TAXNELE TVPS1-63C Adjustable Digital Over/Under Voltage and Over Current Protector

Model: TVPS1-63C | Brand: TAXNELE

. INTRODUCTION

The TAXNELE TVPS1-63C is an advanced adjustable digital protector designed to safeguard electrical appliances and systems from voltage and current anomalies. It provides comprehensive protection against over-voltage, under-voltage, and over-current conditions, featuring automatic recovery and real-time display of voltage and current. This manual provides essential information for the safe installation, operation, and maintenance of your device

2. SAFETY INFORMATION

- Installation and maintenance should only be performed by qualified electricians.
- Ensure power is disconnected before any installation or wiring.
- Do not operate the device if it is damaged or malfunctioning.
- Observe all local electrical codes and regulations.
- This device is designed for indoor use in a dry environment.

3. Product Overview and Features

The TVPS1-63C is a compact, DIN rail-mountable device offering robust protection for your electrical systems. Its key features include:

- **Over-voltage Protection:** Automatically disconnects power when voltage exceeds a set limit.

- **Under-voltage Protection:** Automatically disconnects power when voltage drops below a set limit.
- **Over-current Protection:** Automatically disconnects power when current exceeds a set limit.
- **Automatic Recovery:** Restores power automatically after voltage/current returns to normal range and a set delay.
- **Real-time Display:** Dual digital displays show current voltage and current values.
- **Adjustable Parameters:** User-configurable settings for protection values, recovery delays, and action times.
- **Fault Inquiry:** Ability to query the last fault.
- **Voltage and Current Calibration:** Fine-tune measurements for accuracy.

4. Setup and Installation

4.1 Physical Installation

The TVPS1-63C is designed for DIN rail assembly, making it ideal for household use in 35mm DIN rail mounted electrical panels.

- Mount the device securely onto a standard 35mm DIN rail.
- Ensure adequate ventilation around the device.

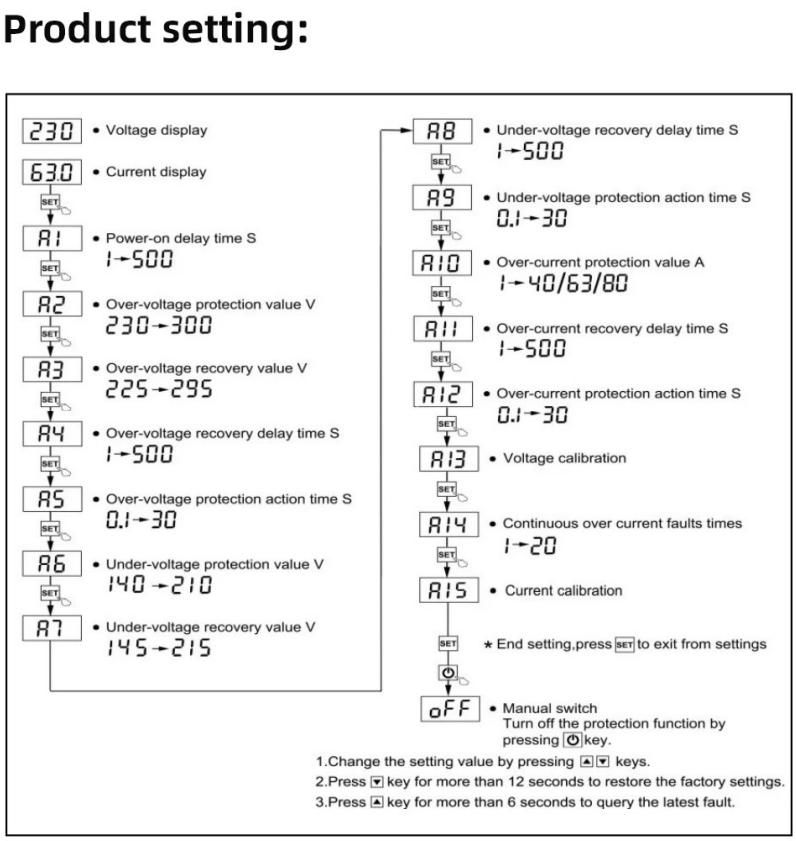
4.2 Wiring Diagram

Connect the device according to the following diagram. Ensure correct polarity (Line 'L' and Neutral 'N') for both input and output terminals. It is recommended to install an AC Leakage Breaker and an Air Circuit Breaker upstream of the Voltage Protector for complete circuit protection.

5. OPERATION

5.1 Button Functions

The device features a power button, a SET button, and UP/DOWN adjustment keys.



- **Power Button (ON/OFF):** Turns the protection function on or off.
- **SET Button:** Enters parameter setting mode.
- **UP/DOWN Keys:** Adjust parameter values.

5.2 Parameter Settings

To adjust parameters, press the SET button. Use the UP/DOWN keys to navigate through parameters (A1-A15) and adjust their values. Press SET again to confirm and exit. The video below demonstrates the parameter adjustment process.

