

JFUDJKLI TVPS1-63C

JFUDJKLI TVPS1-63C Adjustable Overvoltage, Undervoltage, and Overcurrent Protection Device User Manual

Model: TVPS1-63C (110V 63A)

1. INTRODUCTION

The JFUDJKLI TVPS1-63C is an advanced protection device designed to safeguard electrical circuits and connected equipment from various power anomalies. It features dual digital displays for real-time voltage and current monitoring, along with adjustable settings for overvoltage, undervoltage, and overcurrent protection. This device is suitable for 110VAC 50/60Hz systems and is designed for 35mm DIN rail installation.

2. SAFETY INFORMATION

- **Electrical Hazard:** Installation and maintenance should only be performed by qualified personnel. Ensure power is disconnected before installation or any adjustments.
- **Proper Wiring:** Follow all local electrical codes and wiring diagrams. Incorrect wiring can lead to device malfunction, damage, or electrical shock.
- **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:** Automatically disconnects power when voltage exceeds a set limit.
- **Undervoltage Protection:** Automatically disconnects power when voltage drops below a set limit.
- **Overcurrent Protection:** Automatically disconnects power when current exceeds a set limit.
- **Automatic Recovery:** Restores power automatically after voltage or current returns to normal ranges and delay times expire.
- **Dual Digital Display:** Real-time display of voltage and current.
- **Voltage Calibration:** Adjustable voltage display accuracy ($\pm 10\%$).
- **Current Calibration:** Adjustable current display accuracy ($\pm 9/5\%$).
- **Fault Query:** Allows viewing of recent fault records.

- **Factory Reset:** Option to restore default settings.

4. SPECIFICATIONS

Parameter	Value (110V 63A Model)
Model	TVPS1-63C
Power Supply	110VAC 50/60Hz
Maximum Load Current	1~63A adjustable (Default: 40A)
Overvoltage Protection Range	80V~300V~OFF (Default: 145V)
Overvoltage Recovery Range	75V~295V (Default: 140V)
Overvoltage Action Time	0.1s~30s (Default: 1s)
Overvoltage Recovery Delay	1s~500s (Default: 30s)
Undervoltage Protection Range	140V~210V~OFF (Default: 170V)
Undervoltage Recovery Range	145V~215V (Default: 190V)
Undervoltage Action Time	0.1s~30s (Default: 1s)
Undervoltage Recovery Delay	1s~500s (Default: 30s)
Overcurrent Adjustment Range	1-63A (Default: 40A)
Overcurrent Action Time	0.1s~30s (Default: 1s)
Overcurrent Recovery Delay	1s~500s (Default: 30s)
Power-on Delay Time	1s~500s (Default: 10s)
Motor Life	100,000 times
Installation Method	35mm DIN Rail
Dimensions (Approx.)	35mm (W) x 85mm (H) x 65mm (D)

5. INSTALLATION AND SETUP

5.1 Physical Installation

- The TVPS1-63C device is designed for easy installation on a standard 35mm DIN rail. Ensure the DIN rail is securely mounted within an appropriate electrical enclosure.
1. **Power Disconnection:** Before starting, ensure all power to the circuit is completely disconnected at the main breaker.
 2. **Mounting:** Clip the device onto the 35mm DIN rail. Ensure it is firmly seated.
 3. **Wiring:** Connect the incoming power supply to the 'IN' terminals (Line and Neutral) at the top of the device. Connect the load to the 'OUT' terminals (Line and Neutral) at the bottom of the device. Ensure all connections are tight and secure.

