amiciSmart 63A

amiciSmart 3-Phase Automatic Over/Under Voltage Protector 63A Instruction Manual

Brand: amiciSmart | Model: 63A

1. Introduction

This manual provides comprehensive instructions for the installation, operation, and maintenance of your amiciSmart 3-Phase Automatic Over/Under Voltage Protector 63A. This device is designed to safeguard electrical appliances and systems from voltage fluctuations, over-current, phase loss, and phase imbalance, ensuring reliable and safe power delivery. Please read this manual thoroughly before installation and use.

2. Key Features

- **Dual Mode Functionality:** Operates as a full 3-phase protection system or as customizable single-phase protectors for each individual phase.
- **Multi-Functional Monitoring:** Monitors 3-phase voltage and current readings.
- **Robust Protection:** Guards against overvoltage, undervoltage, and overcurrent.
- **Adjustable Protection Values:** Default protection values can be set according to specific requirements.
- **Quick Response Time:** Features an impressive 0.1-second cut-off time, customizable within 0.1 to 30 seconds.
- **Phase Loss Protection:** Automatically cuts off power supply in the event of a single-phase loss. This function can be enabled or disabled.
- **Phase Imbalance Protection:** Disconnects power if there is a significant difference between 3-phase voltages, adjustable from 20V to 99V.
- **Automatic Reconnect:** Automatically restores power after fault conditions clear.

3. Product Overview

The amiciSmart 3-Phase Automatic Over/Under Voltage Protector is a compact device designed for DIN rail mounting. It features clear digital displays for voltage and current readings across all three phases (L1, L2, L3), along with indicator lights for various protection states.

Figure 1: Front view of the amiciSmart 3-Phase Automatic Over/Under Voltage Protector 63A, showing digital displays for voltage and current, and control buttons.