- **A1: Power-on delay time (S)**: 1-500 (default: 10s)
- **A2: Over-voltage protection value (V)**: 230-300 (default: 270V for 230V version, 80-300V default 145V for 110V version)
- **A3: Over-voltage recovery value (V)**: 225-295 (default: 250V for 230V version, 75-295V default 140V for 110V version)
- **A4: Over-voltage recovery delay time (S)**: 1-500 (default: 30s)
- **A5: Over-voltage protection action time (S)**: 0.1-30 (default: 1s)
- **A6: Under-voltage protection value (V)**: 140-210 (default: 170V for 230V version, 80-300V default 90V for 110V version)
- **A7: Under-voltage recovery value (V)**: 145-215 (default: 190V for 230V version, 85-305V default 95V for 110V version)
- **A8: Under-voltage recovery delay time (S)**: 1-500 (default: 30s)
- **A9: Under-voltage protection action time (S)**: 0.1-30 (default: 1s)
- **A10: Over-current protection value (A)**: 40/63/80 (adjustable, default varies by model: 20A for 40A, 40A for 63A, 60A for 80A/100A)
- **A11: Over-current recovery delay time (S)**: 1-500 (default: 30s)
- **A12: Over-current protection action time (S)**: 0.1-30 (default: 1s)
- **A13: Voltage calibration**: Adjusts voltage reading by +/- 10%.
- **A14: Continuous over current faults times**: 1-20
- **A15: Current calibration**: Adjusts current reading by +/- 9/5%.

5.3 Special Functions

- **Restore factory settings:** Press the DOWN button for more than 12 seconds.
- **Fault inquiry:** Press the UP button for more than 12 seconds to query the latest fault.

6. Maintenance

The TVPS1-63C is designed for minimal maintenance. Periodically check the wiring connections to ensure they are secure. Keep the device free from dust and moisture. No user-serviceable parts inside.

7. Troubleshooting

- **Device not powering on:** Check input voltage and wiring connections. Ensure the power button is in the ON position.
- **Device tripping frequently:** Review your set over-voltage, under-voltage, and over-current parameters. They might be set too sensitively for your application. Check for actual voltage/current fluctuations in your system.
- **Incorrect voltage/current readings:** Use the A13 (Voltage Calibration) and A15 (Current Calibration) settings to fine-tune the display.
- **Device not recovering automatically:** Check the recovery delay times (A4, A8, A11) and ensure they are set appropriately.

8. SPECIFICATIONS

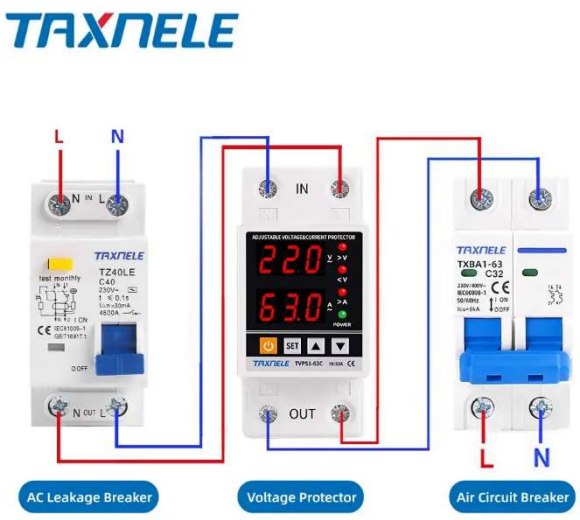
8.1 230V Version (Model: TVPS1-63)

Parameter	Value/Range	Default
Power Supply	230VAC 50/60Hz	-
Max. Loading Power	1~40A / 1~63A / 1~80A Adjustable	20A / 40A / 60A
Over-voltage Protection Value	230V~300V~OFF	270V
Over-voltage Recovery Voltage	225V~295V	250V
Over-voltage Protection Action Time	0.1s~30s	1s
Over-voltage Recovery Delay Time	1s~500s	30s
Under-voltage Protection Value	140V~210V~OFF	170V
Under-voltage Recovery Voltage	145V~215V	190V
Under-voltage Protection Action Time	0.1s~30s	1s
Under-voltage Recovery Delay Time	1s~500s	30s
Over-current Adjustment Range	1-40A / 1-63A / 1-80A	20A / 40A / 60A
Over-current Action Range	0.1~30s	1s
Over-current Recovery Delay Time	1s~500s	30s
Power-on Delay Time	1s~500s	10s
Power Consumption	<2W	-
Electric Machinery Life	100,000 times	-
Installation	35mm DIN rail	-

8.2 110V Version (Model: TVPS1-63C)

Parameter	Value/Range	Default
Power Supply	110VAC 50/60Hz	-
Max. Loading Power	1~63A Adjustable	40A
Over-voltage Protection Value	80V~300V~OFF	145V
Over-voltage Recovery Voltage	75V~295V	140V

Parameter	Value/Range	Default
Over-voltage Protection Action Time	0.1s~30s	1s
Over-voltage Recovery Delay Time	1s~500s	30s
Under-voltage Protection Value	80V~300V~OFF	90V
Under-voltage Recovery Voltage	85V~305V	95V
Under-voltage Protection Action Time	0.1s~30s	1s
Under-voltage Recovery Delay Time	1s~500s	30s
Over-current Adjustment Range	1-63A	40A
Over-current Action Range	0.1~30s	1s
Over-current Recovery Delay Time	1s~500s	30s
Power-on Delay Time	1s~500s	10s
Power Consumption	<2W	-
Electric Machinery Life	100,000 times	-
Installation	35mm DIN rail	-



9. User Tips

- **Voltage Calibration:** The incoming voltage can be manually calibrated using the device's settings (A13) to ensure accurate readings.