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- › [Wishiot](#) /
- › [Wishiot ESP-01S USB to ESP-01 Adapter Programmer Instruction Manual](#)

Wishiot ESP-01S Adapter Programmer

Wishiot ESP-01S USB to ESP-01 Adapter Programmer Instruction Manual

Model: ESP-01S Adapter Programmer

1. INTRODUCTION

This manual provides comprehensive instructions for the Wishiot ESP-01S USB to ESP-01 Adapter Programmer. This device simplifies the process of programming and debugging ESP-01 and ESP-01S Wi-Fi modules, featuring a convenient toggle switch for selecting between UART and programming modes. It integrates a CH340G USB to serial TTL chip, ensuring compatibility with standard development environments.

2. PRODUCT OVERVIEW

The Wishiot ESP-01S Adapter Programmer is designed for ease of use, allowing direct connection of ESP-01/ESP-01S modules. Key features include:

- **Integrated CH340G Chip:** Provides stable USB to serial TTL communication.
- **Mode Toggle Switch:** Easily switch between UART mode for serial debugging and PROG mode for firmware programming.
- **Direct ESP-01/ESP-01S Connection:** Modules can be directly plugged into the yellow pin header.
- **Standard Baud Rate:** Operates at 115200 baud rate.

Note: ESP-01S is not included

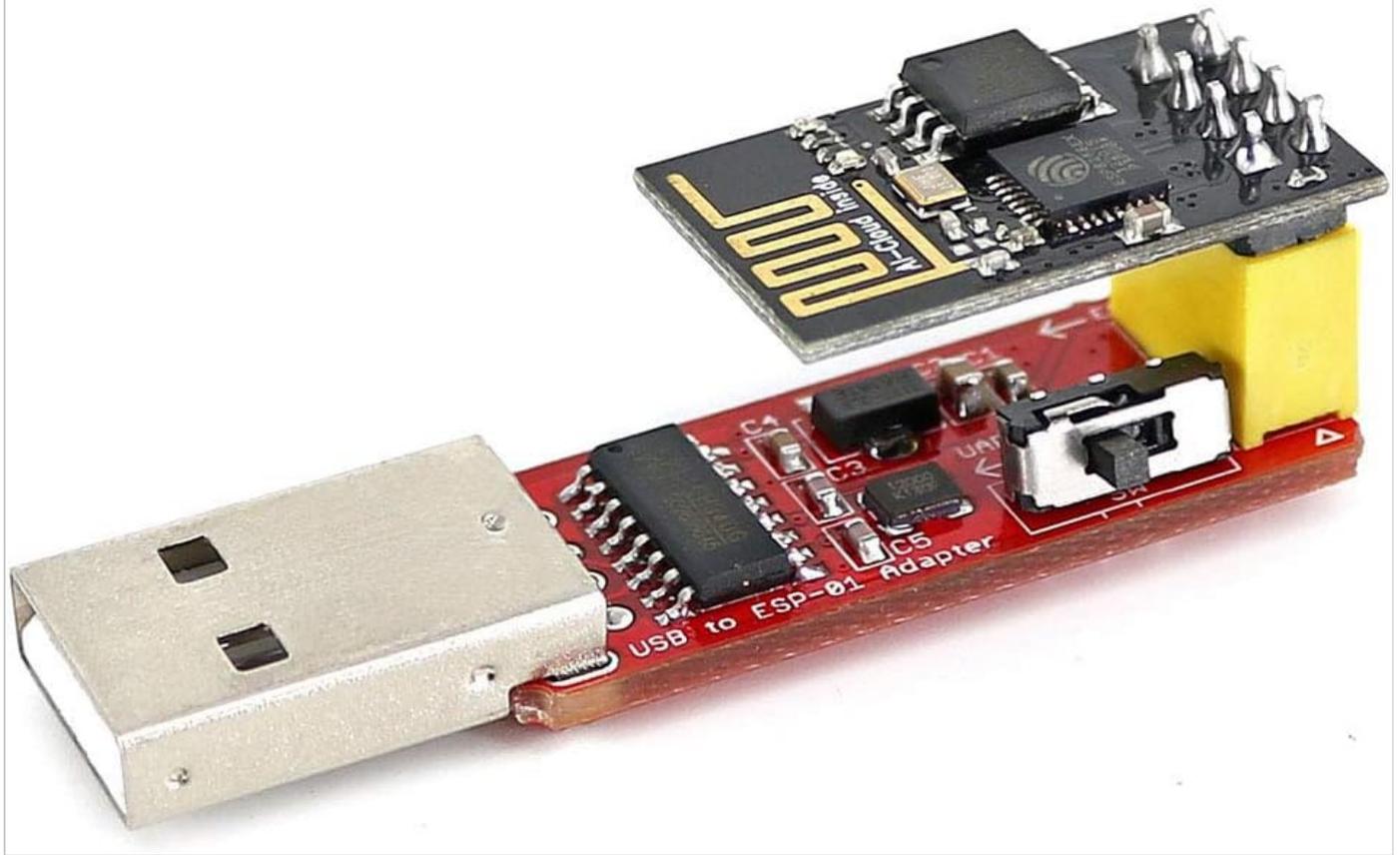
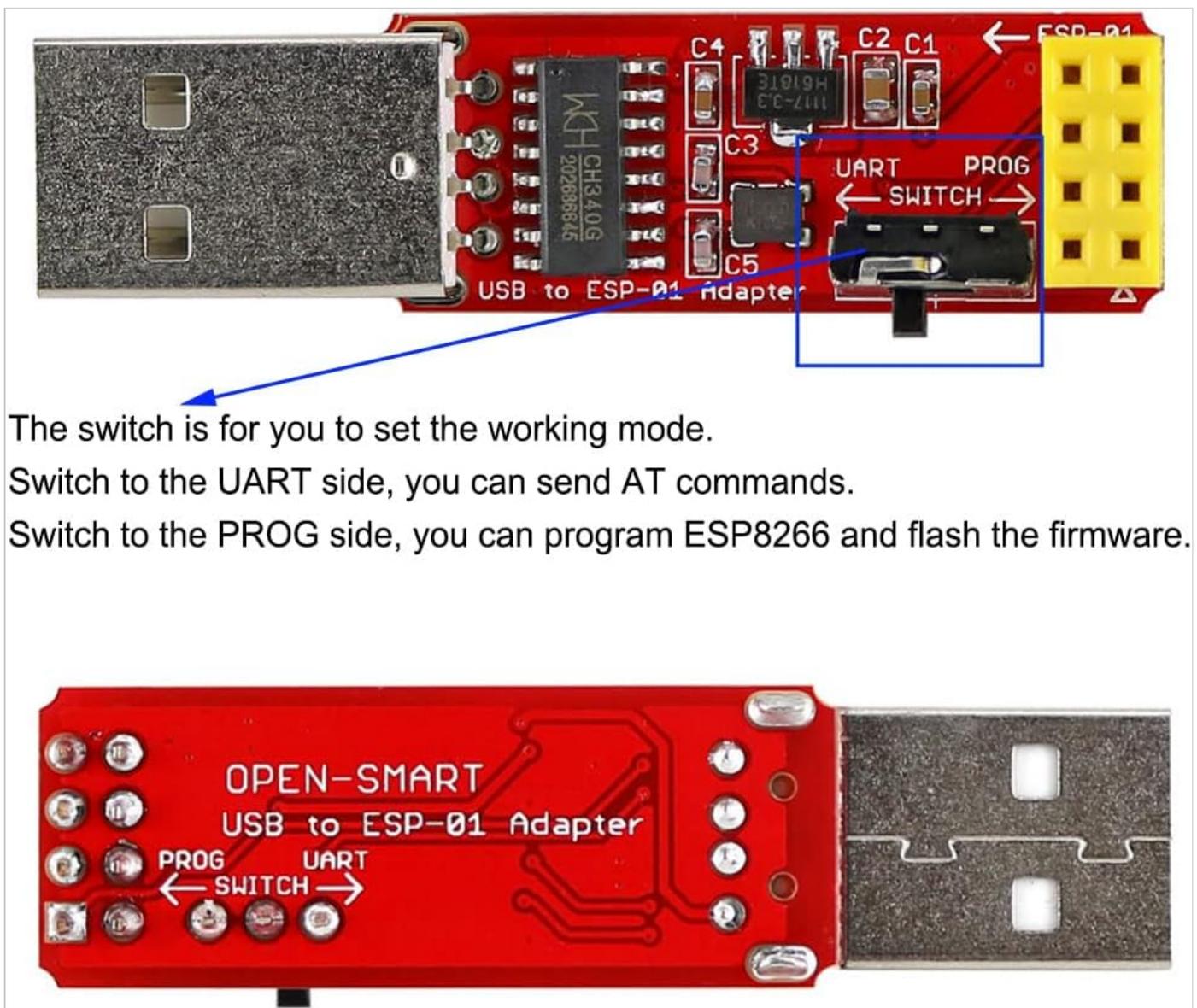


