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› XWST DC-DC Stabilizer Boost Buck Converter 40V-72V to 48V 10A 480W (Model XW-4072-48-10A-N) User Manual

XWST XW-4072-48-10A-N

XWST DC-DC Stabilizer Boost Buck Converter User Manual

Model: XW-4072-48-10A-N

1. INTRODUCTION

This manual provides essential information for the safe and effective use of the XWST DC-DC Stabilizer Boost Buck Converter, Model XW-4072-48-10A-N. This device is designed to convert a variable DC input voltage range of 40V-72V into a stable 48V DC output. Its robust, waterproof design makes it suitable for various demanding applications. Please read this manual thoroughly before installation and operation.

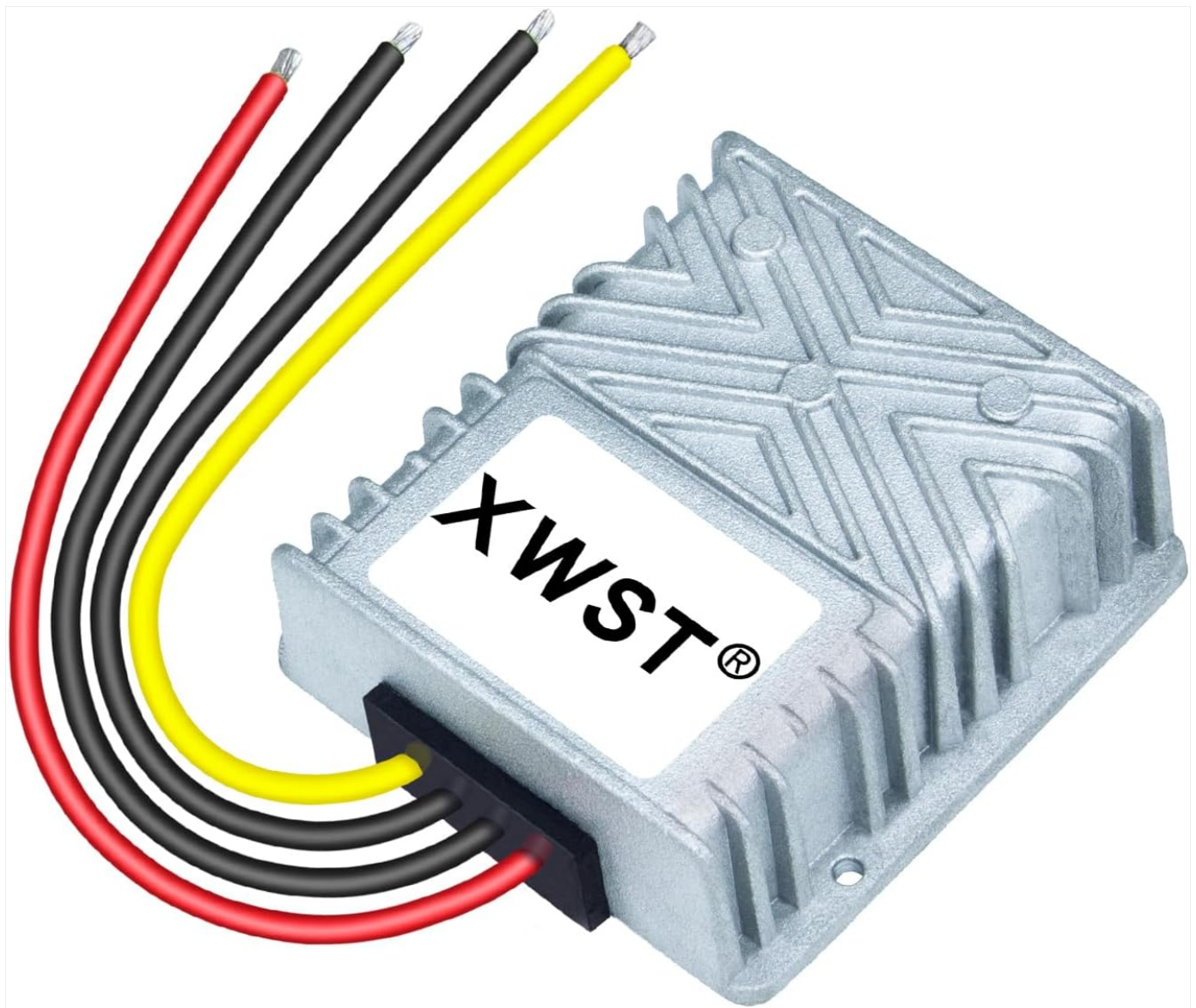


Figure 1: XWST DC-DC Stabilizer Boost Buck Converter

This image displays the XWST DC-DC Stabilizer Boost Buck Converter, highlighting its compact aluminum casing and pre-attached input/output wiring.

