

HW-398 Type-C Fast Charging Voltage Protocol Trigger Board User Manual

Model: HW-398 | Brand: Shunmaii

1. Introduction

The HW-398 Type-C Fast Charging Voltage Protocol Trigger Board is a versatile module designed to convert fast charging power sources (chargers or power banks) into a fixed DC power supply. It supports various fast charging protocols, allowing users to "trick" the power source into outputting specific voltages (9V, 12V, 15V, 20V) for powering compatible devices such as routers, modems, or other electronics that require a stable DC input.



- ✓ Can be equipped with aluminum alloy casing
- ✓ High current multi protocol
- ✓ Supports PD>QC>FCP>AFC protocols
- ✓ Supports 9V/12V/15/20V voltage
- ✓ According to the output capacity of the power supply voltage, the voltage can be automatically lowered to a gear (the 20V decoy can successfully deceive the power supply with the highest output of 12V to output 12V).

Figure 1: HW-398 Module Overview and Diagram

2. Key Features

- **Multifunctional Power Supply:** Can be used as a DC power supply for various applications.
- **Versatile Charging Capabilities:** Enables fast charging chargers/power banks to output fixed voltages (9V, 12V, 15V, 20V).
- **Type-C Interface Conversion:** Easily converts traditional DC-powered devices to use a modern Type-C interface.
- **Multiple Protocol Support:** Compatible with PD3.0/2.0, PPS/QC4+, QC3.0/2.0, FCP, and AFC fast-charging protocols.
- **Compact Design:** Small form factor for easy integration and portability

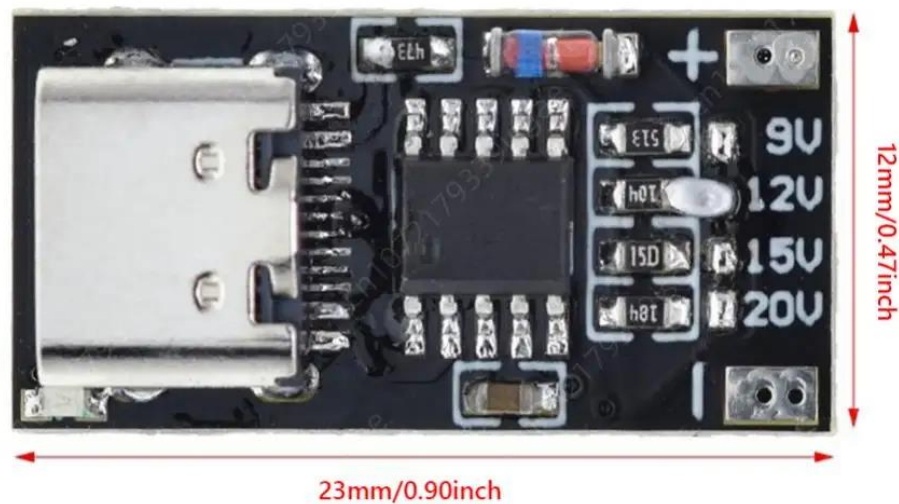


Figure 2: Key Features of the HW-398 Module

3. Specifications

Attribute	Value
Model	HW-398
Brand	Shunmaii
Origin	Mainland China
Certification	CE
Product Color	Black
Product Material	PCB
Output Mode	Fixed 9V, 12V, 15V, 20V (four gears)
Output Current	Maximum 5A (actual current/power depends on charger and load)
Power Supply Method	Type-C interface from fast charging protocol charger or power bank
Product Size	Approx. 23 x 12 mm (0.91 x 0.47 inch)
Product Weight	Approx. 4g
Supported Protocols	PD3.0/2.0, PPS/QC4+, QC3.0/2.0, FCP, AFC

Figure 3: HW-398 Module Dimensions

4. Setup Instructions

The HW-398 module requires a specific voltage output to be selected by short-circuiting designated solder pads. Follow these steps to configure your desired output voltage:

1. **Identify Voltage Pads:** Locate the four solder pads labeled 9V, 12V, 15V, and 20V on the module. These are typically arranged vertically near the output side.
2. **Select Desired Voltage:** To set the output voltage, carefully short-circuit the solder pads corresponding to your desired voltage. For example, to set the output to 12V, short the two pads next to the "12V" label.
3. **Verify Connection:** Ensure the short-circuit connection is secure and only connects the pads for the intended voltage. Avoid shorting multiple voltage options simultaneously.
4. **Connect Power Source:** Once the voltage is set, connect a compatible Type-C fast charging power source (charger or power bank) to the Type-C input interface of the HW-398 module.
5. **Connect Load:** Connect your target device to the output positive (+) and negative (-) poles of the HW-398 module.

