

Naroote Shanryaaqny1o7tib-11

Naroote Smart Breaker 120V AC Adjustable Voltage Protector (40A)

Model: Shanryaaqny1o7tib-11

1. INTRODUCTION AND OVERVIEW

This manual provides essential information for the safe and effective operation of your Naroote Smart Breaker. This device is designed to protect electrical appliances and systems from damage caused by over-voltage, under-voltage, and over-current conditions in a 120V AC electrical circuit. It features adjustable protection thresholds, customizable delay times, and an automatic reset function.



Figure 1: Naroote Smart Breaker 40A. This image shows the front view of the smart breaker with its digital display and control buttons.

2. SAFETY INFORMATION

Please read all safety instructions carefully before installation and operation. Failure to follow these instructions may result in electric shock, fire, or damage to the device or connected equipment.

- **Professional Installation Recommended:** Installation should be performed by a qualified electrician to ensure compliance with local electrical codes and safety standards.
- **Power Disconnection:** Always disconnect power to the circuit before installing, servicing, or removing the device.
- **Voltage Rating:** Ensure the device's voltage rating (120V AC) matches your electrical system.
- **Current Rating:** Do not exceed the maximum current rating of 40A for this model.
- **Environmental Conditions:** Do not expose the device to moisture, extreme temperatures, or corrosive environments.

The Smart Breaker includes critical safeguards such as over-voltage and under-voltage protection, along with a

real-time voltage display, ensuring reliable and trustworthy usage.

3. PRODUCT FEATURES

The Naroote Smart Breaker offers a range of features designed for comprehensive electrical protection and user convenience:

- **High-Quality Construction:** Engineered with premium materials for durability and reliability.
- **Multi-Functionality:** Includes reset mode selection and fault inquiry capabilities.
- **Customizable Delays:** Adjustable fault recovery and power-on delay times.
- **User-Friendly Adjustments:** Easy modification of under-voltage action time and recovery values.
- **Over-Voltage Protection:** Prevents damage from excessive voltage.
- **Under-Voltage Protection:** Safeguards against low voltage conditions (brownouts).
- **Over-Current Protection:** Prevents damage due to excessive current draw.
- **Automatic Reset (Self-Recovery):** Automatically restores power after a fault condition clears and delay times expire.
- **Voltage Display:** Real-time display of current voltage.
- **Compact Design:** Space-saving form factor for easy installation.



Figure 2: Total Protection. This diagram illustrates the comprehensive protection features of the device, including over-voltage, under-voltage, over-current, and auto-recovery.

Built to Last

Professionally Inspected Quality



Figure 3: Built to Last. This image highlights the professionally inspected quality and robust conductor materials used in the Smart Breaker's construction.

4. SPECIFICATIONS

Specification	Value
Model Number	Shanryaaqny1o7tib-11
Current Rating	40A
Nominal Voltage	120V AC
Over-Voltage Protection Range	Adjustable (e.g., AC130V~150V)
Under-Voltage Protection Range	Adjustable (e.g., AC80V~100V)
Recovery Time	Adjustable (2-512 seconds)

Specification	Value
Item Weight	5.8 ounces
Package Dimensions	3.66 x 2.95 x 1.69 inches
Manufacturer	Naroote



Figure 4: Compact Design. This image displays the physical dimensions of the Smart Breaker, indicating its compact size for installation.

5. SETUP AND INSTALLATION

Proper installation is crucial for the safe and effective operation of the Smart Breaker. It is recommended that installation be performed by a qualified electrician.

5.1 Wiring Connections

1. **Disconnect Power:** Before starting, ensure all power to the circuit is disconnected at the main breaker or fuse

box.

2. **Identify Terminals:** The device has clearly marked 'IN' (Input) and 'OUT' (Output) terminals for Line (L) and Neutral (N) connections.
3. **Connect Input:** Connect the incoming Line (L) and Neutral (N) wires from your power source to the 'IN' terminals.
4. **Connect Output:** Connect the outgoing Line (L) and Neutral (N) wires to your protected load (appliances/circuit) to the 'OUT' terminals.
5. **Secure Connections:** Ensure all wire connections are tight and secure to prevent loose contacts and overheating.

Shield Your Devices Prevents Voltage Damage



Figure 5: Secure Connection. This image demonstrates the proper wiring of the Smart Breaker, highlighting secure input and output connections to protect devices.

5.2 Mounting

The Smart Breaker is designed for DIN rail mounting. Snap the device onto a standard 35mm DIN rail within an appropriate electrical enclosure.

