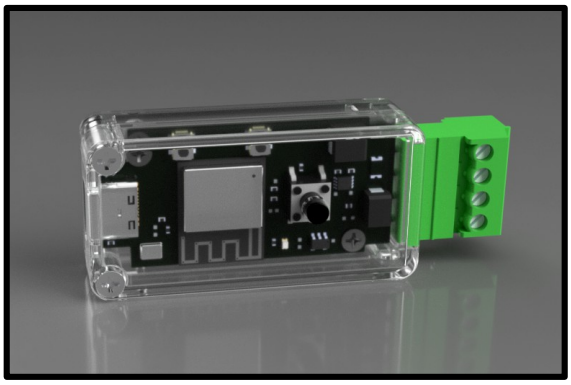
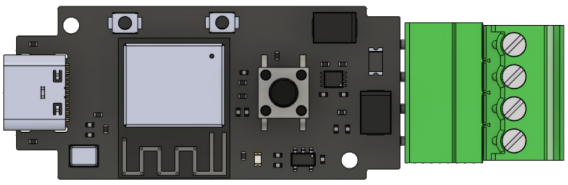
W-Stick-SR – Sound Reactive WiFi Pixel Controller
Quick guide

1. Short description

The W-Stick-SR is a sound reactive WLAN pixel controller for controlling addressable LED/neopixels. It comes with the great WLED software, but thanks to the open-source hardware, it can be easily loaded with other/your own firmware.

2. Features





- ESP32-C3 Microcontroller (4MB)
- 2.4 GHz WiFi module for controlling
- of 5V addressable LEDs *(SK6812, WS2811, WS2812B, WS2813, APA102, WS2801, LPD8806, SK9822)*
- Can be supplied with external 5V power supply unit or directly via USB type C (max. 3 A)
- Plug-in screw terminal for easy installation
- Integrated level shifter SN74LVC2T45
- Freely programmable push button (IO0)
- Two usable connections for data line or clock lines (IO2, IO3)
- Sensitive I2S microphone to make LEDs light up to the music
- Pre-installed WLED with SoundReactive Usermod
- Configurable via WEB interface or mobile application (iOS and Android)
- More than 100 different effects and configurations
- Up to 1000 LEDs per pin possible
- Own software can be installed via USB-Type C
- Reverse polarity and overcurrent protection

3. Technical data

Operating voltage	WiFi-Controller	UB = 5 V DC (max. 0,8 W)
Power consumption	WiFi-Controller	max. 100 mA
Switch-on delay		<0,3s
Output		2x Digital outputs
Operating voltage	address. LEDs	UB = 5 V DC (max. 15 W via USB type C)
Power consumption	address. LEDs	Power calculator (max. 15 W via USB type C)
Standard		IEEE 802.11 (Wi-Fi)
Dimensions		65.5 mm x 25 mm x 16.5 mm
Weight		70 g incl. Housing
Ambient temperature		0 °C to +50 °C

CE open source hardware RoHS

4. Commissioning

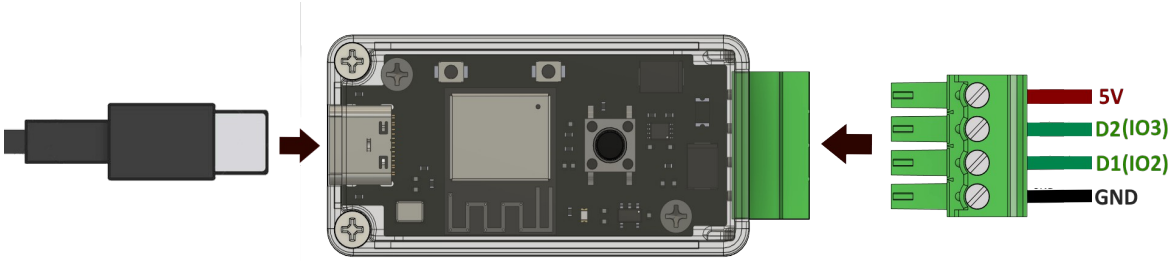
1. Connect the LED strips to the screw terminal in the switched-off state according to the connection diagram.

→ Depending on the number of pixels, an additional Power supply must be fed.