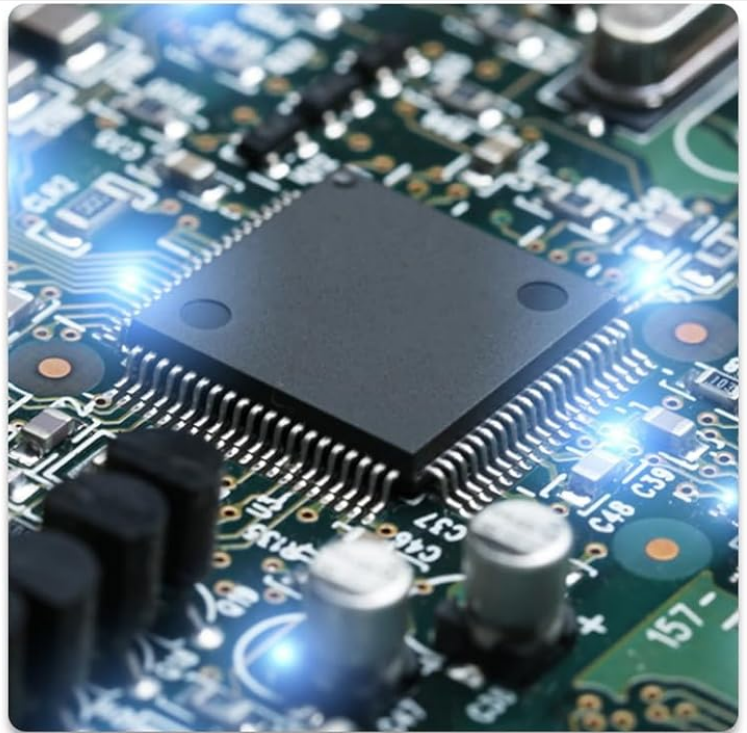
2. PRODUCT FEATURES

- **Wide Input Voltage Range:** Accepts DC 40V to 72V.
- **Stable Output:** Provides a regulated DC 48V output at 10A, totaling 480W.
- **High Conversion Efficiency:** Achieves over 93% efficiency with synchronous rectification technology, minimizing heat generation.
- **Robust Protection:** Includes over-current and over-temperature protection.
- **Environmental Durability:** Features IP67 waterproofing, dust-proof, moisture-proof, and shock-proof design, suitable for various harsh environments.
- **Integrated Design:** Utilizes a high-integrated chip for stable and reliable performance.



INTELLIGENT CHIPSET

Intelligent imported smart chips with Over-voltage protection, Over heat protection, Over current protection and short-circuit protection



HIGH FREQUENCY RESISTANCE

Imported high temperature resistant with pure copper coils high current inductors, stable output



Figure 2: Intelligent Chipset and High-Frequency Resistance

This image illustrates the internal components of the converter, emphasizing the intelligent chipset for protection and high-frequency resistance for stable output.

3. TECHNICAL SPECIFICATIONS

Parameter	Value
Input Voltage	DC 40V~72V
Output Voltage	DC 48V

Output Current	10A
Output Power	480W
Conversion Efficiency	>93%
No Load Voltage Range	Set voltage $\pm 3\%$
Load Regulation	$\pm 3\%$
Quiescent Power Dissipation	<10mA
Operating Temperature	-25~65°C
Storage Temperature	-30~80°C
Operating Humidity	10%~90%
Waterproofing Grade	IP67
Over-current Protection	Yes
Over-temperature Protection	Yes
Short-circuit Protection	No
Material	Aluminium shell
Net Weight	280g (approx. 8.8 ounces)

