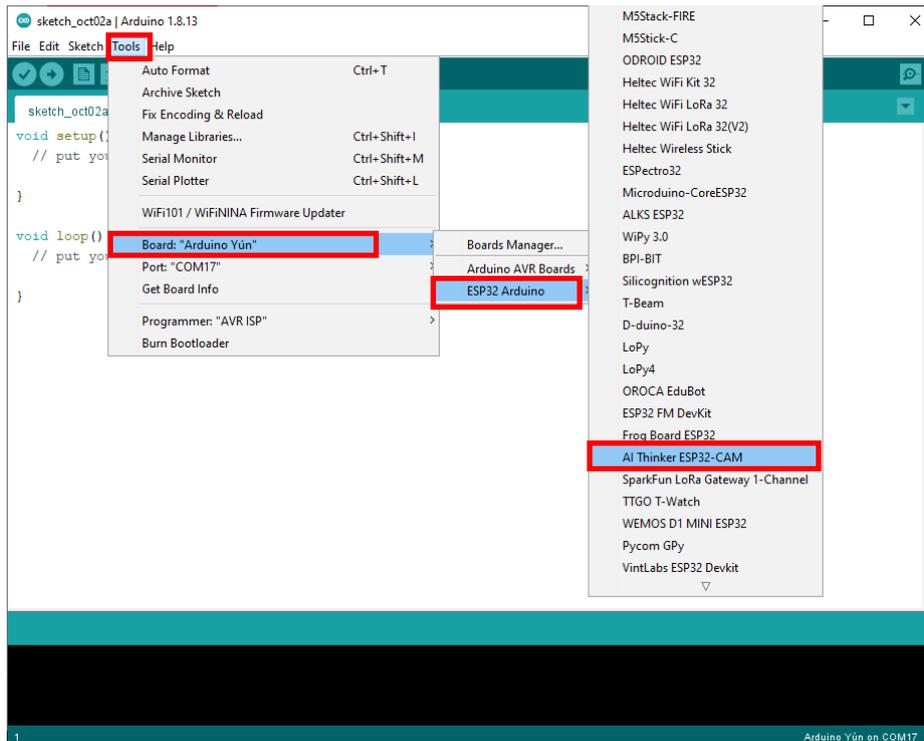
You can now start programming your module.

As the module does not have a USB port, you will have to use a USB to TTL converter. For example the SBC-TTL interface converter from Joy-it.
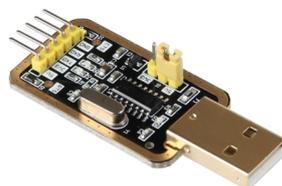
You must use the following pin assignment.

Camera module	Interface converter
5V	5V
GND	GND
U0T	RX
U0R	TX

You also need to connect a ground pin of your camera module to the IO0 pin to upload your programme. You have to remove this connection when the upload is finished.

When uploading, you have to restart your camera module once with the reset button as soon as "Connecting......." appears in the debug window below.

To open the sample program CameraWebServer click on
File -> **Examples** -> **ESP32** -> **Camera** -> **CameraWebServer**
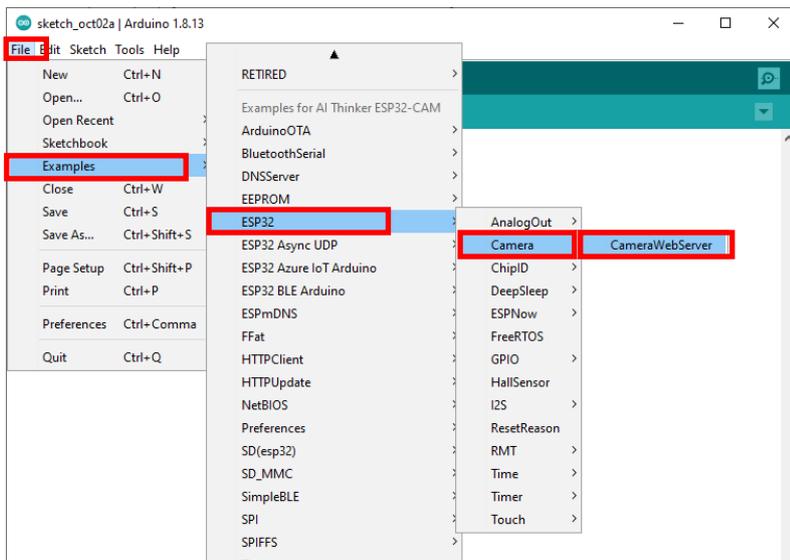
Now you must first select the correct camera module (CAMERA_MODEL_AI_THINKER) and comment the other modules with //, as shown in the picture below.
You also need to enter the SSID and password of your WiFi network.
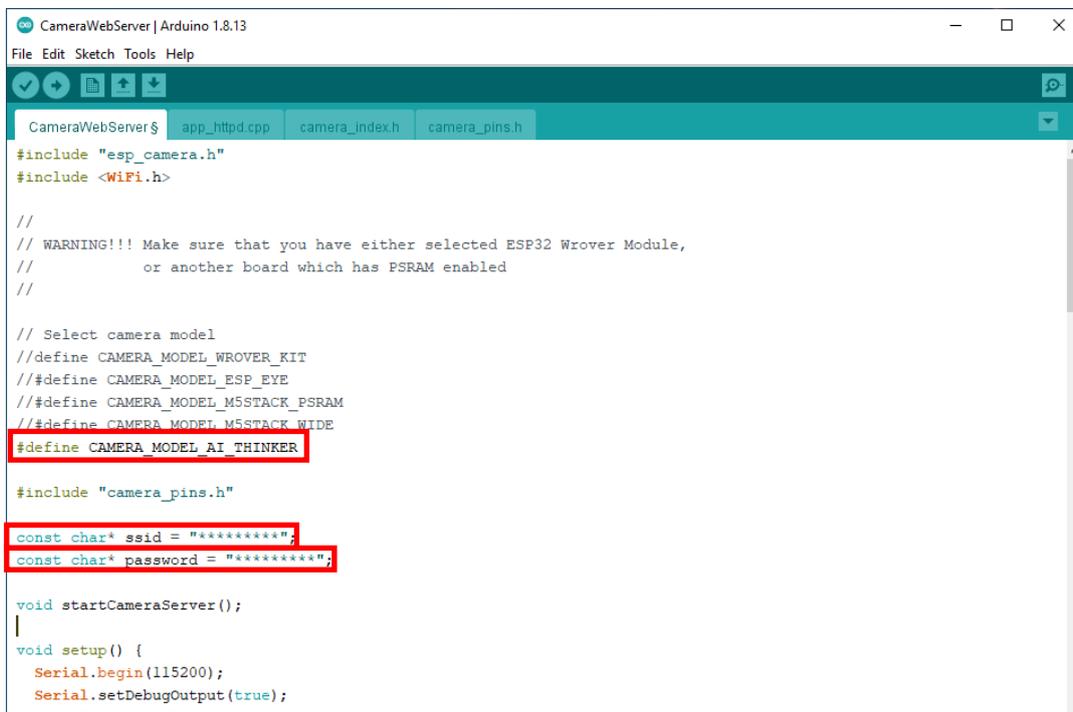
When this step is also done, you can upload the programme to your camera module.

