Kohree HP415

Kohree DC 36V/48V Step Down to 12V 20A 240W Converter Regulator Reducer User Manual

Brand: Kohree

Model: HP415

1. Introduction

This user manual provides detailed instructions for the installation, operation, and maintenance of the Kohree DC 36V/48V Step Down to 12V 20A 240W Converter Regulator Reducer. This device is designed to efficiently convert higher DC voltages (36V/48V) down to a stable 12V DC output, making it suitable for various applications including golf carts, LED lighting, monitoring systems, and other industrial equipment.

The converter features a robust die-cast aluminum shell, epoxy resin potting, and an IP68 waterproof rating, ensuring durability and reliable performance in challenging environments. It incorporates synchronization rectification technology for high conversion efficiency and includes multiple intelligent protection functions to safeguard connected devices.

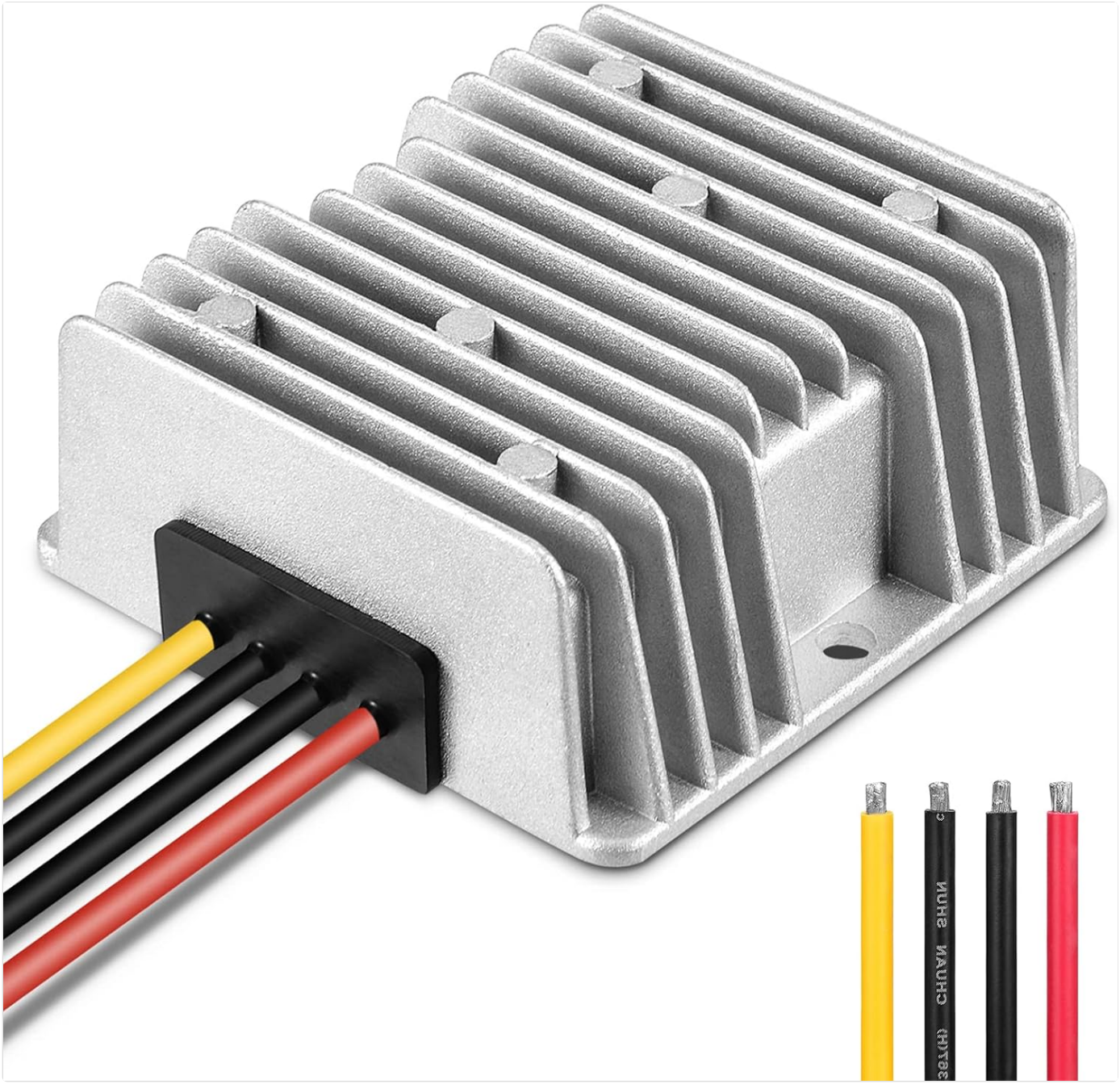

Figure 1: Kohree DC 36V/48V to 12V 20A 240W Converter Regulator Reducer. This image shows the compact, finned aluminum casing of the voltage converter with its input and output wires.

2. Safety Precautions

Please read and understand all safety instructions before installing or operating this device. Failure to follow these instructions may result in electric shock, fire, or serious injury.

- **Disconnect Power:** Always disconnect power from the battery or power source before making any electrical connections.
