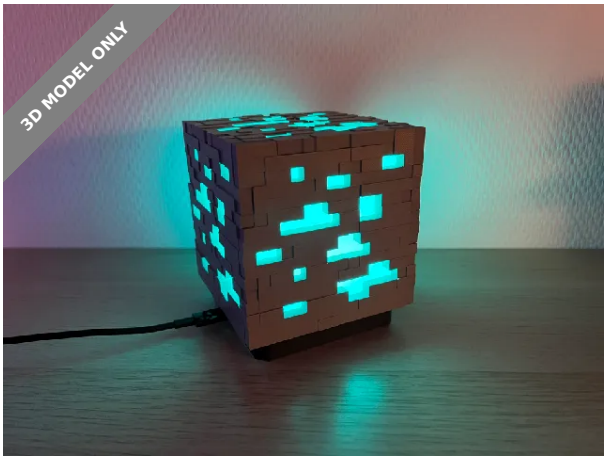


Minecraft Ore Lamp (WLED / ESP32 D1 Mini USB-C)

Rauks

VIEW IN BROWSER

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Summary

A Minecraft Ore Lamp powered by a USB-C ESP32 D1 Mini and a WS2812B LED Ring, running WLED.

Household > Home Decor

Tags: lamp led minecraft ws2812b esp32 ledlight wled rgbled homeassistant ledring rgblamp minecraftore esp32d1mini ledringlamp minecraftblock minecraftlamp minecraftdiamond minecraftledlamp

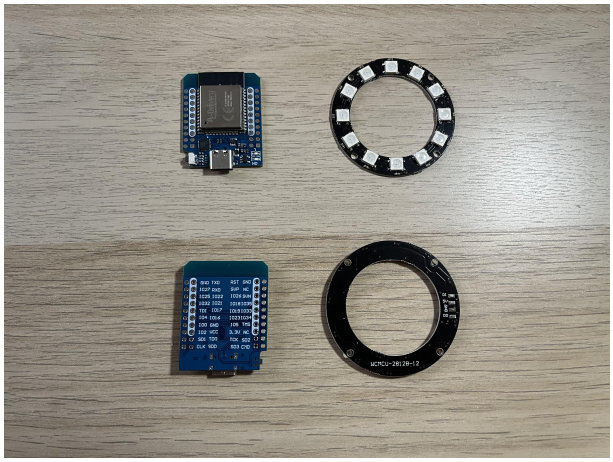
A Minecraft Ore Lamp powered by a USB-C ESP32 D1 Mini and a WS2812B LED Ring, running WLED for full RGB lighting control.

Bill of Materials

The lamp was designed to perfectly fit the following components:

- **USB-C** ESP32 D1 Mini from AZ-Delivery
- **50mm** WS2812B LED Ring from AZ-Delivery

You'll need to **solder the LED ring** to the ESP32 using **three short wires**.



A small amount of **glue** is required to assemble the ore block.

> If you prefer to use a Micro-USB ESP32 30pins DevKit, an alternative base is available here: Alternative Lamp Base (ESP32 30pins Micro-USB DevKit) for Minecraft Ore Lamp

Instructions

1. Electronics

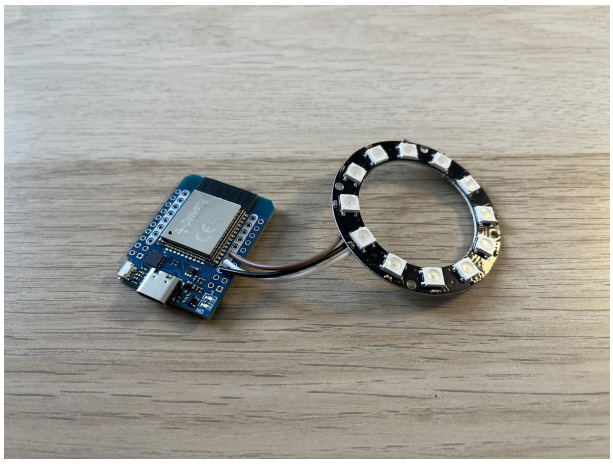
Solder the LED Ring to the ESP32 as follows:

- LED Ring **GND** → ESP32 **GND**
- LED Ring **5V** → ESP32 **5V**
- LED Ring **DI** → ESP32 **IO16** (as recommended by the WLED documentation)

Then follow the official WLED documentation to install WLED on your ESP32:

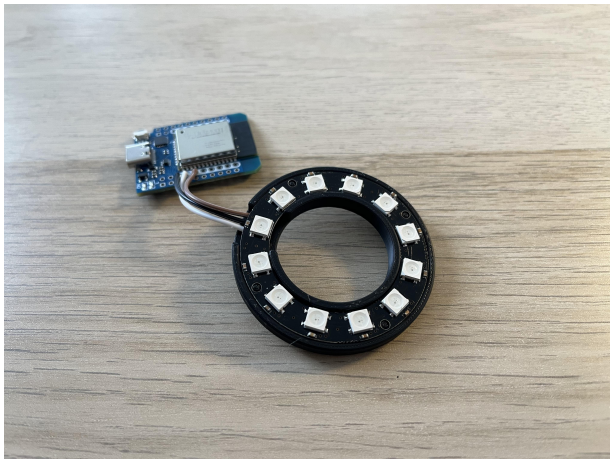
- WLED installer site (recommanded method)
- WLED documentation

If your ESP32 is not recognized (no COM port), you may need to install the CP210x USB to UART driver.



2. Lamp Base

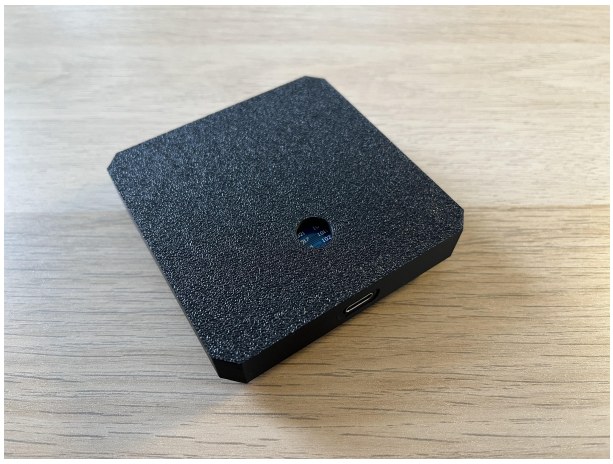
First, assemble the LED Ring holder:



Then mount the **ESP32** into the base. Insert the **USB-C connector first**, then gently push the **antenna side** past the retaining clips.



If you need to remove the ESP32, you can push it out through the **bottom access hole** (a pen works well).



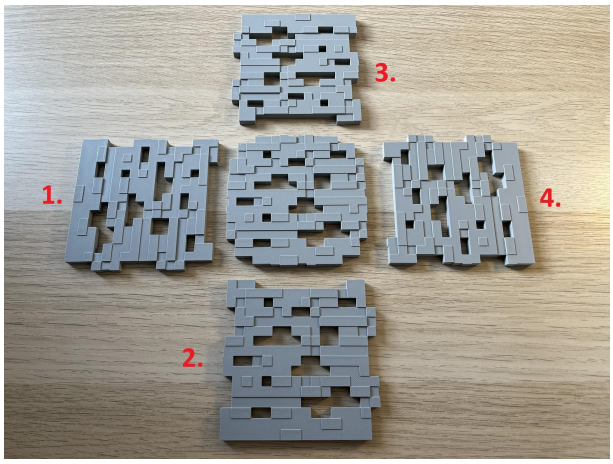
Finally, **clip the LED Ring** to the base.





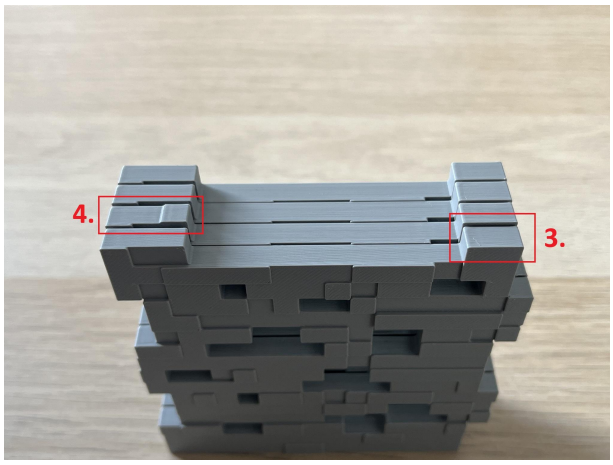
3. Ore Block

The ore block consists of **four side faces** and **one top face**.