→ The connections D1 and D2 on the screw terminal can be used in any way. Either a DATA line from two strips (WS281x, SK6812, etc.) can be connected to these pins or DATA and CLOCK from one strip (WS2801/APA102).

2. Plug the screw terminal with the LED strips into the socket of the W-Stick-SR.

3. Switch on external power supply or plug in USB type C cable and configure W-Stick-SR.



5. Configuration

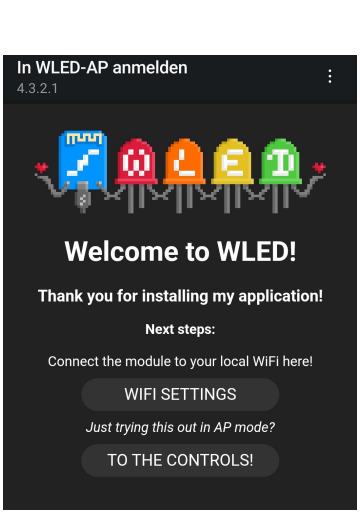
1.When starting for the first time, a temporary access point is opened with the WLAN network name (SSID) WLED-AP and the password wled1234 for the initial setup. You can now connect to it with a WiFi-capable device (e.g. smartphone, PC, etc.). For easy connection, the QR code (right) can be scanned.

2.After connecting to the access point, the configuration page typically opens automatically. Alternatively, it can be reached under the address 4.3.2.1 in the Internet browser.

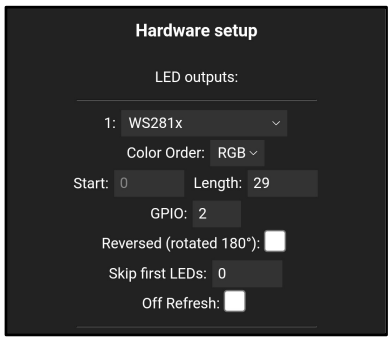
3.Under WiFi settings, a connection to the local WLAN network can now be established. In addition, a static IP address can be assigned to the unit. If you want to use DHCP, Static IP must be set to 0.0.0.0.

4.Save & Connect saves and applies the settings. The unit then restarts and connects to the local WLAN network. If the connection fails, the temporary access point is opened again.

5.Once a connection to the local WLAN network has been established, the unit can be reached via its IP address assigned by the DHCP server.



6.Under LED Preferences, the type of strip and the number of pixels are configured. In addition, the GPIO pins for the data/clock line can be set (IO2=D1 IO3=D2). See Commissioning.



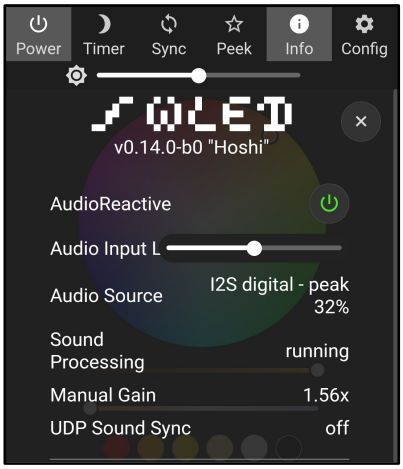
7.The button on the unit is connected to IO0. By default, it is selected as "Button0". Briefly pressing the button allows the colour or a preset to be changed. For a factory reset, this button must be pressed for 10 seconds.

8.Finally, the unit can be controlled via the integrated web interface, via the WLED app (iOS und Android) or via the numerous Schnittstellen (Getting Started).

6. Factory reset and firmware update

To reset the unit to the factory settings, press the button (Button0) on the unit for 10 seconds. After a short time, the unit restarts and opens the initial access point. All settings made are deleted.

The firmware can be updated in the configuration menu under Security & Updates.



6. Audio-reactive LED strips

To switch on the audio-reactive mode of the unit, it must be switched on in the main menu under the Info tab. In addition, the sensitivity of the microphone can be set here and adjusted to the existing soundscape.

If this mode has been switched on, the audio-reactive effects can also be used under Effects.

6. Intended use

This module is designed to control addressable LED strips. These must be connected according to the connection diagram. Only the specified intended use is permitted.

7. Safety instructions

Keep the unit away from heat, moisture and liquids. Avoid contact with dust. The unit should be protected from electrostatic discharge and used/stored indoors.