- **Correct Polarity:** Ensure all connections are made with correct polarity (positive to positive, negative to negative). Incorrect wiring can damage the converter and connected devices.
- **Proper Wire Gauge:** Use appropriate wire gauges for the input and output currents to prevent overheating and ensure efficient power transfer.
- **Ventilation:** Although the unit features good heat dissipation, ensure it is installed in an area with adequate airflow to prevent excessive heat buildup, especially under heavy loads.

- **Waterproof Rating:** While the unit is IP68 waterproof, avoid submerging it in water for extended periods or exposing it to high-pressure water jets.
- **Overload Protection:** Do not exceed the maximum output current (20A) or power (240W) to prevent damage to the converter and connected devices.
- **Professional Installation:** If you are unsure about any part of the installation process, consult a qualified electrician or technician.

3. Product Specifications

The following table outlines the key technical specifications for the Kohree DC 36V/48V Step Down to 12V 20A 240W Converter Regulator Reducer:

Feature	Specification
Model	HP415
Input Voltage Range	DC 30-60V (36V/48V nominal)
Output Voltage	DC 12V
Output Current	20A
Output Power	240W
Conversion Efficiency	Up to 95%
Ripple	200mVp
No Load Current	0.01A
Voltage Accuracy	±1.5%
Load Regulation Rate	±0.2%
Linear Adjustment Rate	±0.2%
Waterproof Rating	IP68
Operating Temperature	-40℃ to 85℃ (-40℉ to 185℉)
Dimensions (L x W x H)	74 x 74 x 31 mm (2.91 x 2.91 x 1.26 inches)
Item Weight	8 ounces (approx. 227g)
Power Source	Corded Electric
Certification	CE

