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TenNuoDa HW-273

TenNuoDa 7V-24V to 5V/3A DC-DC Step Down Power Supply Converter Module with USB Port

Instruction Manual

1. Introduction

This manual provides essential information for the safe and efficient use of your TenNuoDa 7V-24V to 5V/3A DC-DC Step Down Power Supply Converter Module. Please read these instructions carefully before installation and operation to ensure proper functionality and to prevent damage to the module or connected devices. Keep this manual for future reference.

2. Product Overview

The TenNuoDa DC-DC Step Down Power Supply Converter Module (Model: HW-273) is designed to efficiently convert an input voltage range of 7V-24V DC to a stable 5V DC output, providing up to 3A continuous current. It features a USB port for convenient power delivery to compatible devices.



A top-down view of the TenNuoDa DC-DC Step Down Power Supply Converter Module, showing the input terminals, inductor, capacitor, and USB output port.

Key Features:

- **Precise Design:** Features precise cut and interface for optimal applicability and ease of installation.
- **Short Circuit Protection:** Includes automatic protection for currents up to 5A to safeguard the module and connected devices.
- **Durable Construction:** Manufactured with high-quality materials to resist corrosion and wear, ensuring long-term durability.
- **High Efficiency:** Utilizes a synchronous rectification scheme for high efficiency and minimal power loss.
- **Stable Output:** Professional chipset provides excellent system performance, delivering a continuous load current of 2.5A (peak 4A).