Figure 2.1: Wishiot ESP-01S USB to ESP-01 Adapter Programmer with an ESP-01 module. Note that the ESP-01S module is not included with the programmer.



The switch is for you to set the working mode.
 Switch to the UART side, you can send AT commands.
 Switch to the PROG side, you can program ESP8266 and flash the firmware.

Figure 2.2: Detailed view of the programmer showing the UART/PROG toggle switch. The switch allows selection of the working mode: UART for serial TTL debugging via AT commands, and PROG for firmware programming of the ESP8266.

3. SETUP INSTRUCTIONS

1. **Install CH340G Driver:** Before using the adapter, ensure the CH340G USB to serial TTL chip driver is installed on your computer. Drivers are typically available from the chip manufacturer's website or the product support page.
2. **Connect ESP-01S Module:** Carefully plug your ESP-01 or ESP-01S Wi-Fi module into the yellow pin header on the adapter. Ensure correct orientation, aligning the pins of the module with the header.
3. **Select Operating Mode:** Use the on-board toggle switch to select the desired mode:
 - Switch to the **UART** side for serial TTL debugging using AT commands.
 - Switch to the **PROG** side for firmware programming of the ESP8266.
4. **Connect to PC:** Plug the USB end of the adapter into an available USB port on your computer.

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Video 3.1: Demonstrates connecting the ESP-01S module to the Wishiot USB to ESP8266 ESP-01 Adapter and then plugging it into a PC. This video also highlights the CH340G driver requirement.

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Video 3.2: An overview of the Wishiot ESP-01S USB to ESP8266 Adapter Module, showing its components and how to connect the ESP-01S module.

4. OPERATING INSTRUCTIONS

4.1. Firmware Programming (PROG Mode)

To program new firmware onto your ESP-01S module:

1. Ensure the ESP-01S module is correctly installed on the adapter.
2. Set the toggle switch on the adapter to the **PROG** position.
3. Connect the adapter to your PC's USB port.
4. Open your preferred ESP8266 flashing tool (e.g., ESP Flash Download Tools, Arduino IDE).
5. Select the correct COM port assigned to the CH340G chip.
6. Load your firmware (.bin) file into the flashing tool.
7. Initiate the flashing process. The tool will typically indicate completion.
8. Once flashing is complete, disconnect the adapter from the PC.
9. Switch the toggle to **UART** mode for normal operation or debugging.
10. Reconnect the adapter to the PC.

How to use the ESP-01S Programmer with Thonny IDE?

Thanks a lot for the buyer to provide below details.

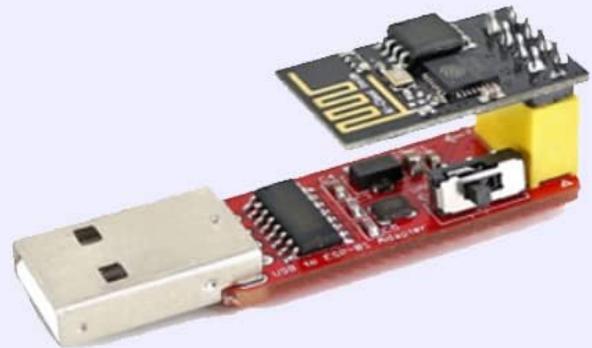
For those still confused as to how to use the USB to ESP-01 Adapter, I provide the following procedures that have worked.

