

JOYELEC JP3-80VA

JOYELEC AC230V Over/Under Voltage Protector

Model: JP3-80VA

Brand: JOYELEC

1. INTRODUCTION

The JOYELEC AC230V Over/Under Voltage Protector is a multifunctional monitoring and protection device designed for single-phase AC power systems. It integrates overvoltage protection, undervoltage protection, and overcurrent protection. This device monitors critical parameters like voltage and current, providing timely alarms and automatic power cutoff in abnormal situations to prevent damage to connected equipment. It features adjustable settings for overvoltage, undervoltage, overcurrent, and reset time, making it suitable for various industrial and domestic applications. This manual provides essential information for the safe and effective installation, operation, and maintenance of your JOYELEC Voltage Protector. Please read it thoroughly before use and retain it for future reference.

2. KEY 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.
- **Adjustable Parameters:** User-configurable settings for overvoltage, undervoltage, overcurrent, and reset time.
- **Digital Display:** Real-time display of voltage and current.
- **Automatic Reset:** Configurable delay for automatic power restoration after a fault clears.
- **Wide Application:** Suitable for distribution cabinets, control boxes, and power supply systems for various equipment.

Quattro funzioni principali

Valore di interruzione
di sovratensione
130 a 300V regolabile
(270V predefinito)

Valore di interruzione
di sottotensione
80 a 210V regolabile
(170V predefinito)

Valore di interruzione
di sovracorrente
1A a 63A regolabile
(63A predefinito)

Tempo di reimpostazione
1s a 999s regolabile
(5s predefinito)



Figure 2.1: Main Adjustable Functions

This image illustrates the four primary adjustable functions: Overvoltage trip value (130-300V adjustable, 270V default), Undervoltage trip value (80-210V adjustable, 170V default), Overcurrent trip value (1-63A adjustable, 63A default), and Reset time (1-999 seconds adjustable, 5 seconds default).

3. PRODUCT OVERVIEW AND COMPONENTS

Familiarize yourself with the device's layout and indicators:



Figure 3.1: Front Panel Layout

This diagram labels the key components: Live line IN (N, L), Neutral line IN (N, L), Overvoltage indicator light (>V), Undervoltage indicator light (<V), Overcurrent indicator light (>A), Power indicator, Menu setting button ('SET'), Increase button (triangle up), Decrease button (triangle down), ON/OFF button, Electrical voltage display screen, Current display screen, Live line OUT (N, L), and Neutral line OUT (N, L).

4. INSTALLATION AND WIRING

WARNING: Installation must be performed by a qualified electrician in accordance with all local and national electrical codes. Ensure power is disconnected before installation to prevent electric shock.

1. Mount the voltage protector on a standard DIN rail within a distribution cabinet or control box.
2. Connect the incoming Live (L) and Neutral (N) lines from the power source to the 'IN' terminals of the protector.
3. Connect the outgoing Live (L) and Neutral (N) lines from the 'OUT' terminals of the protector to the load (e.g., appliances, electrical circuits).
4. It is recommended to install a circuit breaker (power switch) before the protector and an air switch (miniature circuit breaker) after the protector for additional safety and circuit isolation.