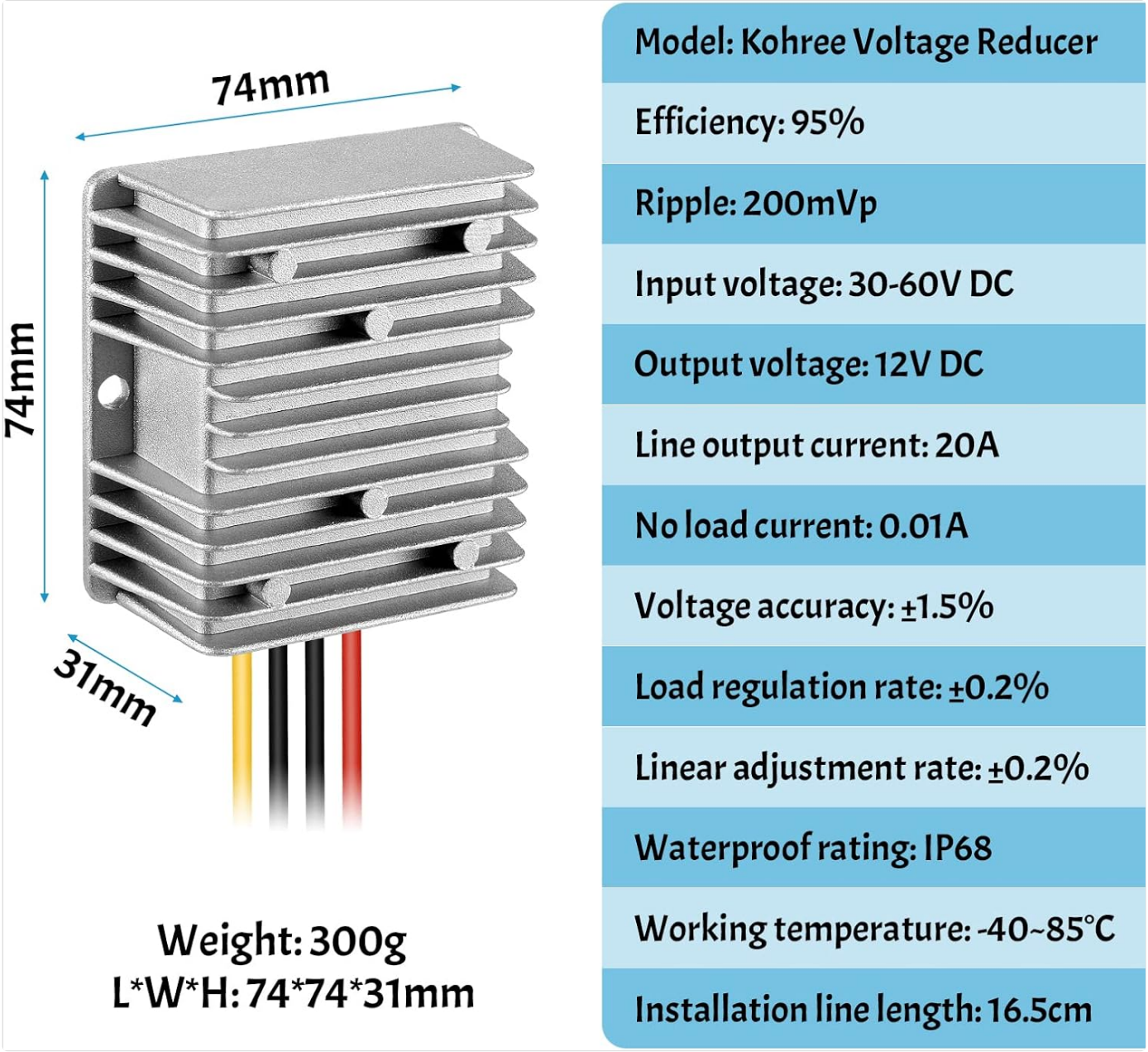

Figure 2: Detailed specifications and dimensions of the Kohree voltage reducer. This image provides a visual representation of the product's physical dimensions and lists its key electrical and environmental specifications.

4. Installation (Setup)

Follow these steps for proper installation of the voltage converter:

1. **Choose a Mounting Location:** Select a secure, dry location for mounting the converter. While waterproof, avoid areas prone to constant submersion or extreme physical impact. Ensure adequate space for wiring and heat dissipation.
2. **Prepare Wiring:** The converter has four wires: two for input (from battery) and two for output (to device).
    - **Input Wires:** Red (Positive +), Black (Negative -)
    - **Output Wires:** Yellow (Positive +), Black (Negative -)
3. **Connect Input Wires:**
    - Connect the **Red Input Wire** to the **Positive (+) terminal** of your 36V/48V battery or power source.
    - Connect the **Black Input Wire** to the **Negative (-) terminal** of your 36V/48V battery or power source.
    - *Ensure these connections are secure and insulated.*

4. **Connect Output Wires:**
    - Connect the **Yellow Output Wire** to the **Positive (+) terminal** of your 12V DC output device.
    - Connect the **Black Output Wire** to the **Negative (-) terminal** of your 12V DC output device.
    - *Verify that the total current draw of your 12V devices does not exceed 20A.*
5. **Secure the Converter:** Use appropriate fasteners (not included) to securely mount the converter to your chosen surface.
6. **Final Check:** Double-check all wiring connections for correct polarity and tightness before applying power.