Input: 40V~72V Output: 48V 10A

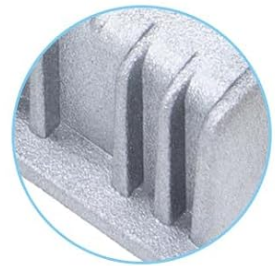
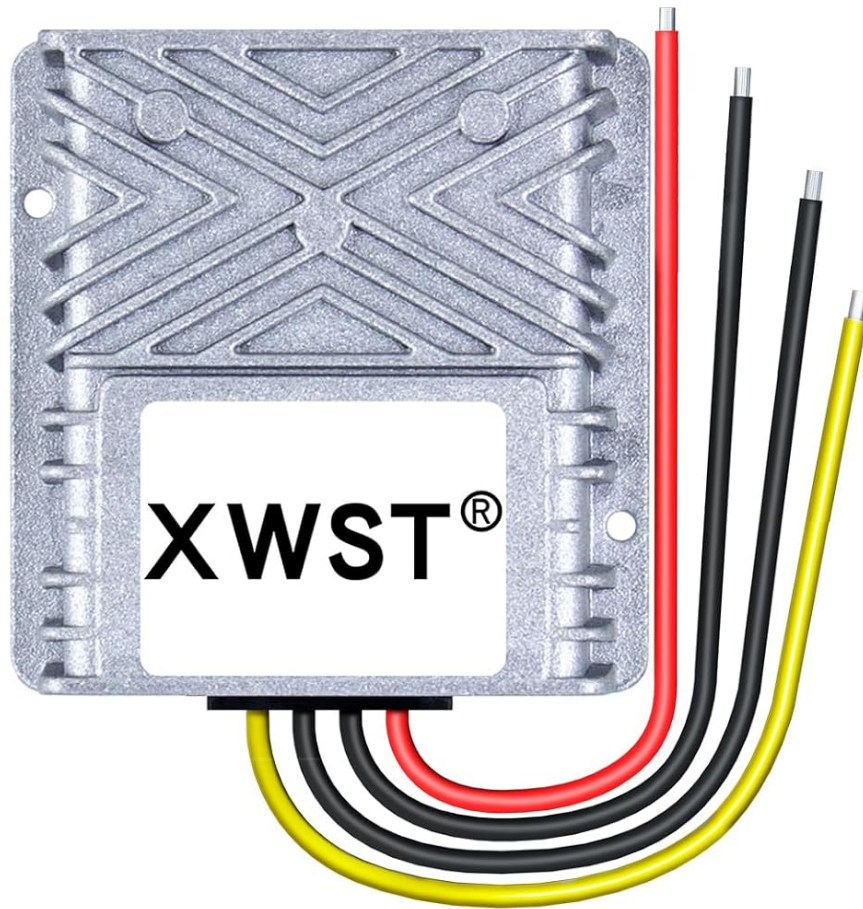


Figure 3: Input/Output Specifications and Certifications

This image provides a visual summary of the converter's input and output parameters, along with relevant certifications and warranty information.

4. SAFETY PRECAUTIONS

To ensure safe operation and prevent damage to the converter or connected devices, please observe the following precautions:

- **Wiring Accuracy:** Always connect the wiring strictly according to the provided instructions and diagrams. Incorrect wiring can cause damage.
- **Wire Gauge:** Use short and thick input and output wires to minimize voltage drop and ensure sufficient power delivery.
- **Load Distribution:** If using multiple output wires, avoid combining the load onto a single wire to prevent overloading.
- **Power Margin:** Always leave a sufficient power margin (e.g., 20-30% overhead) for the power supply to ensure

stable and long-term operation, especially under continuous load.

- **Short-Circuit Protection:** Note that this device does **not** include short-circuit protection. Ensure proper wiring and fuse protection for the output circuit to prevent damage in case of a short circuit.

5. SETUP AND INSTALLATION

Follow these steps for proper installation of your DC-DC converter:

5.1 Wiring Instructions

Refer to the wiring diagram below for correct connections. Ensure all connections are secure and insulated.

Red Wire: Input Positive (+)

Black Wire: Input Negative (-)

Yellow Wire: Output Positive (+)

Black Wire: Output Negative (-)

An optional ON/OFF switch can be integrated into the input positive line from the power supply for convenient control.