5. Ensure all connections are secure and properly insulated.

Schema di cablaggio

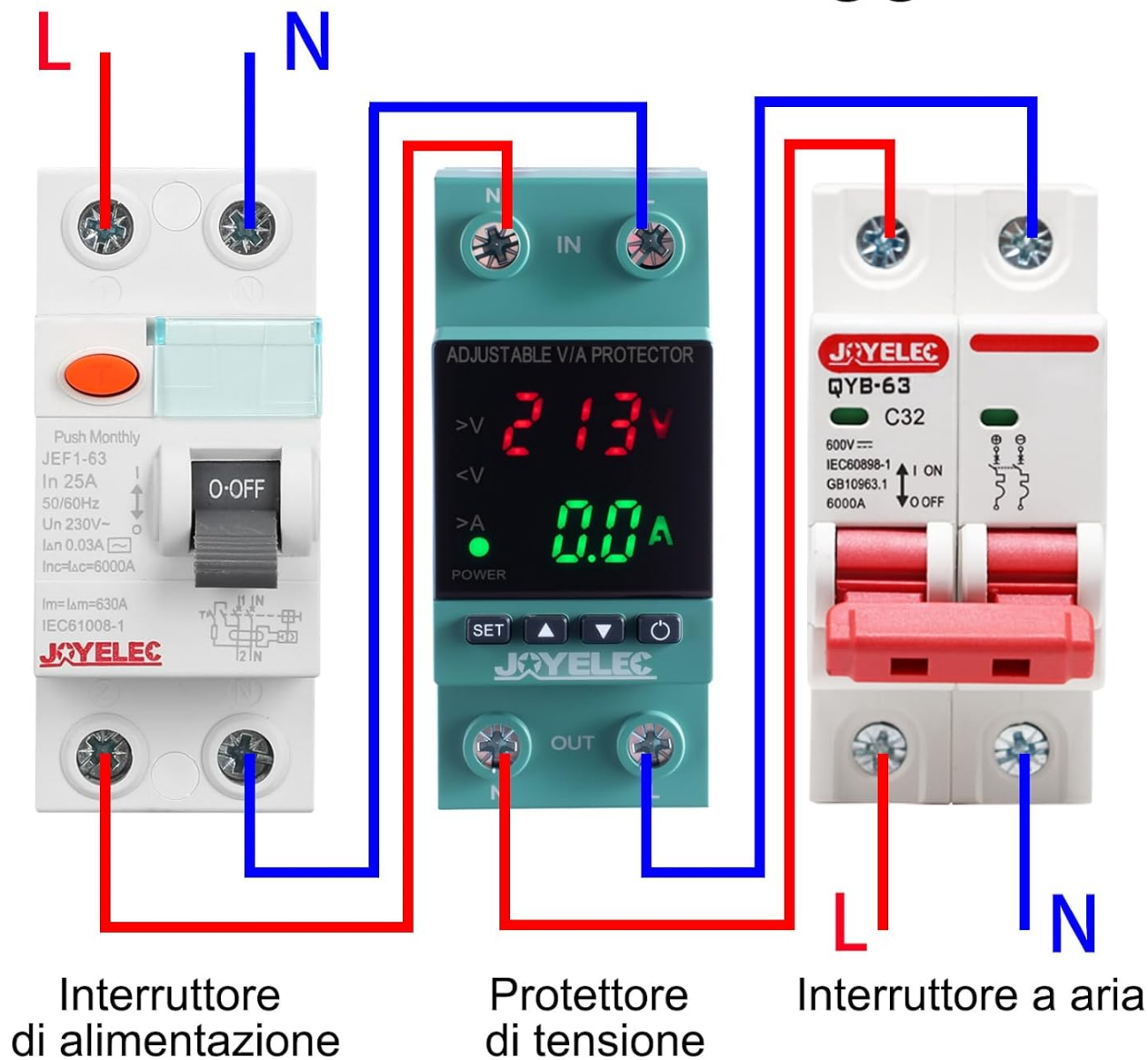


Figure 4.1: Typical Wiring Diagram

This diagram illustrates the connection sequence: Power Switch (Interruttore di alimentazione) → Voltage Protector (Protettore di tensione) → Air Switch (Interruttore a aria). Live (L) and Neutral (N) lines are clearly indicated for input and output connections.

5. OPERATING INSTRUCTIONS AND SETTINGS

After successful installation and power-up, the device will display the current voltage and current. You can adjust the protection parameters using the front panel buttons.

5.1. Parameter Adjustment

1. Press the 'SET' button to enter the parameter setting mode. The first parameter will flash.
2. Use the 'Up' (triangle up) and 'Down' (triangle down) buttons to adjust the value of the flashing parameter.
3. Press 'SET' again to move to the next parameter.

4. Repeat steps 2 and 3 for all parameters: Overvoltage (>U), Undervoltage (<U), Overcurrent (>A), and Reset Time (t).
5. After setting all parameters, press and hold the 'SET' button for a few seconds until the display stops flashing to save the settings and exit the setting mode.

5.2. Default and Adjustable Ranges

- **Overvoltage Trip Value:** Adjustable from 130V to 300V (Default: 270V).
- **Undervoltage Trip Value:** Adjustable from 80V to 210V (Default: 170V).
- **Overcurrent Trip Value:** Adjustable from 1A to 63A (Default: 63A).
- **Reset Time:** Adjustable from 1 second to 999 seconds (Default: 5 seconds).