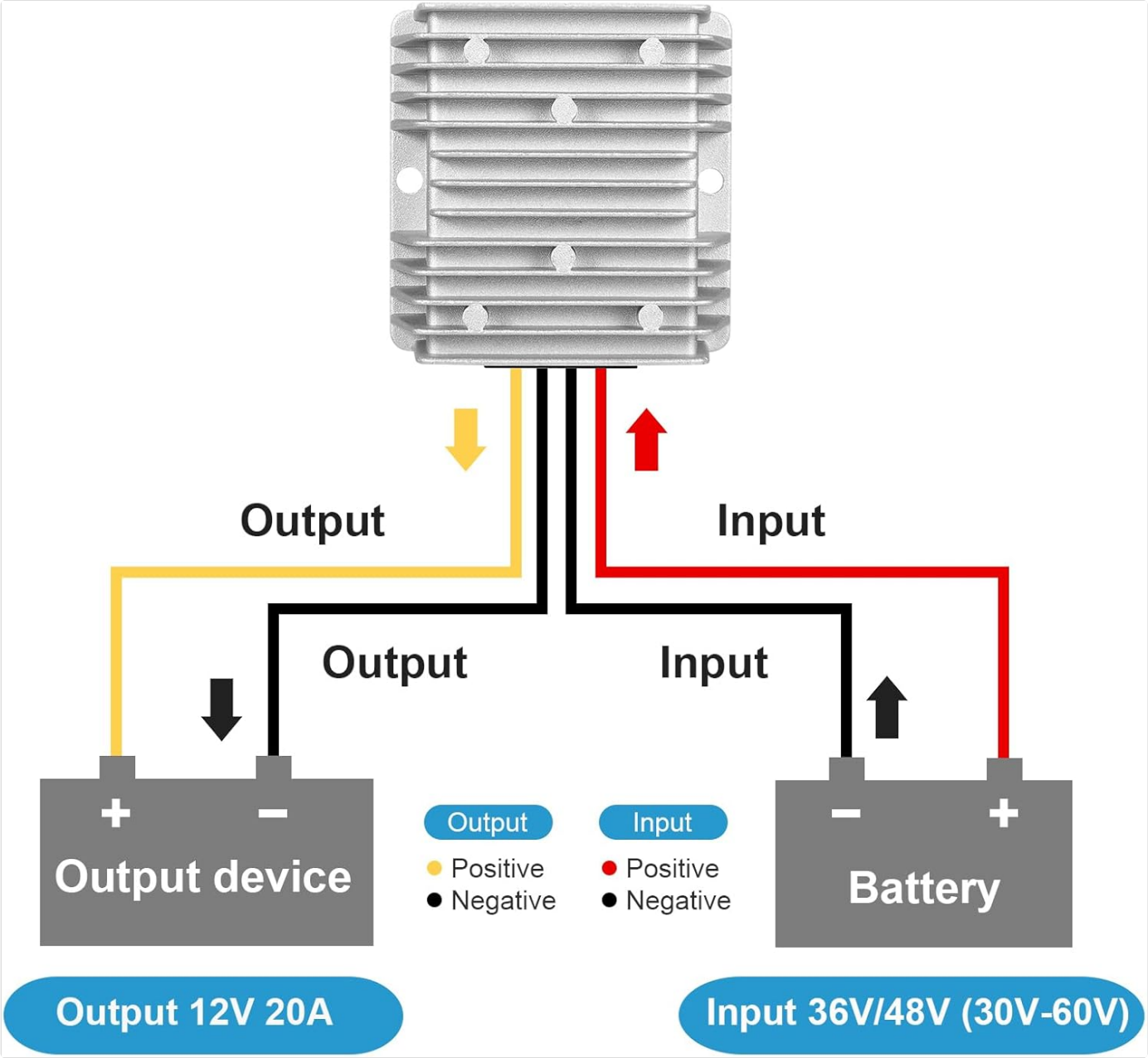

Figure 3: Wiring diagram illustrating the connection of the Kohree voltage converter. This diagram clearly shows how to connect the input wires from the battery and the output wires to the 12V device, emphasizing correct positive and negative terminals.

5. Operation

Once properly installed and wired, the Kohree voltage converter operates automatically. When the input voltage (36V/48V) is supplied, the converter will step it down to a stable 12V DC output for your connected devices.

- **Automatic Protection:** The converter is equipped with intelligent protection features including over/under voltage input, overcurrent, overtemperature, and short circuit protection. In case of an anomaly, the unit may temporarily

shut down to protect itself and connected devices. It will typically resume operation once the fault condition is removed.

- **Efficiency:** The synchronization rectification technology ensures high power conversion efficiency, minimizing energy loss and heat generation.

Figure 4: Key features of the Kohree converter, highlighting its waterproof design, stable voltage output, and efficient heat dissipation. This image visually represents the robust construction and reliable performance characteristics of the device.

6. Maintenance

The Kohree voltage converter is designed for long-term, reliable operation with minimal maintenance. However, periodic checks can help ensure optimal performance and longevity:

- **Inspect Connections:** Periodically check all electrical connections to ensure they remain tight and free from corrosion. Loose connections can lead to poor performance or overheating.
- **Clean the Unit:** If installed in a dusty or dirty environment, gently clean the exterior of the unit, especially the heat sink fins, to ensure proper heat dissipation. Use a soft, dry cloth. Do not use harsh chemicals or abrasive cleaners.
- **Environmental Check:** Ensure the operating environment remains within the specified temperature range (-40°C to 85°C).
