ANAVI Light Controller

Make your lights open source and connect your LED strip to the WiFi network with ANAVI Light Controller!

ANAVI Light Controller is a certified open source hardware WiFi device for controlling a 12 V RGB LED strip. It also supports sensors for light, temperature, humidity, and gesture recognition.

ANAVI Light Controller is fully compliant with the popular open source platform, Home Assistant. That means that when paired with Amazon Alexa, the device can be turned on and off with voice commands.

The open source software running on ANAVI Light Controller is an Arduino sketch written in Arduino IDE using ESP8266 core and other popular Arduino libraries. The device communicates using the lightweight messaging protocol, MQTT. An HTML5, single page application is available for quick testing and demos of ANAVI Light Controller.

ANAVI Light Controller is an entirely open source project. All schematics and source code files are available in our GitHub repositories. Combining open source hardware with free and open source software provides flexibility and independence while at the same time encouraging knowledge sharing and community building. Anyone is welcome to join the community to study, modify, and improve the project.

Getting started with ANAVI Light Controller is easy, no soldering is required. We will provide a comprehensive user's manual describing the exact steps for using ANAVI Light Controller and flashing your own Arduino sketches through Arduino IDE.

Who Needs It and Why?

ANAVI Light Controller is fun and easy to use. You don't need to be a tech whiz to use it. You can assemble it without any tools, and only a screwdriver is needed to connect it to your RGB LED strip. You can use it for:

- Automating lighting with the open source software platform Home Assistant
- Controlling lights with voice commands with Amazon Alexa and Home Assistant
- Making a do-it-yourself magic lamp controlled with gestures
- Making unique do-it-yourself decorations for the holidays
- Learning about a project that combines free and open source software with open source hardware

Features & Specifications

- CPU: Tensilica L106 32-bit processor
- Connectivity: WiFi 802.11 b/g/n
- Input voltage: 12 V
- Peripherals: Terminal block for 12 V RGB LED strip, UART pins, button, three slots for sensors

- Compatibility: Arduino IDE, Home Assistant, MQTT, and any modern web browser
- Certification: Open Source Hardware Association (OSHWA) BG000005
- Dimensions: 75 mm x 40 mm

Sensors

Out of the box ANAVI Light Controller supports the following I2C modules:

- BH1750 sensor for light
- HTU21D sensor for temperature and humidity
- APDS-9960 sensor for RGB color and gesture detection
  You can also attach any other I2C sensors, but you will have to take care of their software integration.

Frequently Asked Questions (FAQ)

Which 12 V RGB LED strip is included in the kits?

All kits include a one meter 12 V RGB LED strip with 30 LEDs (size 5050), IP 20, and power consumption of 7.2W.

What power supply do I need?

You need a 12 V power supply with a standard 2.1x5.5 mm DC jack for your light strip. Select a power supply with sufficient output current and power depending on the length and specifications of your RGB LED strip.

Is there a recommended 12 V power supply?

ANAVI Light Controller has been tested using 12 V power supplies from SUNNY Computer Technology Europe such as SYS1530-1212-W2E.

Make sure that you are using a 12 V power supply from a trusted supplier. Cheap, untested power supplies can be risky and unreliable.

Can I remotely control ANAVI Light Controller from a web browser on my smartphone, tablet, or laptop?

Yes, you can use our demo website or easily integrate ANAVI Light Controller in your instance of the popular open source platform Home Assistant as an MQTT JSON Light component.

Is ANAVI Light Controller an open source project?

Yes, ANAVI Light Controller is an open source hardware project powered and created with free and open source software. The hardware designs are available at GitHub under CC BY-SA 4.0 license. All schematics, documents, and source code files are available at our GitHub repositories.

Is ANAVI Light Controller certified?

Yes, ANAVI Light Controller revision 1.3 has been certified by the Open Source Hardware Association under UID BG000005.

Does ANAVI Light Controller use the ESP8266?

Yes, ANAVI Light Controller is based on the ESP8266.

Can I flash different firmware to ANAVI Light Controller?

Yes, using a USB to serial cable, you can flash custom firmware built from your own source code.

Is ANAVI Light Controller compatible with Arduino IDE?

Yes, ANAVI Light Controller is compatible with Arduino IDE. You can easily upload your own Arduino sketches to the board.