Power converter

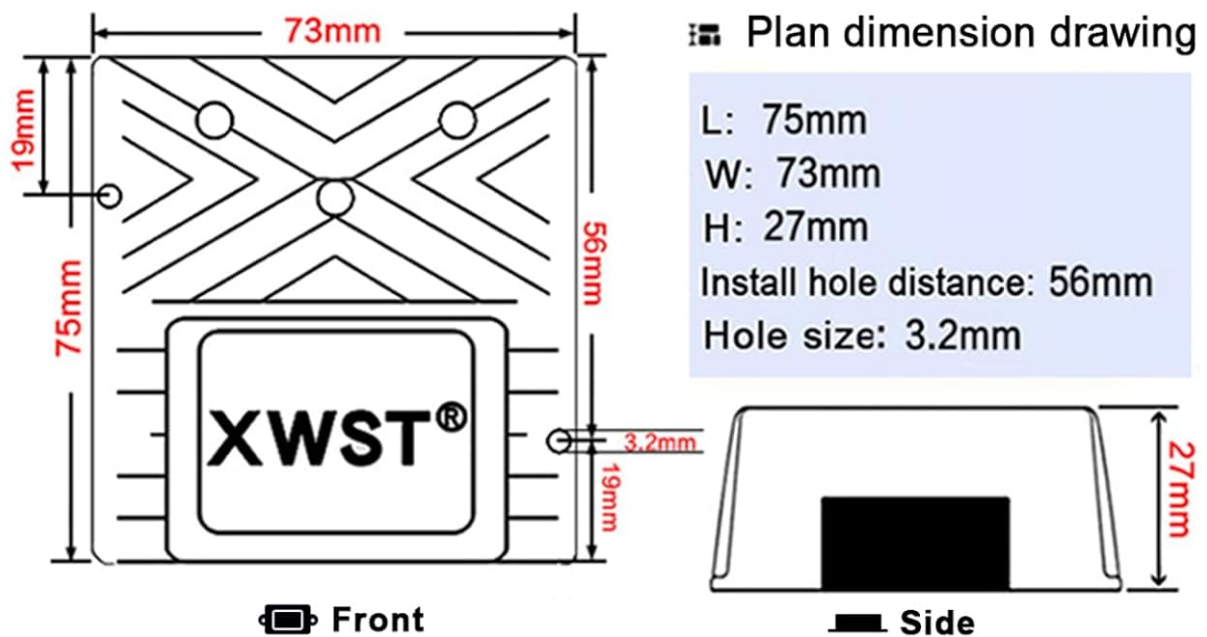
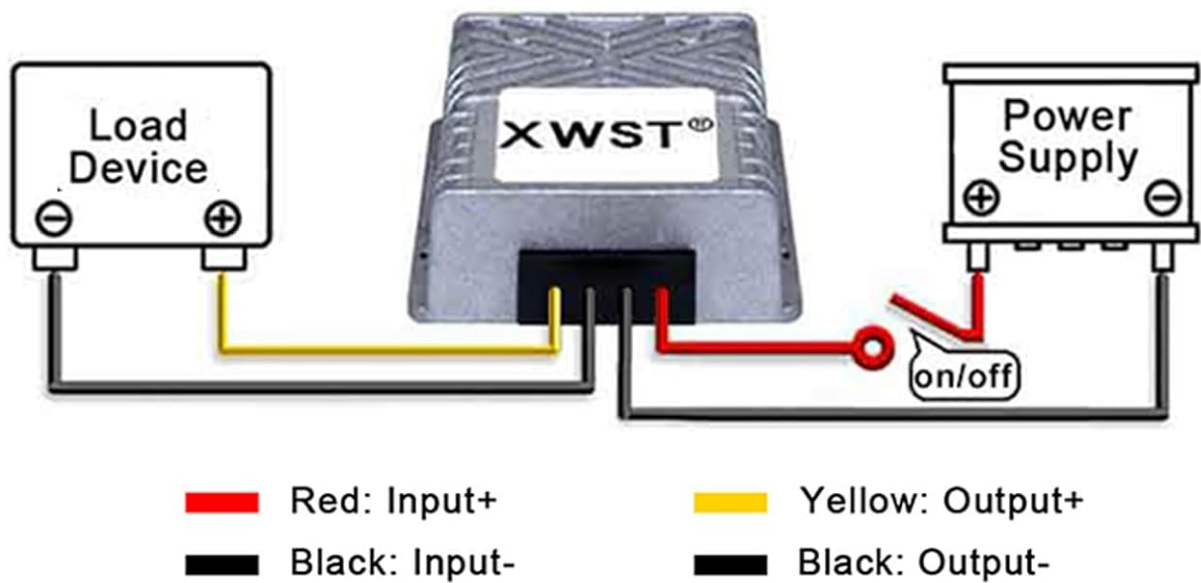