- **Avoid Physical Damage:** Protect the unit from physical impact or excessive vibration, which could damage internal components.

7. Troubleshooting

If you encounter issues with your Kohree voltage converter, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
No output voltage / Devices not powering on	◦ No input power. ◦ Incorrect wiring (polarity reversed). ◦ Loose connections. ◦ Converter in protection mode (overload, short circuit). ◦ Faulty converter.	◦ Check input power source (battery voltage). ◦ Verify input and output wiring polarity as per Figure 3. ◦ Tighten all connections. ◦ Disconnect load, check for short circuits in output devices. Allow unit to cool if overheated. ◦ If all else fails, contact customer support.
Output voltage is incorrect (too high/low)	◦ Input voltage outside specified range (30-60V). ◦ Overload condition. ◦ Faulty converter.	◦ Measure input voltage to ensure it is within 30-60V DC. ◦ Reduce the load connected to the output. Ensure total current is below 20A. ◦ Contact customer support.

Problem	Possible Cause	Solution
Converter is overheating	◦ Excessive load. ◦ Poor ventilation. ◦ High ambient temperature.	◦ Reduce the load on the converter. ◦ Relocate the converter to an area with better airflow. ◦ Ensure ambient temperature is within operating limits.

8. Warranty Information

Kohree products are manufactured to high-quality standards. For specific warranty terms and conditions, please refer to the warranty card included with your product or visit the official Kohree website. Typically, products are covered against defects in materials and workmanship under normal use.

9. Customer Support

If you have any questions, require technical assistance, or need to report an issue with your Kohree product, please contact Kohree customer service. Your satisfaction is our priority.
For the most up-to-date contact information, please visit the official Kohree website or refer to the contact details provided on your product packaging.
You can also visit the Kohree Store on Amazon for more product information and support resources.