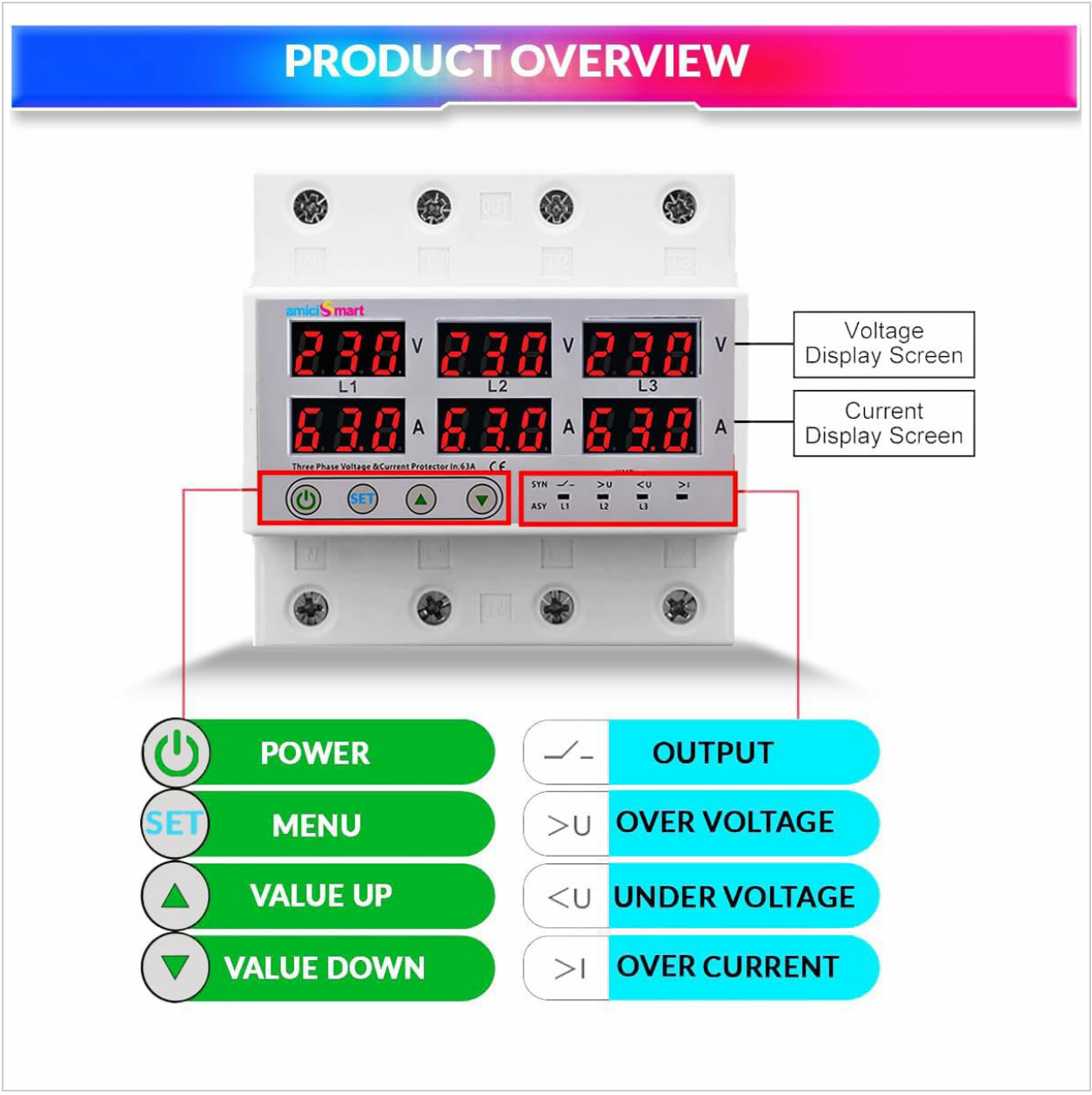

Figure 2: Detailed product overview highlighting the Voltage Display Screen, Current Display Screen, Power button, Menu (SET) button, Value Up button, Value Down button, and indicators for Output, Over Voltage (>U), Under Voltage (<U), and Over Current (>I).

4. Installation (Wiring Guideline)

Installation should be performed by a qualified electrician to ensure safety and proper functionality. The device is designed for DIN rail mounting.

1. Ensure the main power supply is disconnected before beginning installation.
2. Mount the protector securely on a standard 35mm DIN rail.
3. Connect the Neutral (N) line, and the three Live (L1, L2, L3) lines from your power source to the corresponding input terminals of the protector.
4. Connect the output terminals of the protector to your load (e.g., distribution board, appliances). Ensure correct phase matching (L1 out to L1 load, etc.).
5. Double-check all connections for tightness and correct polarity.