Figure 4: Power Converter Wiring Diagram and Dimensions

This diagram illustrates the correct wiring connections for the converter, showing input from a power supply and output to a load device. It also includes detailed dimensional drawings for installation planning.

5.2 Mounting

The converter features mounting holes for secure installation. Refer to the dimensions below for precise placement.

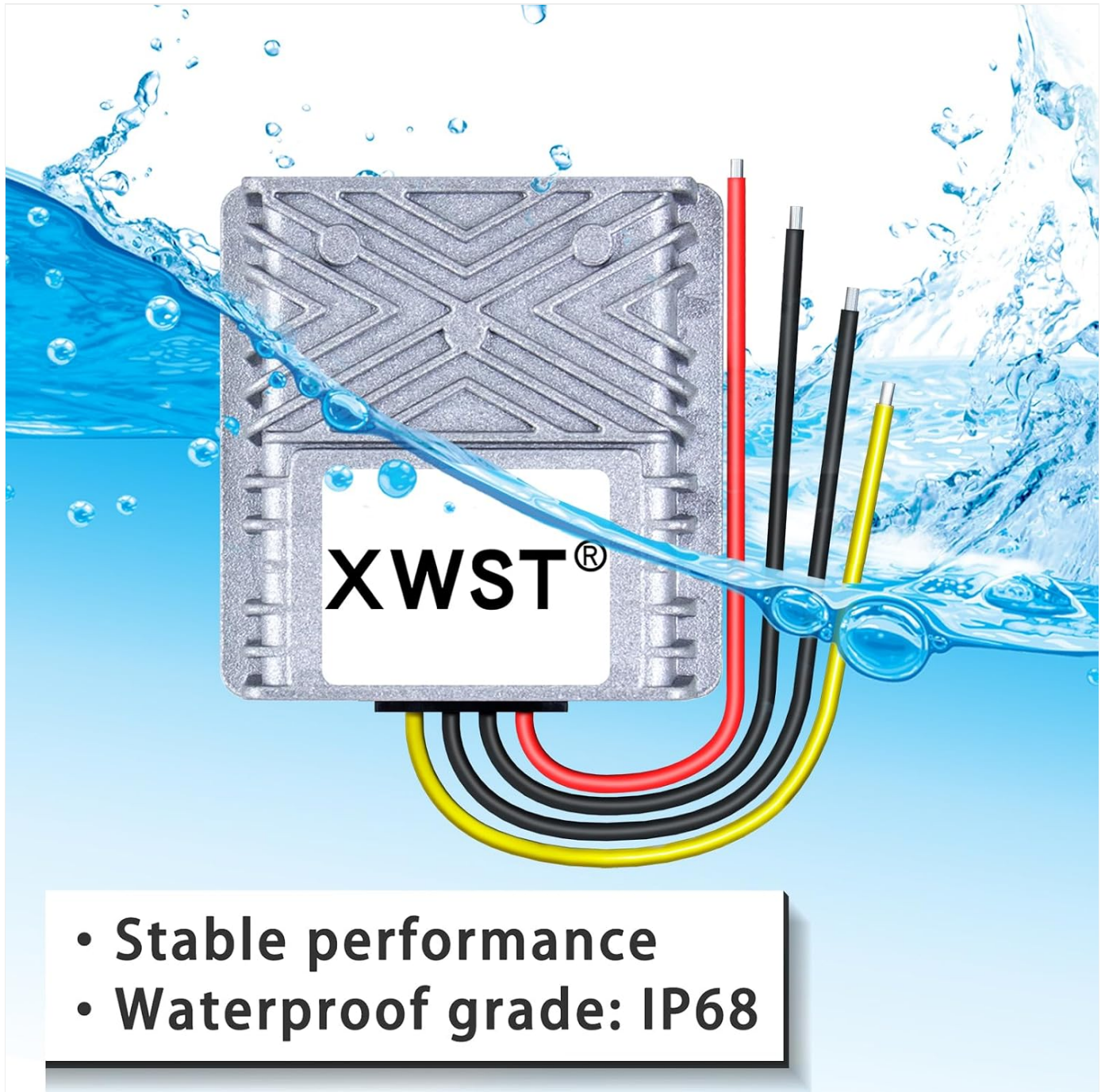
6. OPERATING INSTRUCTIONS

Once properly installed and wired, ensure your input power source is within the specified 40V-72V range. Apply power to the input terminals. The converter will automatically regulate the voltage to a stable 48V output. Monitor the load to ensure it does not exceed the 10A (480W) maximum output capacity.

7. MAINTENANCE

The XWST DC-DC converter is designed for durability with its IP67 waterproof rating, making it resistant to dust and moisture. Regular maintenance is minimal:

- **Inspection:** Periodically inspect wiring connections for any signs of wear, corrosion, or loose contacts.
- **Cleaning:** If installed in a dusty environment, gently wipe the exterior of the unit with a dry or slightly damp cloth to remove accumulated dust. Do not use harsh chemicals or immerse the unit in water.
- **Environmental Protection:** While waterproof, avoid prolonged submersion or exposure to extreme conditions beyond its specified operating temperature and humidity ranges.



- **Stable performance**
- **Waterproof grade: IP68**

Figure 5: Waterproof Grade IP67

This image visually confirms the converter's IP67 waterproof rating, indicating its suitability for environments where exposure to water splashes or dust is common.

8. TROUBLESHOOTING

If you encounter issues with the converter, consider the following:

- **No Output Voltage:**

- Check input power supply: Ensure it is active and within the 40V-72V range.
