AVXANKTG SVP-977

AVXANKTG SVP-977 Adjustable Overvoltage and Undervoltage Protector User Manual

Model: SVP-977

1. Introduction

This manual provides detailed instructions for the installation, operation, and maintenance of the AVXANKTG SVP-977 Adjustable Overvoltage and Undervoltage Protector. This device is designed to safeguard electrical appliances by automatically disconnecting power during abnormal voltage or current conditions and restoring it once conditions normalize. It also functions as a voltmeter, ammeter, and kilowatt-hour meter.

2. Safety Information

- **Electrical Hazard:** Installation and maintenance should only be performed by qualified personnel.
- **Power Disconnection:** Always disconnect power before installing or servicing the device.
- **Proper Wiring:** Ensure correct wiring connections as indicated in the installation section to prevent damage to the device or connected equipment.
- **Operating Environment:** Do not expose the device to moisture, extreme temperatures, or corrosive environments.
- **Load Capacity:** Do not exceed the maximum load current specified for the device (63A for this model).

3. Product Features

- Overvoltage protection
- Undervoltage protection
- Overcurrent protection
- Automatic recovery
- Voltage display (voltage measurement)
- Current display (current measurement)
- KWH display (kilowatt-hour measurement)
- Adjustable protection and recovery values for overvoltage, undervoltage, and overcurrent

- Adjustable action and delay times
- Temporary power reset function
- Error query function
- Loop countdown timer
- Backlight for display visibility

4. Specifications

Parameter	Value
Model	SVP-977
Power Supply	230VAC 50/60Hz
Maximum Load Current	1~63A adjustable (default: 63A)
Overvoltage Protection Value Range	221V~300V (default: 280V)
Overvoltage Recovery Voltage Range	220V~299V (default: 250V)
Overvoltage Protection Action Time	0.1s~10s (default: 0.1s)
Undervoltage Protection Value Range	150V~219V (default: 160V)
Undervoltage Recovery Voltage Range	151V~220V (default: 180V)
Undervoltage Protection Action Time	0.1s~10s (default: 0.1s)
Overcurrent Adjustment Range	1-63A (default: 63A)
Overcurrent Action Time	0.1s~512s (default: 5.0s)
Recovery Delay Time	2s~600s (default: 60s)
Power-on Delay Time	2s~255s (default: 2s)
Power Consumption	<2W
Motor Life	100,000 times
Installation Method	35mm DIN rail
Dimensions (Approx.)	85mm (H) x 35mm (W) x 65mm (D)

5. Setup and Installation

The SVP-977 is designed for 35mm DIN rail installation. Ensure power is disconnected before proceeding with installation.

5.1 Physical Installation

1. Mount the device securely onto a standard 35mm DIN rail in an electrical distribution box or enclosure.
2. Ensure adequate ventilation around the device.

5.2 Wiring Connections

Refer to the diagram below for correct wiring. The device has clearly marked input (IN) and output (OUT) terminals for Neutral (N) and Live (L) connections.

This image displays the AVXANKTG SVP-977 device, showing its front and side views with key dimensions. The front view indicates input (IN) and output (OUT) terminals for Neutral (N) and Live (L) connections, along with an LCD display showing voltage (V), current (A), and kilowatt-hour (KWH) readings. Control buttons (SET, Up, Down) are visible next to the display. The overall dimensions are 85mm height, 35mm width (front view), and 65mm depth, 48mm width, 35mm height (side view).

- Connect the incoming Neutral wire to the 'N IN' terminal.
- Connect the incoming Live wire to the 'L IN' terminal.
- Connect the outgoing Neutral wire to the 'N OUT' terminal.
- Connect the outgoing Live wire to the 'L OUT' terminal.
- Ensure all connections are tight and secure.

5.3 Initial Power-On

After verifying all connections, restore power to the circuit. The device will perform a self-test and display current voltage, current, and KWH readings. The 'POWER' indicator light should illuminate.

6. Operating Instructions

6.1 LCD Display Overview

The LCD displays real-time electrical parameters:

- **Voltage (V):** Current line voltage.
- **Current (A):** Current load current.
- **KWH:** Accumulated kilowatt-hours consumed.
- **Indicators:** 'POWER' (green, device active), '>V FAST' (red, overvoltage trip), '<V SLOW' (red, undervoltage trip), 'A FAST' (red, overcurrent trip).

6.2 Button Functions

- **SET Button:** Press to enter parameter setting mode. Press again to cycle through parameters. Long press to save settings and exit.
- **Up Arrow Button:** Increase the value of the selected parameter.
- **Down Arrow Button:** Decrease the value of the selected parameter.

6.3 Parameter Adjustment

To adjust protection parameters:

1. Press the **SET** button to enter setting mode. The first adjustable parameter will flash.
2. Use the **Up** and **Down** arrow buttons to adjust the value.
3. Press **SET** again to move to the next parameter.
4. Repeat steps 2 and 3 for all desired parameters.
5. Once all adjustments are made, long press the**SET** button (typically 3-5 seconds) to save the settings and exit the setting mode. If no button is pressed for a certain period, the device may automatically exit without saving.

Adjustable Parameters include:

- Overvoltage protection value (default: 280V)
- Overvoltage recovery value (default: 250V)
- Overvoltage protection action time (default: 0.1s)
- Undervoltage protection value (default: 160V)
- Undervoltage recovery value (default: 180V)
- Undervoltage protection action time (default: 0.1s)
- Overcurrent adjustment range (default: 63A)
- Overcurrent action time (default: 5.0s)
- Recovery delay time (default: 60s)
- Power-on delay time (default: 2s)
- Reset mode selection

6.4 Resetting Temporary Power (KWH)

To reset the accumulated KWH reading, navigate to the KWH display mode and follow the specific instructions in the device's display menu, usually involving a long press of a specific button (e.g., SET or Down arrow) while KWH is displayed.

6.5 Querying Errors

The device can store and display recent error codes. To query errors, enter the setting mode or a

dedicated error query mode (refer to on-screen prompts or specific button combinations if available) to view the fault history.

6.6 Loop Countdown Timer

The loop countdown timer function allows for scheduled power cycling. Consult the device's display menu for instructions on setting and activating this feature.

7. Maintenance

- **Cleaning:** Periodically clean the device with a dry, soft cloth. Do not use abrasive cleaners or solvents.
- **Inspection:** Regularly inspect wiring connections for tightness and signs of wear or damage.
- **Environmental Conditions:** Ensure the operating environment remains within specified temperature and humidity ranges.

8. Troubleshooting

Problem	Possible Cause	Solution
Device not powering on	No input power; incorrect wiring.	Check power supply; verify wiring connections (N IN, L IN).
Device trips frequently	Protection parameters set too sensitively; actual voltage/current fluctuations.	Adjust overvoltage/undervoltage/overcurrent protection values to appropriate levels. Monitor line conditions.
Display shows "Err" or error code	Internal fault; specific protection triggered.	Query error code for details. If persistent, contact support.
No output power after protection trip	Recovery delay time not elapsed; fault condition still present.	Wait for recovery delay. Ensure voltage/current is within normal range.

9. Warranty Information

Specific warranty terms and conditions may vary by region and retailer. Please refer to the warranty card included with your product or contact your point of purchase for detailed warranty information. Keep your purchase receipt as proof of purchase.

10. Customer Support

For technical assistance, troubleshooting not covered in this manual, or service inquiries, please contact the seller or manufacturer directly. Refer to your product packaging or purchase documentation for contact details.