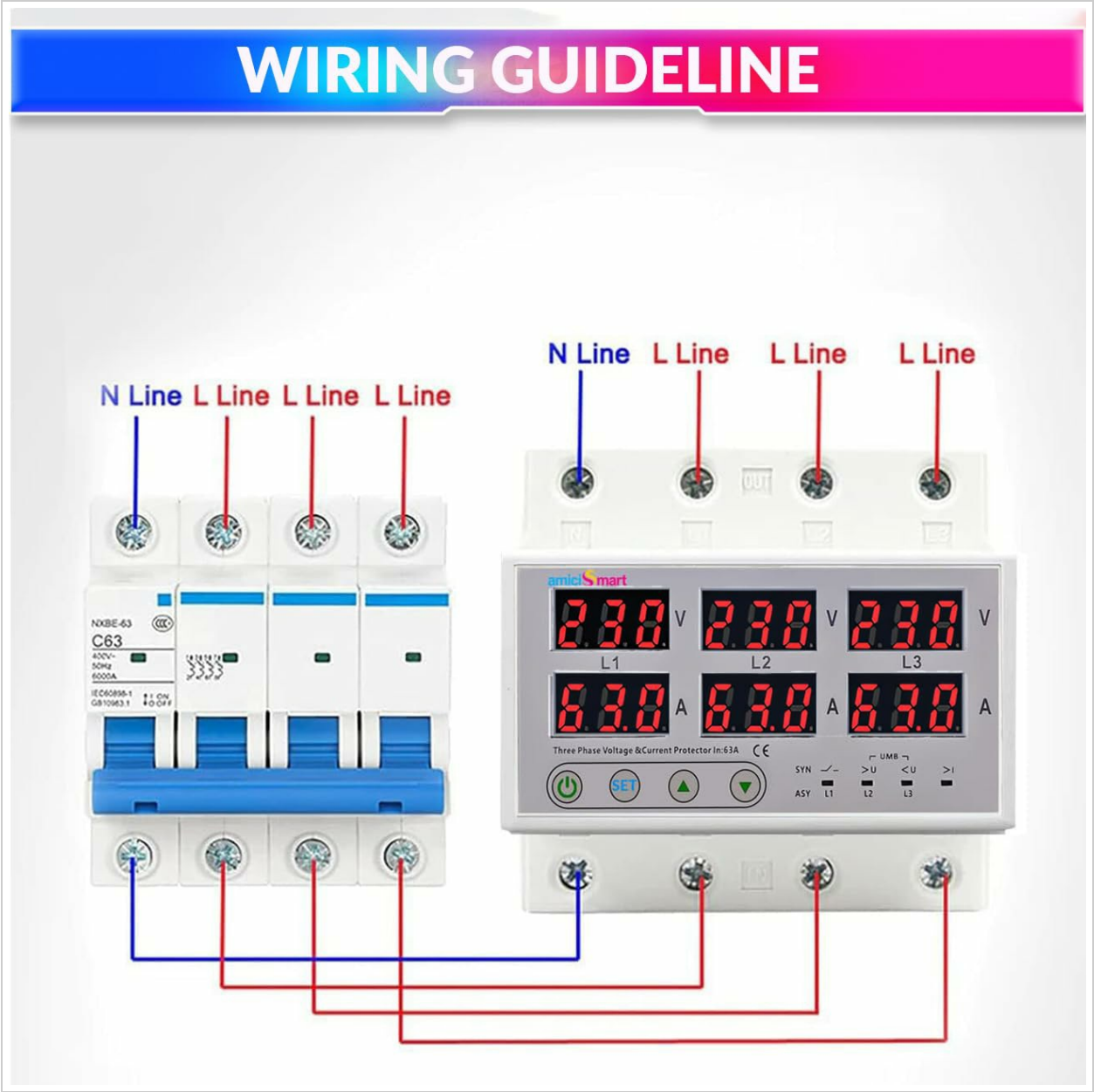

Figure 3: Wiring diagram illustrating the connection of the N (Neutral) line and L (Live) lines (L1, L2, L3) from a circuit breaker to the input terminals of the amiciSmart protector, and then to the output terminals.

Warning: Incorrect wiring can lead to device malfunction, electrical shock, or fire. Always consult a professional for installation.

5. Operating Instructions

The device features a user-friendly interface with digital displays and control buttons for setting parameters.

5.1. Initial Power-On

Upon initial power-on, the device will display current voltage and current readings. There may be a delay (default 10 seconds) before the output is enabled, allowing the system to stabilize.

5.2. Setting Parameters

Use the 'SET' button to enter the parameter setting mode. Use the 'Up' and 'Down' arrow buttons to navigate through parameters and adjust values. Press 'SET' again to confirm a value and move to the next parameter, or hold 'SET' to exit the setting mode.

- **Over-voltage Protection (OV):** Range 230V-300V (Default: 270V).

- **Over-voltage Recovery (OVR):** Range 225V-295V (Default: 265V).
- **Over-voltage Action Time (OVT):** Range 0.1-30 seconds (Default: 1s).
- **Under-voltage Protection (UV):** Range 140V-210V (Default: 170V).
- **Under-voltage Recovery (UVR):** Range 145V-215V (Default: 175V).
- **Under-voltage Action Time (UVT):** Range 0.1-30 seconds (Default: 1s).
- **Over-current Protection (OC):** Range 0.5A-63A (Default: 30A).
- **Over-current Recovery Delay (OCD):** Range 1-500 seconds (Default: 30s).
- **Over-current Action Time (OCT):** Range 0.1-30 seconds (Default: 1s).
- **Phase Imbalance Protection (PI):** Range 5-95V (Adjustable).
- **Delay Time After Power-on (DTP):** Range 1-500 seconds (Default: 10s).
- **Recovery Delay Time (RDT):** Range 1-500 seconds (Default: 30s).

5.3. Dual Mode Functionality

The device supports two operational modes: Synchronous and Asynchronous.

