

KAUF

RGBWW Smart Bulb

USER MANUAL

IMPORTANT SAFETY INSTRUCTIONS

- For indoor use only.
- Do not use in a recessed can fixture or a tightly enclosed space.
- Do not position the bulb where it could be subjected to high levels of moisture, temperature, or dust.
- Do not use in bathrooms or other humid locations.
- Do not overload wall outlets or extension cords.
- Ensure there is no power to the socket before installation or removal.
- Do not place the device near a heat source or expose to direct sunlight.

PREREQUISITES

The software included on the KAUF smart bulb requires that the user have an installation of Home Assistant to connect the smart bulb to. Alternatively, if you have the know-how, you can control the bulb via the built-in HTTP API.

If you need to set up Home Assistant, Kaufman Home Automation recommends that you purchase a Raspberry Pi 4 kit and follow the directions at: <https://www.home-assistant.io/installation/>

Once Home Assistant is running, proceed to Getting Started - Step 1 below.

You also have the option to reprogram the KAUF smart bulb with an ESP8266 compatible firmware of your choice, which may not require Home Assistant.

GETTING STARTED – STEP 1

Begin by plugging the KAUF smart bulb into a light socket. Multiple new KAUF devices can be plugged in before configuring any of them, but the process may go more smoothly if only a single new device is plugged in and completely set up before plugging in another.

The KAUF smart bulb is configured to automatically turn on when plugged in so that the bulb can be used with a normal light switch if needed.

Proceed to Getting Started - Step 2 once the KAUF smart bulb is on.

GETTING STARTED – STEP 2

After being plugged in for 20-30 seconds, the KAUF smart bulb will recognize that it cannot connect to Wi-Fi and create its own “fallback” Wi-Fi hotspot for you to connect to. The KAUF smart bulb’s fallback Wi-Fi hotspot will be called “kauf-bulb-XXXXXX vY.YYY”, where XXXXXX is the last 6 digits of the bulb’s MAC address and Y.YYY is the current firmware version on the bulb.

Using a Wi-Fi enabled device, such as a mobile phone or laptop computer, connect to the fallback Wi-Fi hotspot. Please be patient and refresh the Wi-Fi network list on your device. It can take 1-2 minutes for the hotspot to show up in your system’s Wi-Fi menu.

FIG. 1 below shows the fallback Wi-Fi hotspot found by an Android device. Any device with Wi-Fi and a web browser should work. Connect to the KAUF Bulb Hotspot Wi-Fi network and continue to Getting Started - Step 3.

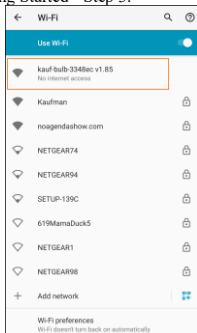


FIG. 1



FIG. 2

GETTING STARTED – STEP 3

Once you are connected to the KAUF smart bulb's fallback Wi-Fi hotspot, you should be prompted to “sign in” to the hotspot. Clicking the sign-in prompt will open up the web interface shown in FIG. 2 on the previous page.

If there is no sign-in prompt, or the web interface in FIG. 2 is not automatically opened, you can try going to <http://192.168.4.1> in a web browser while connected to the fallback hotspot.

The web interface allows you to select one of the listed Wi-Fi networks that were automatically detected by the KAUF smart bulb or enter any other SSID/password combination to join any 2.4 GHz Wi-Fi network.

Enter your Wi-Fi credentials into the web interface shown in FIG. 2, click save, and then continue on to Getting Started – Step 4.

GETTING STARTED – STEP 4

The KAUF smart bulb will restart itself and connect to the entered Wi-Fi network.

Shortly thereafter, Home Assistant will detect the KAUF smart bulb and provide a notification in Home Assistant's interface. FIG. 3a on the next page shows a notification in Home Assistant's menu for example.

Note: the bulb will also be detected in the ESPHome dashboard. Adding the bulb to ESPHome dashboard first can eliminate the need to individually rename every entity in Home Assistant.

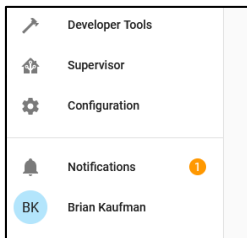


FIG. 3a

Click the “notifications” option in the menu and another menu will appear with the notification as shown in FIG. 3b below. Click “Check it out” in the notification.

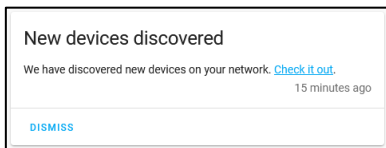


FIG. 3b

Home Assistant will take you to the Integrations configuration page, and you will see a card that shows the KAUF smart bulb as a Discovered device. FIG. 3c on the next page shows the card. The name of the device in Home Assistant will have the last six digits of the MAC address added to allow multiple bulbs to be distinguished from each other.

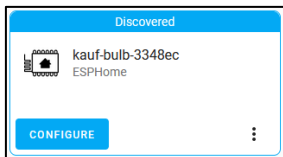


FIG. 3c

Click “CONFIGURE” and follow the prompts to finish adding the KAUF smart bulb to Home Assistant.

FINDING AND RENAMING THE BULB

After following Getting Started Steps 1-4, the KAUF smart bulb can be found in Home Assistant by returning to the Integrations page via the Configuration menu. Look for a card with the heading “ESPHome” as shown in FIG. 4a below.



FIG. 4a

The ESPHome card will list all devices added to Home Assistant using the ESPHome native API, including the just-added KAUF

smart bulb. The KAUF smart bulb will have the same name as was displayed in the Discovered box from FIG. 3c. Find and select the KAUF smart bulb and the card in FIG. 4a will change to show information specific to the new bulb. If the KAUF smart bulb is the only ESPHome device you have added, the information specific to the new bulb will be displayed initially without having to click.