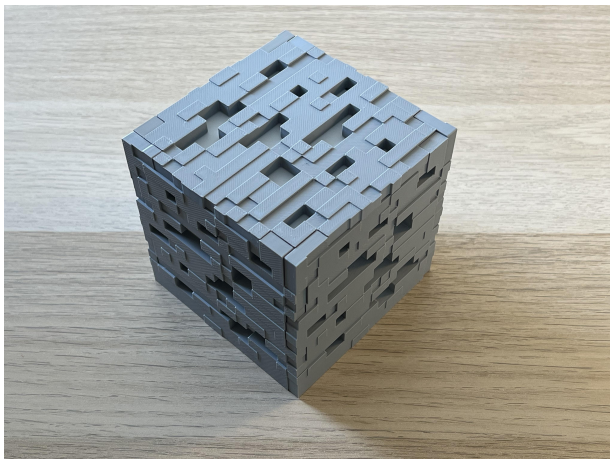
The four side faces are **interchangeable**, but designed to match the ore block texture on the top face if you care about details.
Faces **3** and **4** have minor visual differences:

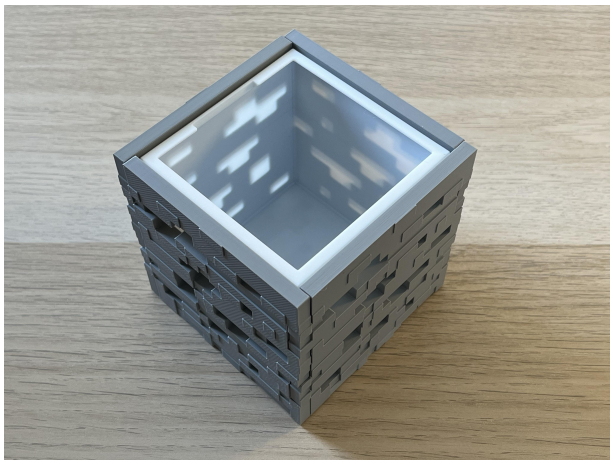
- **Face 3**: slightly lower top-right edge.
- **Face 4:** slightly higher pixel on the top-left edge.



Use a tip of glue to assemble all faces.

You can use the diffuser as a guide (it is designed to slide inside the block and will help to keep all faces aligned):



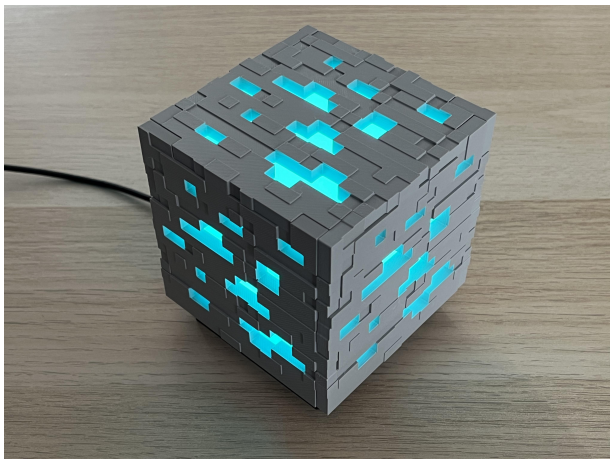


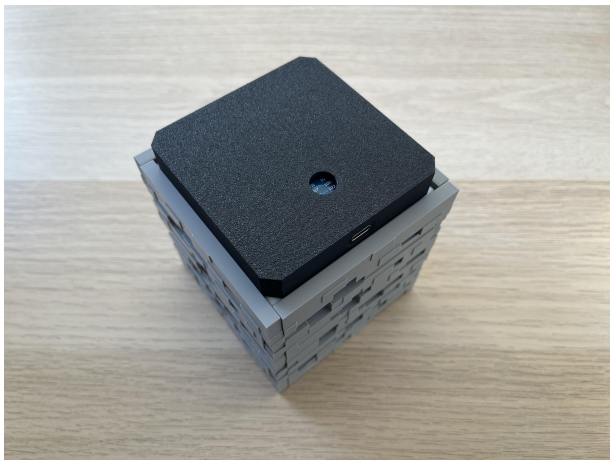
Push the diffuser **fully in**, leaving a small **~2 mm groove** visible.

4. Lamp

Place the **ore block** on top of the **lamp base,** and you’re done!

Power it up and chose if you want it to be diamonds, redstone or anything else!





5. Bonus: Home-Assistant Automations

This lamp can easily be integrated into **Home Assistant** or any **WLED-compatible automation** setup.

You might be especially interested in:

- The official WLED integration
- The official Minecraft Server integration

For example, my own lamp lights up automatically when players are connected to my Minecraft server.

Model files

lamp.3mf



esp-case.step



ore-side_12.step



led-ring-case.step



ore-top.step



ore-side_4.step



diffuser.step



ore-side_3.step

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