In the serial monitor, if you have set the correct baud rate of 115200, you can see the IP address of your web server.
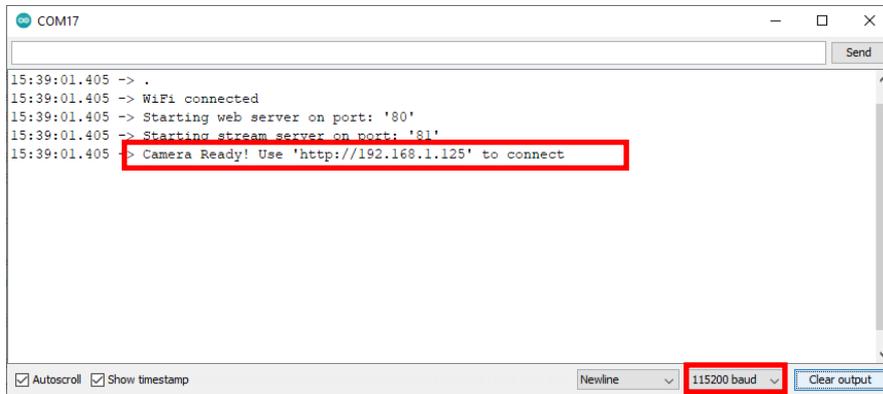
You must enter the displayed IP address in your Internet browser to access the web server.
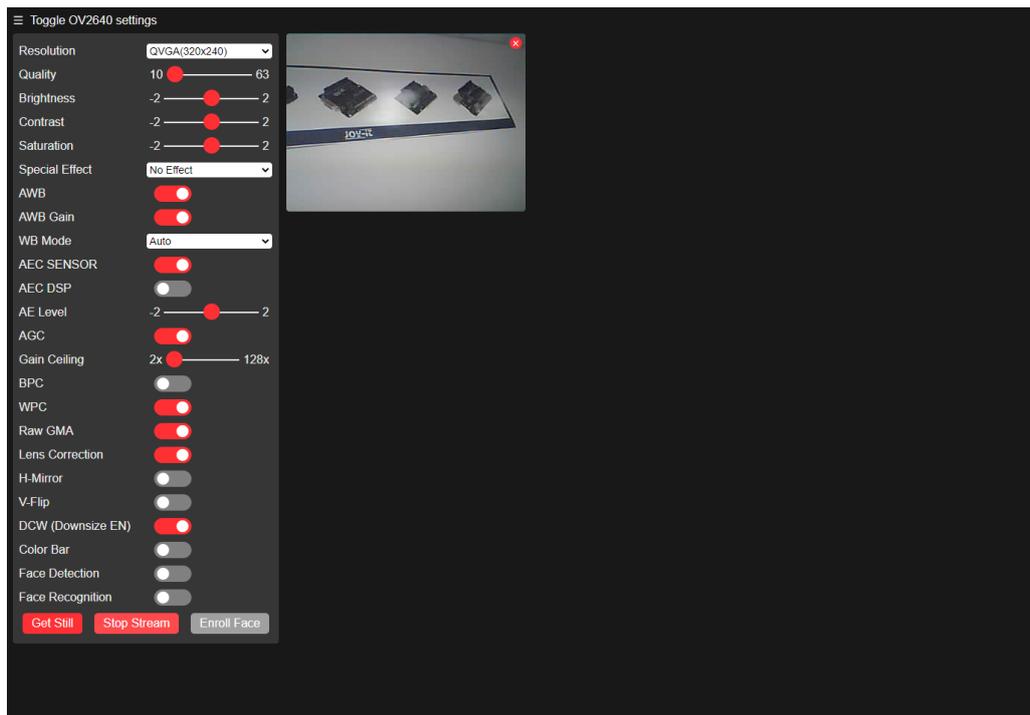
Our information and take-back obligations according to the Electrical and Electronic Equipment Act (ElektroG)

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.

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.

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