- Verify wiring: Confirm all input and output connections are correct and secure.
- Check for over-temperature protection: If the unit is excessively hot, it may have shut down temporarily. Allow it to cool.

- **Unstable Output Voltage:**

- Ensure adequate power margin: The load might be too close to the converter's maximum capacity. Reduce the load or ensure the input power supply is robust.
- Inspect wiring: Loose or thin wires can cause voltage fluctuations.

- **Overheating:**

- Ensure proper ventilation: Although waterproof, the unit still requires some airflow for heat dissipation.
- Check load: Operating continuously at maximum load can increase temperature. Ensure a power margin.

If problems persist, contact XWST customer support for further assistance.

9. APPLICATIONS

The XWST DC-DC Stabilizer is versatile and can be used in a wide range of applications requiring a stable 48V power source from a variable 40V-72V input. Common applications include:

- Golf Carts and E-bikes
- Car Audio Systems and Vehicle Electronics
- Solar Power Generation Systems
- LCD Televisions and LED Displays
- Bus, Minibus, and Truck Display Screens
- Taxi Advertising Screens
- Monitoring and Fire Alarming Systems
- Interphones and Communication Devices
- UAVs (Unmanned Aerial Vehicles) and Smart Robots
- General Transportation and Aviation electronics

Applicable Scene



Transportation



Car



Aviation



Radio



Uav



Smart Robot



Sound Box



LED



Ebike

Figure 6: Applicable Scenes

This image displays a collage illustrating diverse environments and devices where the XWST DC-DC converter can be effectively utilized.

10. PRODUCT DIMENSIONS

The physical dimensions of the XWST DC-DC Stabilizer are as follows:

- **Length (L):** 75mm (approx. 2.95 inches)
- **Width (W):** 73mm (approx. 2.87 inches)
- **Height (H):** 27mm (approx. 1.06 inches)
- **Install Hole Distance:** 56mm
- **Hole Size:** 3.2mm