Use the kebab menu (three dots) and select rename to change the name to something more descriptive, e.g., Pantry Bulb or Office Lamp Bulb.

ADDITIONAL RENAMING

The card with information about the KAUF bulb will indicate that the bulb has 1 device and 12 entities. Click the link “1 device” to open up the Home Assistant device page.

The Home Assistant device page will show detailed information about the device including all associated entities. The information is shown in FIG. 4b. At the top is the device’s name in Home Assistant, kauf-bulb-c348ec. Click the pencil by the device name to change it to the same name previously used within the ESPHome card.

Below the device name is a list of entities. “Kauf Bulb” is the main light entity that toggles the KAUF smart bulb and controls its color. There are also a number of configuration and diagnostic entities not pictured. Visit github.com/KaufHA/kauf-rgbww-bulbs for details.

Clicking on the entity names will pop up a configuration screen allowing you to rename individual entities. Be sure to change both the name and entity ID of at least the Kauf Bulb light entity to something more descriptive.

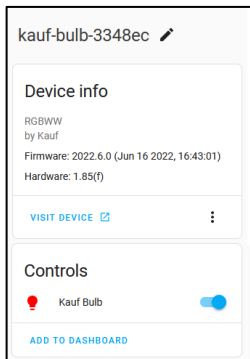


FIG. 4b

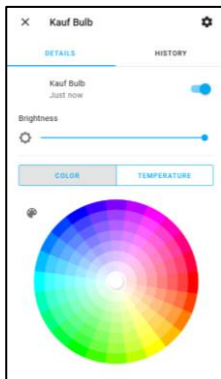


FIG. 5

GENERAL USAGE

Clicking on the light entity “Kauf Bulb” anywhere in the Home Assistant dashboard will cause the popup in FIG. 5 to be displayed. The bulb can be turned on and off with the toggle, and brightness is controlled by the slider.

Clicking “COLOR” displays the color wheel in FIG. 5 where the RGB color can be selected. The RGB color will be converted to RGBW by the KAUF smart bulb. The white channel will be set to the lowest common value of the RGB channels, and the RGB channels will each be reduced by the same amount. The white channel will be distributed between the cold and warm white LEDs based on the most recent color temperature setting.

Clicking “TEMPERATURE” will replace the color wheel with a color temperature slider. Modifying color temperature will cause the RGB color to reset to white.

FCC STATEMENT

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FLASHING A DIFFERENT FIRMWARE

The KAUF smart bulb’s web interface allows its firmware to be reprogrammed by uploading an ESP8266-compatible .bin or .bin.gz file. A replacement firmware can be uploaded at the bottom of the page shown in FIG. 2 or by browsing to the KAUF smart bulb’s IP address.

While WLED firmware files can technically run on these bulbs, we strongly recommend that you do not flash with a WLED firmware file. The stock firmware has WLED / DDP functionality built in that should be used instead.

TASMOTA NOTES

The flash memory of the KAUF smart bulb has enough free space to flash the full default Tasmota firmware as long as the gzip file is used. Download the file called “tasmota.bin.gz” and flash it to install Tasmota. You can also try tasmota-lite.bin or .bin.gz

IMPORTANT: DO NOT flash the KAUF smart bulb with tasmota-minimal.bin or tasmota-minimal.bin.gz

The minimal version of Tasmota does not include the captive portal that is required to connect the bulb to your Wi-Fi network. If you go straight from the included ESPHome-based firmware to tasmota-minimal, your KAUF smart bulb will be bricked, requiring the bulb to be taken apart and soldered to reflash.

ESP8266 PINOUT

GPIO 4	PWM Red
GPIO 12	PWM Green
GPIO 14	PWM Blue
GPIO 5	PWM Cold White
GPIO 13	PWM Warm White

ADDITIONAL HELP

Visit our webpage for additional details and help: kaufha.com

Feel free to email us specific questions not covered in this manual or on our website: help@kaufha.com

POWER-ON BEHAVIOR AND WALL SWITCH USE

This Wi-Fi smart bulb is designed to remain powered on at the wall switch and be controlled using the mobile app, voice assistant, or automations. When power is removed and reapplied using a traditional wall switch, the bulb must reinitialize its Wi-Fi controller before normal operation begins.

As a result, the bulb may take up to approximately one second to illuminate after power is restored. This behavior is normal for Wi-Fi smart bulbs and does not indicate a defect.

FACTORY RESET INDICATOR (YELLOW LIGHT)

This product includes a power-cycle-based factory reset feature. Repeatedly switching power off and on may activate reset recognition. When this occurs, the bulb may briefly illuminate in a dim yellow color.

The yellow light is an intentional visual indicator that the reset sequence is being recognized. With current firmware, this indicator is temporary and will automatically transition to the normal startup state after a few seconds. This behavior is expected and does not represent a malfunction.

BEST PRACTICES

For optimal performance, leave the wall switch in the ON position and control the bulb through the app, voice assistant, or automation. Avoid rapidly switching power on and off, as repeated power interruptions can activate the reset indicator.

If a factory reset is desired, follow the reset instructions provided in this manual.

TROUBLESHOOTING

The bulb turns on dim or yellow:

This may occur briefly during startup or reset recognition after repeated power cycling. Wait a few seconds for startup to complete or verify the bulb's status in the app.

The bulb does not turn on instantly after using the wall switch:

A short delay is normal while the bulb initializes. For faster response, leave power applied and control the bulb through software-based controls.

FIRMWARE UPDATES

Firmware updates may improve startup behavior, reset indication clarity, and overall performance. No hardware changes are required, and all existing bulbs support firmware updates.