For Flashing and Programming I chose the Thonny IDE (other IDE's will work as well).

Visit the microPython site, and download required firmware.

FLASHING

- With the ESP-01 installed as pictured, put the adapter switch in the PROG position.
- Plug the adapter into a PC.
- Return the adapter switch to UART position.
- Start the IDE.
 - o Select Tools > Manage Plugins
 - o Confirm plugin "esptool" is installed.
 - o Close
 - o Select Tools>Options>Interpreter
 - Select Port
 - Select "Install or update firmware"
 - o Select Port
 - o Browse for pre-downloaded firmware.
 - o Be sure "Erase flash before installing" is selected.
 - o Select "Install" [Flashing will begin]
- At the conclusion of flashing.
 - o Close the IDE
 - o Unplug adapter
 - o Re-plug adapter
 - o Restart the IDE
- The microPython >>> prompt should appear in the Shell window.



PROGRAMMING

Application programming can be entered in the window above the Shell window.

Review instructions in the Help for programming.

Figure 4.1: Example instructions for flashing and programming an ESP-01S module using the Thonny IDE, detailing steps for both flashing firmware and programming applications.

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Video 4.1: A demonstration of using the Wishiot ESP-01 ESP-01S Programmer for flashing firmware, including steps for selecting the chip type, uploading the bin file, and initiating the download process.

4.2. Serial Debugging (UART Mode)

For serial communication and debugging with your ESP-01S module:

1. Ensure the ESP-01S module is correctly installed on the adapter.
2. Set the toggle switch on the adapter to the **UART** position.
3. Connect the adapter to your PC's USB port.
4. Open a serial terminal program (e.g., Arduino Serial Monitor, PuTTY).
5. Configure the serial terminal with the correct COM port and a baud rate of 115200.
6. You can now send AT commands or view serial output from your ESP-01S module.

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Video 4.2: This video demonstrates the functionality of the Wishiot FZ2667-ESP-01 ESP-01S WiFi Programmer, showing it connected to a laptop and the blinking LED indicating successful operation after programming.

5. MAINTENANCE

The Wishiot ESP-01S Adapter Programmer requires minimal maintenance.

- Keep the device clean and free from dust and moisture.
- Store in a dry environment when not in use.
- Avoid exposing the device to extreme temperatures or direct sunlight.
- Handle with care to prevent damage to the pins and electronic components.

6. TROUBLESHOOTING

- **Device Not Recognized:**
 - Ensure the CH340G driver is correctly installed. You may need to restart your computer after installation.
 - Try a different USB port on your computer.
 - Verify the USB cable is functioning correctly.
- **Programming Failure:**
 - Confirm the toggle switch is set to the **PROG** position.
 - Check that the ESP-01S module is securely seated in the adapter.
 - Verify the correct COM port and baud rate (115200) are selected in your flashing software.
 - Ensure the firmware file is valid and compatible with your ESP-01S module.
- **No Serial Output in UART Mode:**
 - Confirm the toggle switch is set to the **UART** position.
 - Verify the correct COM port and baud rate (115200) are selected in your serial terminal.
 - Ensure your ESP-01S module is powered and running code that produces serial output.

7. SPECIFICATIONS

Feature	Detail
Brand	Wishiot
Model	ESP-01S Adapter Programmer
USB to Serial Chip	CH340G
Compatible Modules	ESP-01, ESP-01S
Operating Voltage	4.5-5.5V (USB powered)
Baud Rate	115200
Working Modes	UART (Serial TTL Debugging), PROG (Firmware Programming)
Hardware Interface	Serial Interface, USB

Feature	Detail
Package Dimensions	4.09 x 2.95 x 0.31 inches
Item Weight	0.493 ounces

8. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the official Wishiot website or contact your retailer. Keep your purchase receipt for any warranty claims.