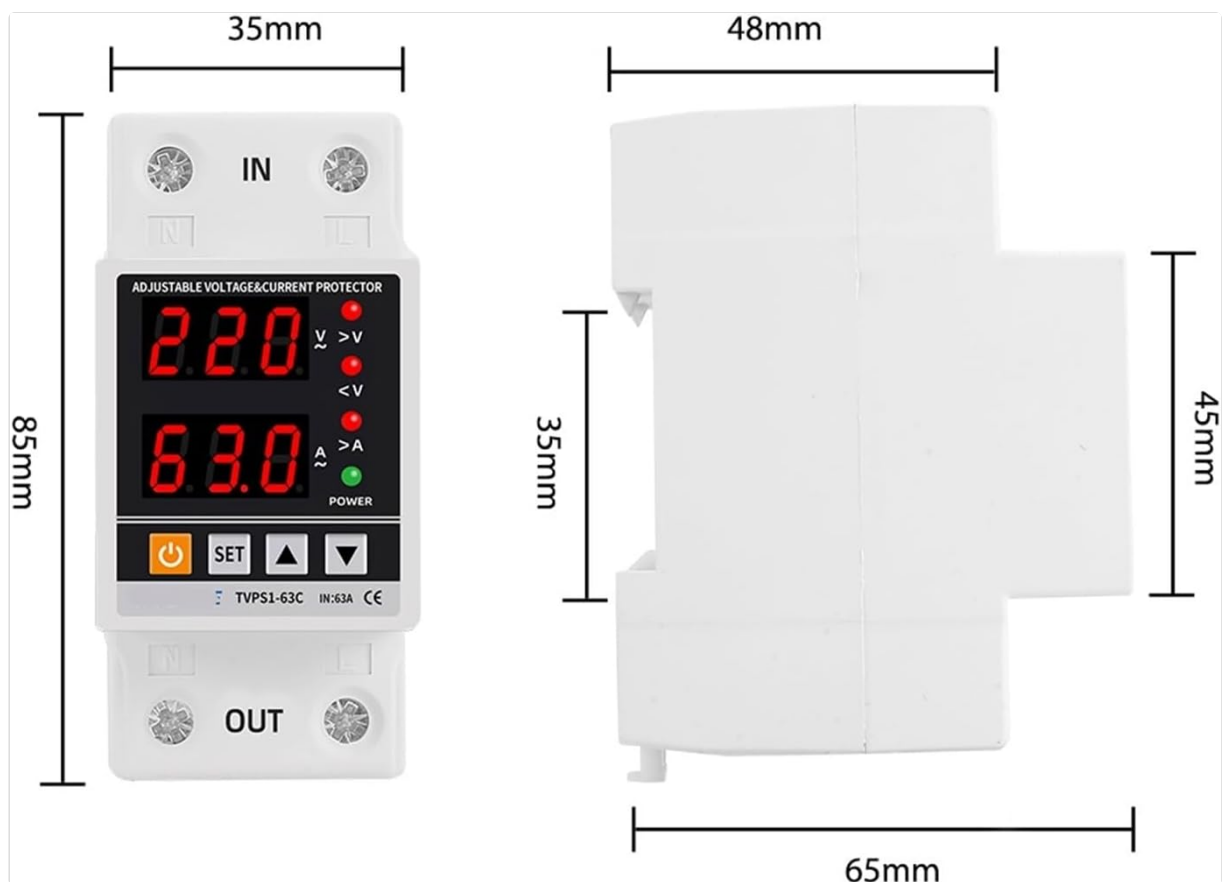


Figure 1: Front and side view of the JFUDJKLI TVPS1-63C protection device with dimensions. The front shows a dual digital display for voltage and current, control buttons (Power, SET, Up, Down), and input/output terminals. The side view shows the DIN rail mounting mechanism. The device measures 35mm in width, 85mm in height, and 65mm in depth. The main body is 48mm wide, and the DIN rail clip adds 45mm to the height.

5.2 Initial Power-On

After wiring, restore power to the circuit. The device will perform a power-on delay (default 10 seconds) before activating the output. During this time, the displays will show the current voltage and current, and the 'POWER' indicator will illuminate.

6. OPERATION

6.1 Display Indicators

- **Top Display:** Shows real-time voltage (V).
- **Bottom Display:** Shows real-time current (A).
- **>V LED:** Illuminates when overvoltage protection is active.
- **<V LED:** Illuminates when undervoltage protection is active.
- **>A LED:** Illuminates when overcurrent protection is active.
- **POWER LED:** Illuminates when the device is powered on and operating normally.

6.2 Power Button

Press the power button () to manually turn the output ON or OFF. This does not affect the device's internal power or monitoring functions.

7. SETTINGS ADJUSTMENT

To enter the setting mode, press and hold the **SET** button for approximately 3 seconds. Use the ▲ (Up) and ▼

(Down) buttons to navigate through parameters and adjust values. Press **SET** again to confirm a value and move to the next parameter. The device will automatically exit setting mode if no buttons are pressed for a period.

7.1 Adjustable Parameters

- **Overvoltage Protection Value:** Set the upper voltage limit (Default: 145V).
- **Overvoltage Recovery Voltage:** Set the voltage at which the device recovers after an overvoltage event (Default: 140V).
- **Overvoltage Protection Action Time:** Set the delay before tripping on overvoltage (Default: 1s).
- **Overvoltage Recovery Delay Time:** Set the delay before re-engaging power after overvoltage recovery (Default: 30s).
- **Undervoltage Protection Value:** Set the lower voltage limit (Default: 170V).
- **Undervoltage Recovery Voltage:** Set the voltage at which the device recovers after an undervoltage event (Default: 190V).
- **Undervoltage Protection Action Time:** Set the delay before tripping on undervoltage (Default: 1s).
- **Undervoltage Recovery Delay Time:** Set the delay before re-engaging power after undervoltage recovery (Default: 30s).
- **Overcurrent Adjustment Range:** Set the maximum current limit (Default: 40A).
- **Overcurrent Action Time:** Set the delay before tripping on overcurrent (Default: 1s).
- **Overcurrent Recovery Delay Time:** Set the delay before re-engaging power after overcurrent recovery (Default: 30s).
- **Power-on Delay Time:** Set the initial delay before output activation upon power restoration (Default: 10s).

7.2 Calibration

- **Voltage Calibration:** Adjust the displayed voltage value by $\pm 10\%$ if necessary to match a known accurate measurement. Refer to the device's internal menu for parameter A13.
- **Current Calibration:** Adjust the displayed current value by $\pm 9/5\%$ if necessary to match a known accurate measurement. Refer to the device's internal menu for parameter A15.

7.3 Restore Factory Settings

To restore all settings to their factory defaults, press and hold the ▼ (Down) key for more than 12 seconds.

8. TROUBLESHOOTING

- **No Display/No Power:** Check the incoming power supply and wiring connections. Ensure the main breaker is ON.
- **Device Trips Frequently:** Review your set protection values (overvoltage, undervoltage, overcurrent). Compare them with your actual line conditions and load requirements. Adjust settings if necessary, or investigate the cause of the power anomaly.
- **Output Not Engaging:** Check if the device is in a protection state (LEDs for >V, <V, or >A illuminated). Wait for the recovery delay to expire, or manually reset if safe to do so. Ensure the power button is ON.
- **Fault Query:** To view recent fault records, press the ▲ (Up) key for more than 12 seconds. This can help identify the type of fault that caused a trip.
- **Inaccurate Readings:** Perform voltage and current calibration as described in Section 7.2.

9. MAINTENANCE

The TVPS1-63C is designed for minimal maintenance. Periodically inspect the device and its connections for any

signs of damage, loose wiring, or overheating. Ensure the ventilation openings are clear of dust and debris. Always disconnect power before performing any inspection or cleaning.

10. WARRANTY AND SUPPORT

For warranty information or technical support, please refer to the product packaging or contact your retailer. Keep your purchase receipt as proof of purchase.

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