Caution: Incorrect voltage selection or improper connections can damage the module or the connected device. Always ensure the selected voltage matches the requirements of your load device.

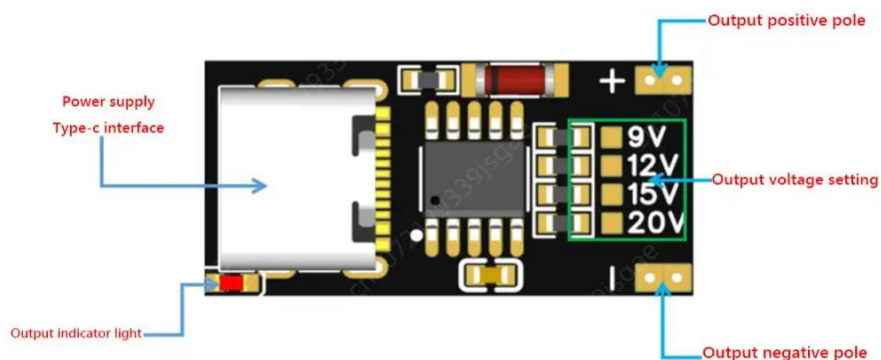


Figure 4: HW-398 Module Diagram with Voltage Setting

5. Operation

After completing the setup, the HW-398 module operates automatically:

1. **Power Negotiation:** Upon connecting a fast charging power source, the module will negotiate with the source to achieve the voltage you selected by short-circuiting the pads.
2. **Output Indicator:** The output indicator light on the module will illuminate when a stable output voltage is achieved.
3. **Automatic Downshift:** If your power source cannot provide the exact voltage you've set (e.g., you set 20V, but the charger only supports up to 9V), the module will automatically negotiate for the highest available voltage supported by the charger that is less than or equal to your setting. For example, if you set 20V but the charger's maximum is 12V, it will output 12V.
4. **Power Delivery:** The module will then deliver the negotiated voltage to your connected load device via the output positive and negative poles. The actual output current and power will be determined by the capabilities of your fast charging source and the demands of your load.



Figure 5: HW-398 Module in Operation

6. Maintenance

The HW-398 module is designed for durability and requires minimal maintenance. To ensure its longevity and optimal performance:

- **Keep Dry:** Avoid exposing the module to moisture or liquids, as this can cause short circuits and damage.
- **Handle with Care:** The module is a PCB (Printed Circuit Board); avoid bending, dropping, or applying excessive force to prevent physical damage to components or solder joints.
- **Clean Gently:** If cleaning is necessary, use a dry, soft cloth. Do not use harsh chemicals or abrasive materials.
- **Storage:** Store the module in a cool, dry place away from direct sunlight and extreme temperatures when not in use.

7. Troubleshooting

No output voltage / Output indicator light is off:

- **Check Power Source:** Ensure your Type-C charger or power bank supports fast charging protocols (PD/QC/AFC, etc.) and is functioning correctly. Standard 5V USB chargers will not work with this module for voltage triggering.
- **Verify Voltage Setting:** Double-check that the correct solder pads for your desired voltage are securely short-circuited. An incomplete or incorrect short-circuit will prevent proper voltage negotiation.
- **Power Source Capability:** Confirm that your fast charging power source can supply the requested voltage. If you set a high voltage (e.g., 20V) but your charger only supports lower voltages (e.g., max 9V), the module will automatically downshift to the highest available voltage (9V in this example). If no compatible voltage can be negotiated, there might be no output.
- **Load Compatibility:** Ensure the connected load device is compatible with the output voltage and does not draw excessive current beyond the capabilities of your power source and the module (max 5A).

Output voltage is lower than expected:

- **Power Source Limitation:** As mentioned above, if your fast charger cannot provide the set voltage, the module will automatically select the next highest available voltage. Check your charger's specifications.

- **Cable Quality:** A low-quality or damaged Type-C cable can sometimes hinder proper power negotiation. Try using a different, high-quality Type-C cable.

8. User Tips

- For powering routers or modems during power outages, ensure your power bank supports the required voltage (e.g., 9V or 12V) and has sufficient capacity for extended use.
- When selecting the output voltage, consider using a multimeter to verify the actual output before connecting sensitive devices, especially during initial setup.
- If you plan to use the module in a permanent setup, consider insulating the soldered voltage selection pads to prevent accidental short circuits or changes.

9. Warranty and Support

For any questions, technical assistance, or support regarding your HW-398 module, please contact the seller or retailer from whom you purchased the product. Please provide your purchase details and a clear description of the issue to facilitate a quicker resolution.