5.3. Manual ON/OFF

The device can be manually turned ON or OFF using the dedicated ON/OFF button on the front panel.

6. TECHNICAL SPECIFICATIONS

Dati tecnici :	
Tensione di alimentazione nominale	AC 220V
Intervallo di tensione di funzionamento	AC 80V - 300V (monofase)
Frequenza nominale	50/60HZ
Regolazione di corrente elettrica (>A)	1-63A
Regolazione di sovratensione (>U)	130-300V
Sottotensione (<U) regolazione	80-210V
Ritardo di scatto per >U e <U	0.5S
Ritardo di reimpostazione/avvio	1s-999s
Tensione di isolamento nominale	400V
Contatto di uscita	1NO
Vita utile elettrica	10 ⁵
Vita meccanica	10 ⁶
Grado di protezione	Ip20
Grado di inquinazione	3
Altitudine	≤2000m
Temperatura di funzionamento	~50°C-55°C
Umidità	≤50% a 40°C
Temperatura di conservazione	-30°C~70°C
Precisione di misura di tensione	1%

Figure 6.1: Technical Data
 This image presents a table of detailed technical specifications for the device.

Parameter	Value
Nominal Supply Voltage	AC 220V
Operating Voltage Range	AC 80V - 300V (Single Phase)
Nominal Frequency	50/60Hz
Current Regulation (>A)	1-63A
Overvoltage Regulation (>U)	130-300V
Undervoltage (<U) Regulation	80-210V
Trip Delay for >U and <U	0.5s

Parameter	Value
Reset/Start Delay	1s-999s
Nominal Insulation Voltage	400V
Output Contact	1NO (Normally Open)
Electrical Life	10 ⁵ operations
Mechanical Life	10 ⁶ operations
Protection Degree	IP20
Pollution Degree	3
Altitude	≤2000m
Operating Temperature	-50°C ~ 55°C
Storage Temperature	-30°C ~ 70°C
Humidity	≤50% at 40°C
Voltage Measurement Precision	1%
Contact Material	Silver
Mounting Type	Panel Mount, Frame Mount (DIN Rail)
Connector Type	Screw Terminal
Operating Mode	Automatic
Certifications	CE, UL

7. DIMENSIONS

The physical dimensions of the JOYELEC Voltage Protector are provided below for installation planning.