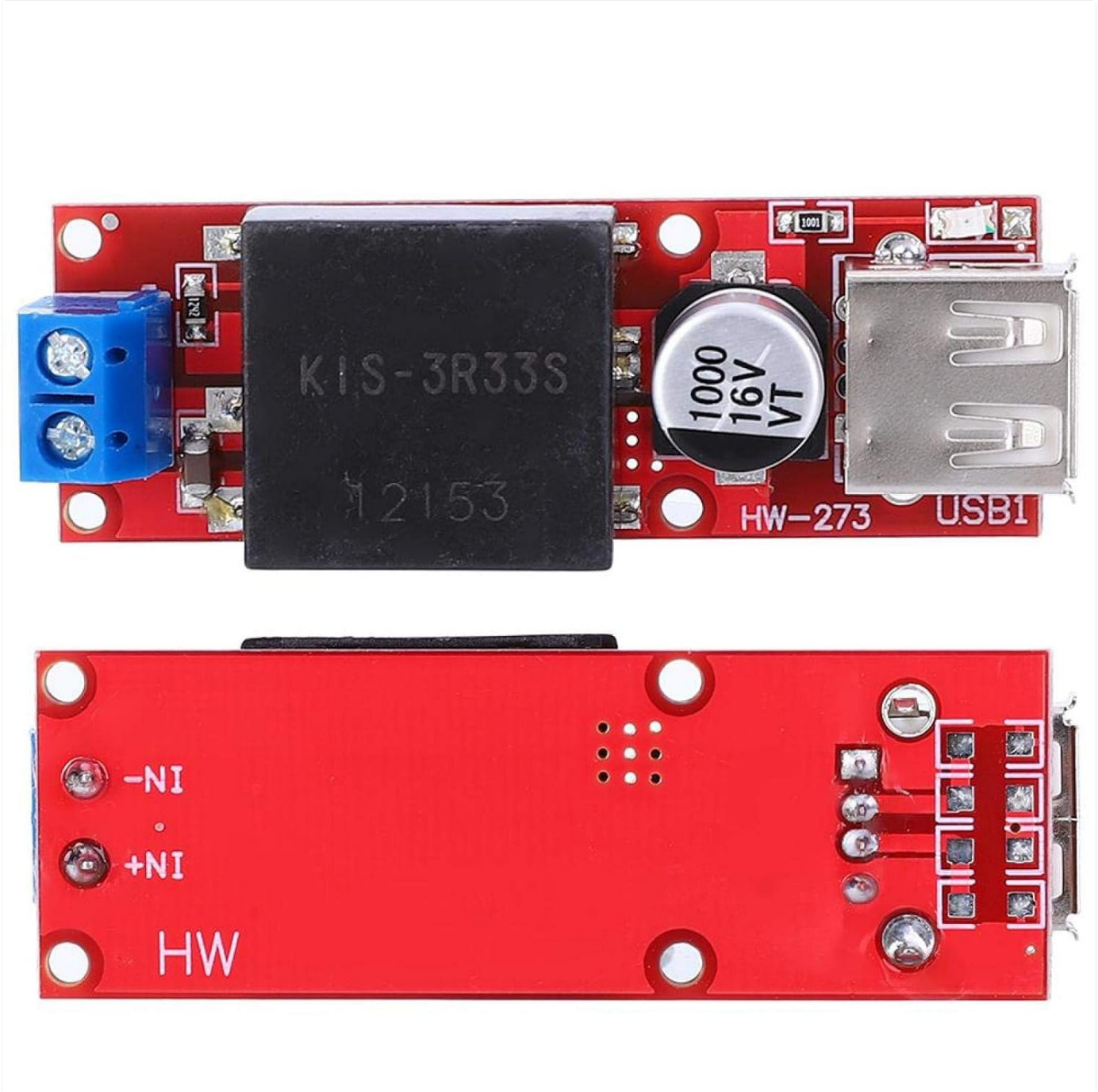
3. Specifications

Input Voltage Range:	7V to 24V DC
Output Voltage:	5.01V DC
Continuous Output Current:	2.5A
Peak Output Current:	4A
Switching Frequency:	340KHz
Output Ripple:	30mV (Maximum)
Load Adjustment Rate:	± 0.5%
Voltage Adjustment Rate:	± 2.5%
Working Temperature:	-40 ℃ to + 85 ℃

4. Setup

Wiring Connections:

Carefully observe the polarity markings on the module. The input terminals are labeled**IN-** (input negative) and **IN+** (input positive). The output terminals are labeled **OUT-** (output negative) and **OUT+** (output positive). It is crucial to connect these correctly. Incorrect wiring may result in damage to the module or the power source.



This image displays both the top and bottom sides of the converter module. The top side shows the main components and the 'HW-273' model designation. The bottom side clearly labels the input terminals as 'IN-' (input negative) and 'IN+' (input positive), and the output terminals as 'OUT-' (output negative) and 'OUT+' (output positive) for correct wiring.

1. **Input Connection:** Connect your DC power source (7V-24V) to the blue screw terminals. Ensure that the positive (+) terminal of your power source connects to **IN+** and the negative (-) terminal connects to**IN-**.
2. **Output Connection:** The module provides a standard USB Type-A port for 5V output. Connect your 5V USB device directly to this port.
3. **Verification:** Before applying power, double-check all connections for correct polarity and secure fastening.

5. Operating Instructions

Once the module is correctly wired and power is applied to the input terminals, the module will automatically step down the voltage to 5V. You can then connect your 5V USB-powered devices to the USB output port. The module is designed to provide a stable 5V output for charging or powering compatible devices within its specified current limits.

- Ensure the total current draw of connected devices does not exceed the continuous output current of 2.5A (4A peak).

- The module's short circuit protection will activate if an overload or short circuit occurs, protecting the module and connected equipment.

6. Maintenance

The TenNuoDa DC-DC Step Down Power Supply Converter Module requires minimal maintenance. Follow these guidelines to ensure its longevity:

- Keep the module clean and free from dust and debris. Use a soft, dry cloth for cleaning.
- Avoid exposing the module to excessive moisture or extreme temperatures outside its operating range (-40 ℃ to + 85 ℃).
- Regularly inspect connections to ensure they remain secure.
- Do not attempt to disassemble or modify the module, as this will void any potential warranty and could lead to damage or injury.

7. Troubleshooting

If you encounter issues with your converter module, consider the following troubleshooting steps:

- **No Output Voltage:**
  - Verify that the input voltage is within the 7V-24V range.
  - Check all wiring connections for correct polarity (IN+, IN-, OUT+, OUT-).
  - Ensure the input power source is active and providing sufficient current.
- **Output Voltage is Unstable or Incorrect:**
  - Confirm that the load connected to the USB port does not exceed the module's maximum continuous output current (2.5A).
  - Check for loose connections or damaged wires.
- **Module Overheating:**
  - Reduce the load on the output. Excessive current draw can cause overheating.
  - Ensure adequate ventilation around the module.

If problems persist after attempting these steps, please contact customer support.

8. Warranty and Support

TenNuoDa products are manufactured to high-quality standards and undergo rigorous testing. For any questions, technical assistance, or warranty inquiries, please contact TenNuoDa customer support through the retailer where the product was purchased or visit the official TenNuoDa store online.

Please retain your purchase receipt as proof of purchase for warranty claims.

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