Product Size

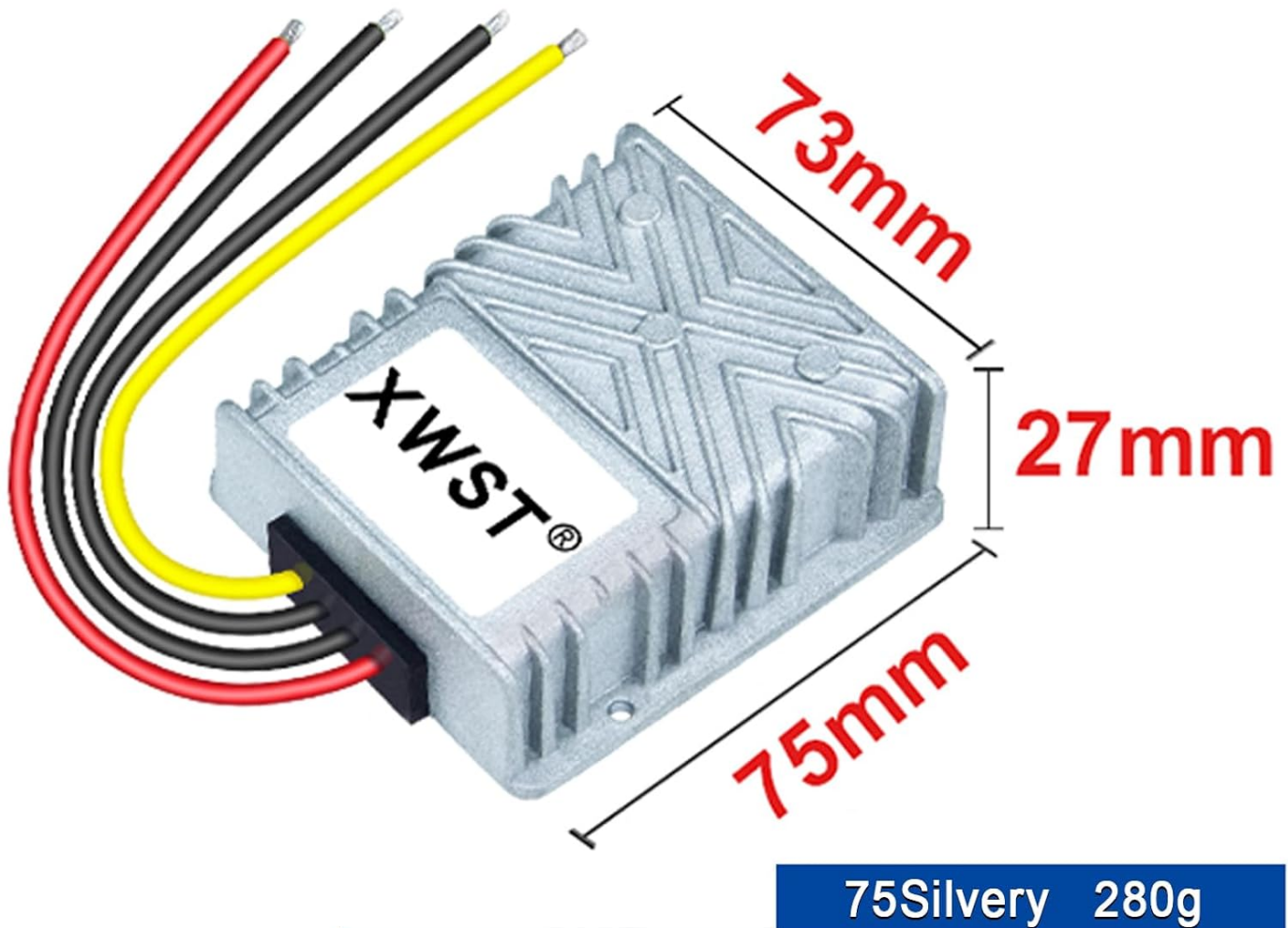


Figure 7: Product Size

This image provides a clear visual representation of the converter's dimensions, aiding in planning its physical installation.

11. WARRANTY AND SUPPORT

The XWST DC-DC Stabilizer Boost Buck Converter comes with a **1 Year Limited Warranty** from the date of purchase. This warranty covers manufacturing defects under normal use conditions.

For technical support, warranty claims, or any questions regarding the product, please contact XWST customer service through your purchase platform or the official XWST website. Please have your product model number (XW-4072-48-10A-N) and proof of purchase ready when contacting support.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question