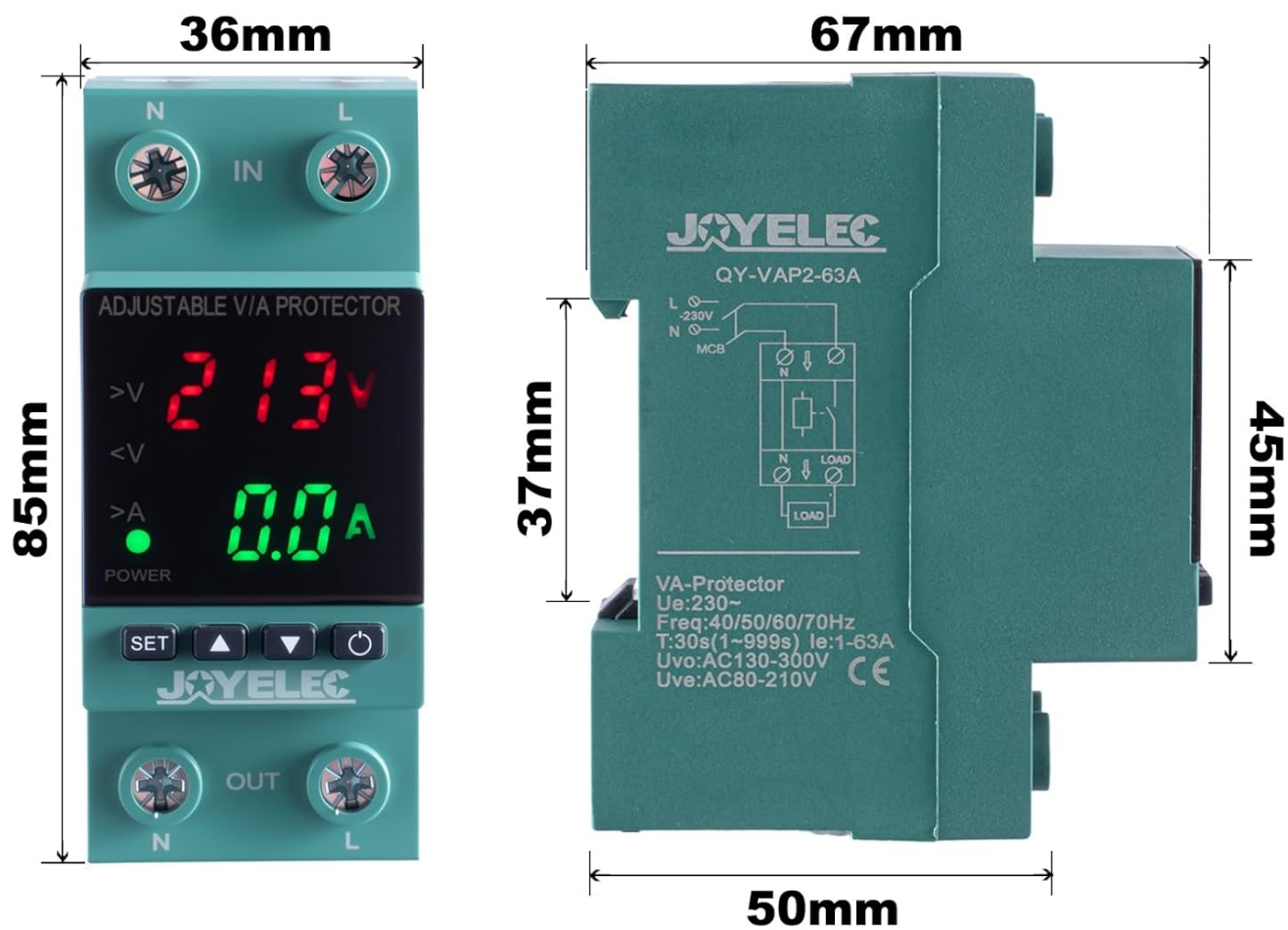


Figure 7.1: Product Dimensions

The diagram indicates the following approximate dimensions: Height: 85mm, Width: 36mm, Depth (including terminals): 67mm, Body Depth: 45mm, Display Section Height: 37mm, Body Width: 50mm.