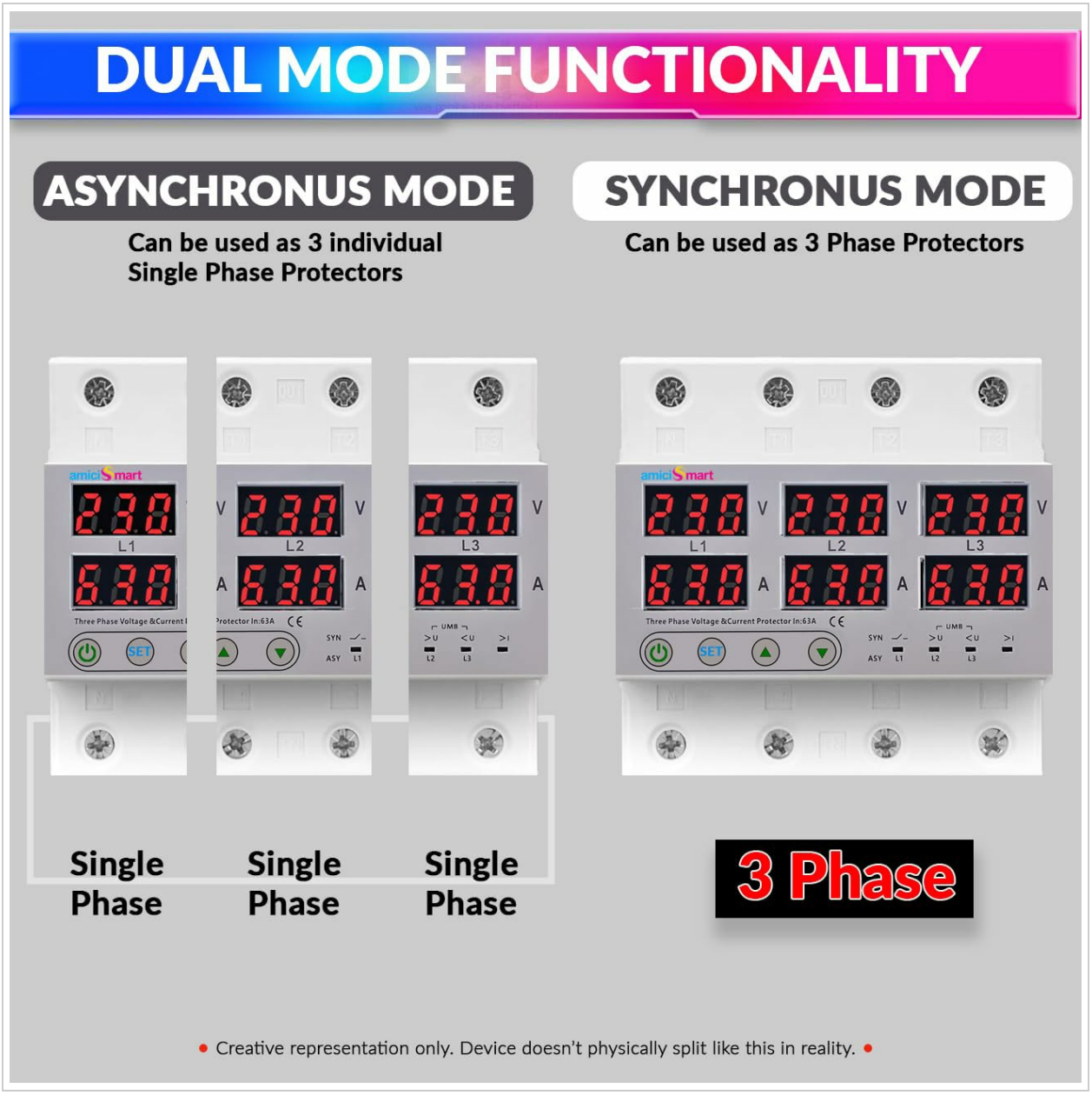

Figure 4: Illustration of Dual Mode Functionality. In Asynchronous Mode, each phase acts as an individual single-phase protector. In Synchronous Mode, the device functions as a unified 3-phase protector.

- **Asynchronous Mode (ASY):** In this mode, each phase (L1, L2, L3) operates independently. If a fault occurs on one phase, only that phase's output is disconnected, while the other phases continue to supply power. This allows for individual protection of single-phase loads connected to a 3-phase supply.
- **Synchronous Mode (SYN):** In this mode, the device acts as a single unit for 3-phase protection. If any fault (over/under voltage, over-current, phase loss, phase imbalance) is detected on any of the three phases, the entire 3-phase output is disconnected.

5.4. Protection Features in Detail

Figure 5: Visual representation of the adjustable protection features including Over Voltage Protection, Under Voltage Protection, and Over Load Protection, along with Automatic Recovery, 3-Phase Voltage & Current Display, and Adjustable Response Time (0.1~30sec).

- **Over-voltage Protection:** When the voltage on any phase exceeds the set over-voltage protection value, the device will trip and cut off the power supply after the set action time. Power will be restored when the voltage returns to the over-voltage recovery range.
- **Under-voltage Protection:** If the voltage on any phase drops below the set under-voltage protection value, the device will trip and cut off the power supply after the set action time. Power will be restored when the voltage returns to the under-voltage recovery range.
- **Over-current Protection:** If the current drawn by the load on any phase exceeds the set over-current

protection value, the device will trip and cut off the power supply after the set action time. Power will be restored after the over-current recovery delay time, provided the current has normalized.

- **Phase Loss Protection:** In the event of a complete loss of one or more phases, the device will automatically cut off the power supply to protect connected equipment. This feature can be enabled or disabled via settings.
- **Phase Imbalance Protection:** If the voltage difference between any two phases exceeds the set phase imbalance value, the device will trip and cut off the power supply.

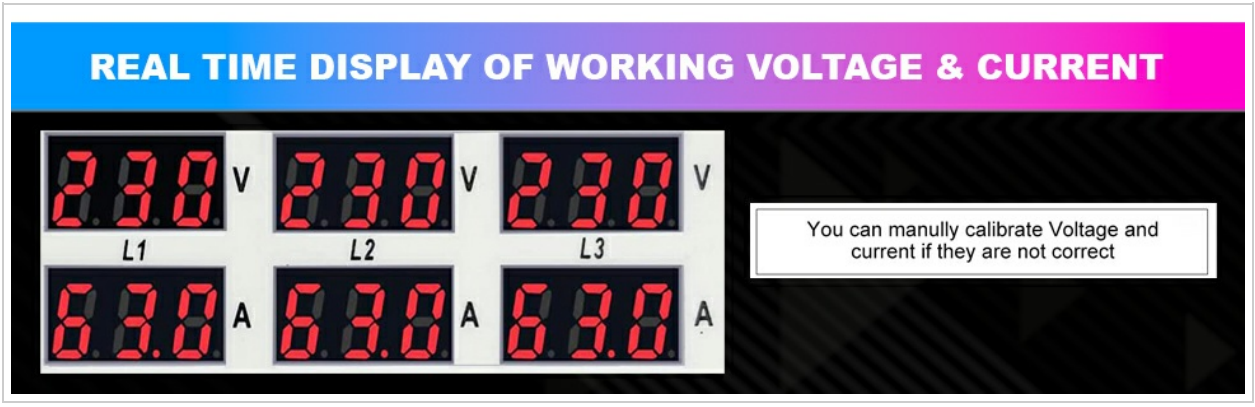

Figure 6: Real-time display of working voltage and current for each phase (L1, L2, L3). The device allows for manual calibration of voltage and current if readings are inaccurate.