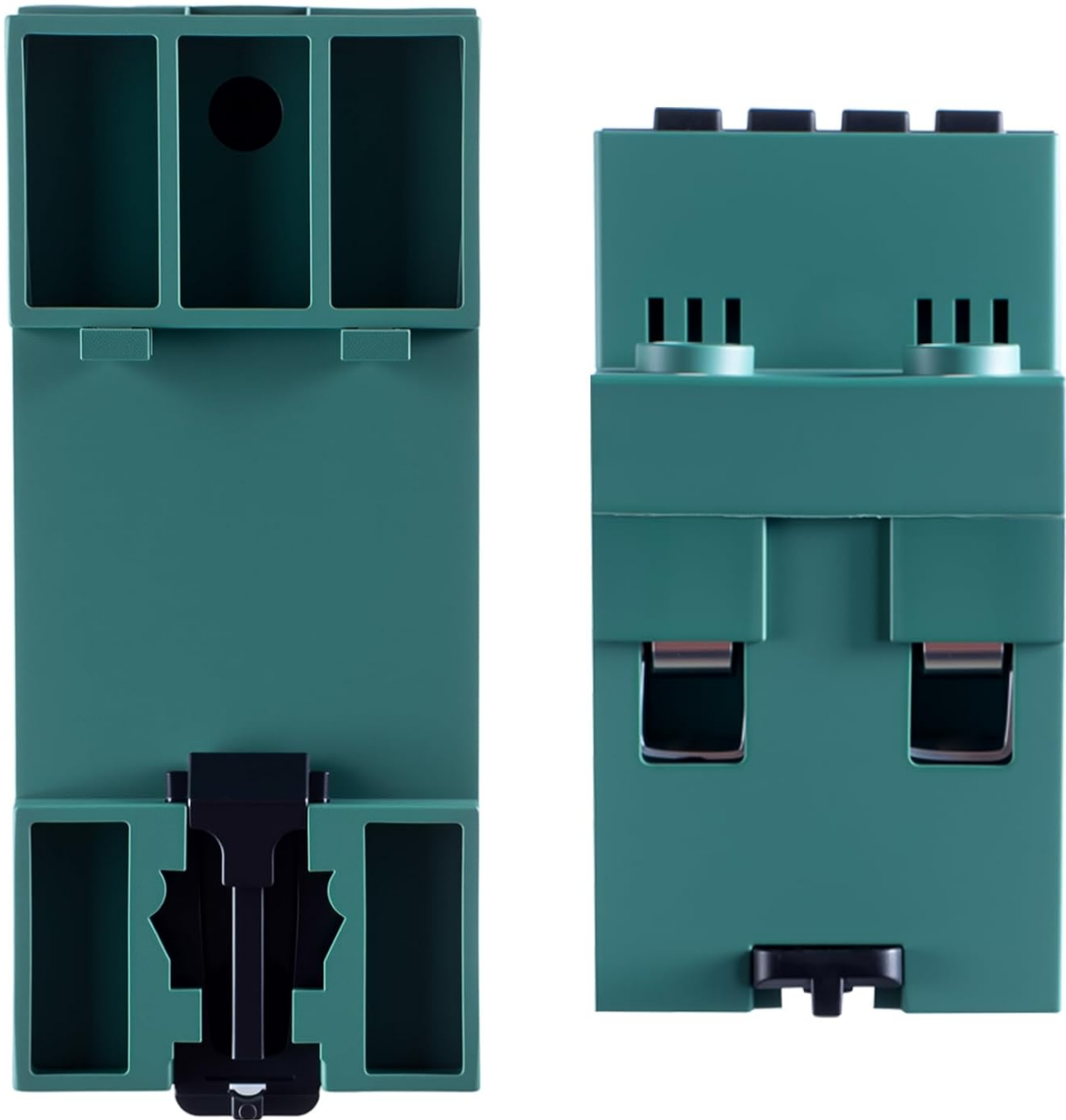


Figure 7.2: Side View

This image shows a side view of the voltage protector, highlighting its compact design and DIN rail mounting clips.

8. MAINTENANCE

The JOYELEC Voltage Protector is designed for minimal maintenance. However, regular checks can ensure its longevity and reliable operation:

- **Visual Inspection:** Periodically inspect the device for any signs of physical damage, loose connections, or discoloration.
- **Cleaning:** If necessary, gently clean the exterior of the device with a dry, soft cloth. Do not use abrasive cleaners or solvents.
- **Connection Check:** Ensure all wiring connections remain tight and secure.
- **Functionality Test:** If possible and safe to do so, periodically test the protection functions by simulating an overvoltage, undervoltage, or overcurrent condition (e.g., using a test power supply) to confirm the device trips as expected.

CAUTION: Always disconnect power before performing any maintenance or inspection to avoid electrical hazards.

9. TROUBLESHOOTING

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

Problem	Possible Cause	Solution
Device does not power on.	No input power; incorrect wiring; internal fault.	Check power supply and circuit breaker. Verify wiring connections. If problem persists, contact support.
Device trips frequently.	Voltage/current fluctuations are common; protection settings are too sensitive.	Monitor power quality. Adjust overvoltage/undervoltage/overcurrent settings to appropriate levels for your application.
Display shows incorrect voltage/current.	Measurement inaccuracy; sensor issue.	Compare reading with a calibrated multimeter. If significantly different, contact support.
Device does not reset automatically.	Reset time setting is too long; fault condition still present.	Check reset time setting. Ensure the voltage/current has returned to normal operating range.

For issues not covered here, please contact JOYELEC customer support.

10. WARRANTY AND SUPPORT

JOYELEC products are manufactured to high-quality standards. This product comes with a standard manufacturer's warranty against defects in materials and workmanship. Please refer to your purchase documentation for specific warranty terms and duration.

For technical support, warranty claims, or service inquiries, please contact your retailer or JOYELEC customer service through the contact information provided with your purchase or on the official JOYELEC website.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question