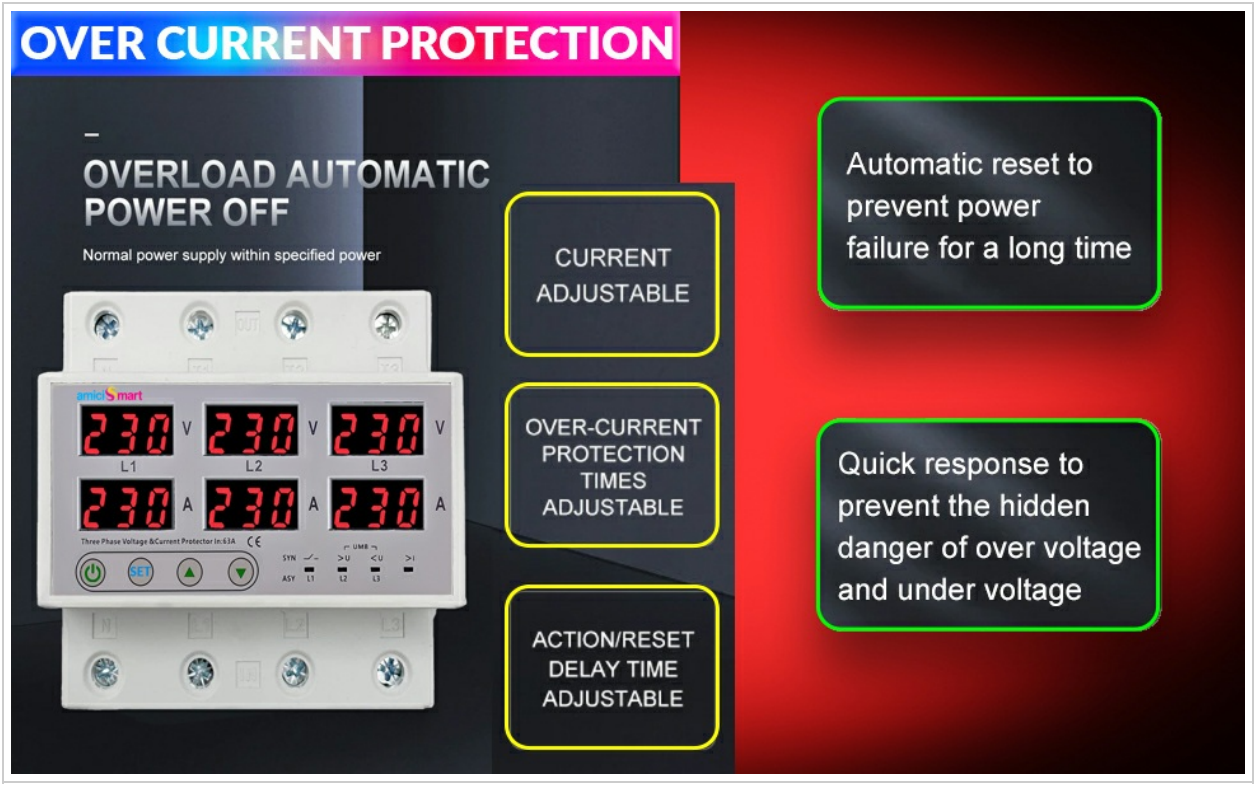

Figure 7: Details on Over Current Protection, including automatic power off for overload, adjustable current settings, adjustable over-current protection times, and adjustable action/reset delay time. It also highlights quick response to prevent hidden dangers of over and under voltage.

6. Maintenance

The amiciSmart Voltage Protector is designed for minimal maintenance. Follow these guidelines to ensure its longevity:

- Keep the device clean and free from dust and moisture. Use a dry, soft cloth for cleaning.
- Regularly inspect wiring connections to ensure they are secure and free from corrosion.

- Do not attempt to open or repair the device yourself. Refer to qualified personnel for any servicing needs.
- Ensure adequate ventilation around the device to prevent overheating.

7. Troubleshooting

If you encounter issues with your amiciSmart Voltage Protector, refer to the following common troubleshooting steps:

- **No Display/No Power:** Check the main power supply and all wiring connections. Ensure the device is receiving input voltage.
- **Device Trips Frequently:** Verify that the set protection values (over-voltage, under-voltage, over-current, phase imbalance) are appropriate for your electrical system and load. Check for actual voltage fluctuations or overloads in your system.
- **Output Not Restoring:** Check if the fault condition (e.g., over-voltage, under-voltage) has cleared. Ensure the recovery delay time is not excessively long. If in Asynchronous mode, check if other phases are still active.
- **Inaccurate Readings:** The device allows for manual calibration of voltage and current. Refer to the operating instructions for calibration steps if you suspect inaccurate readings.
- **Phase Loss Indication:** If the device indicates phase loss, check the incoming power lines for continuity and proper connection.

If the problem persists after following these steps, contact customer support.

8. Specifications

Specification	Value
Brand	amiciSmart
Manufacturer	Shenzhen Shengtai E-Trade Co. Ltd
Country of Origin	China
Max Loading Power	63A
Over-voltage Protection Range	230V~300V (Adjustable)
Under-voltage Protection Range	140V~210V (Adjustable)
Over-current Protection Range	0.5A~63A (Adjustable)
Protection Action Time	0.1~30 seconds (Adjustable)
3 Phases Volt Unbalance Protection	5-95V (Adjustable)
Delay Time After Power-on	1~500 seconds (Adjustable)
Recovery Delay Time	1~500 seconds (Adjustable)
Installation	35mm DIN rail
Item Weight	1 kg

Specification	Value
Product Dimensions (LxWxH)	9 x 6.5 x 9 cm
Power Source	AC
Included Components	3-Phase Voltage Protector

Figure 8: Product dimensions showing a height of 9cm, width of 6.6cm, and length of 9.1cm, with a weight of 386g.

9. Warranty and Support

For warranty information and technical support, please refer to the documentation provided with your purchase or contact the seller directly. Ensure you have your purchase details and product model number ready when contacting support.

Seller: amiciKart

Contact: Refer to your purchase invoice or the seller's contact information on the platform where the product was purchased.