6. OPERATING INSTRUCTIONS

Once installed and powered, the Smart Breaker will display the current voltage on its digital screen.

6.1 Power On/Off

The device automatically powers on when connected to a live circuit. There is no manual on/off switch for the device itself; control is typically managed by the upstream circuit breaker.

6.2 Voltage Display

The digital display continuously shows the real-time voltage of the circuit. If an over-voltage or under-voltage condition occurs, the device will trip and display an error code or indicator, cutting off power to the load.

6.3 Automatic Recovery

After a fault condition (over-voltage or under-voltage) clears, the device will automatically reset and restore power to the load after the configured recovery delay time has elapsed. A visual indicator may show 'RECOVERY' or similar text during this process.

Self-Recovery

Automatic Reset After Fault



Figure 6: Self-Recovery. This image illustrates the automatic monitoring and recovery process of the Smart Breaker after detecting a fault.

7. SETTINGS AND ADJUSTMENTS

The Smart Breaker allows for customization of protection parameters using the 'SET', 'Up' (▲), and 'Down' (▼) buttons.



Figure 7: Customizable Protection. This image shows the device's display and buttons used for adjusting voltage protection settings.

7.1 Entering Settings Mode

Press and hold the **SET** button for a few seconds until the display changes, indicating entry into the settings menu.

7.2 Adjusting Over-Voltage Threshold (Uvo)

1. In settings mode, use the ▲ or ▼ buttons to navigate to the 'Uvo' (Over-Voltage) setting.
2. Press **SET** to select it.
3. Use ▲ or ▼ to adjust the desired over-voltage cutoff value (e.g., 130V to 150V).

4. Press **SET** again to confirm and save the setting.

7.3 Adjusting Under-Voltage Threshold (Uve)

1. Navigate to the 'Uve' (Under-Voltage) setting.
2. Press **SET** to select it.
3. Use ▲ or ▼ to adjust the desired under-voltage cutoff value (e.g., 80V to 100V).
4. Press **SET** again to confirm and save the setting.



Figure 8: Precise Voltage Control. This image highlights the adjustable under-voltage recovery time settings.

7.4 Adjusting Recovery Time (Recovery_time)

1. Navigate to the 'Recovery_time' setting.
2. Press **SET** to select it.
3. Use ▲ or ▼ to set the delay (e.g., 2-512 seconds) before power is restored after a fault clears.
4. Press **SET** again to confirm and save.

Adjustable Timing

52pt, Safety Blue #4169E1

Custom Delay Settings

28pt, Montserrat Regular

Power Word Benefit:

PRECISE & FLEXIBLE

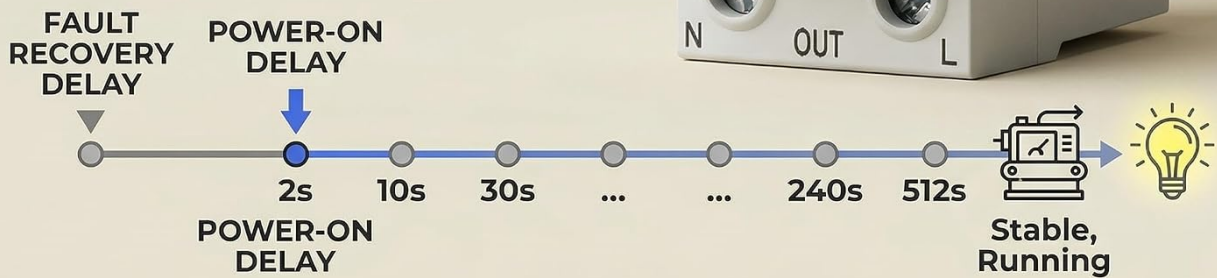


Figure 9: Adjustable Timing. This image illustrates the custom delay settings for fault recovery and power-on, ranging from 2 to 512 seconds.

7.5 Exiting Settings Mode

The device will automatically exit settings mode after a period of inactivity, or you can press and hold **SET** again to return to the main display.

8. MAINTENANCE

The Naroot Smart Breaker is designed for minimal maintenance. Follow these guidelines to ensure optimal performance:

- **Regular Inspection:** Periodically inspect the device and its wiring connections for any signs of damage, loose connections, or discoloration.
- **Cleaning:** Keep the device clean and free from dust and debris. Use a dry, soft cloth for cleaning. Do not use liquid cleaners or solvents.
- **Environmental Protection:** Ensure the electrical enclosure remains sealed to protect the device from

moisture and dust.

9. TROUBLESHOOTING

This section addresses common issues and how to use the device's diagnostic features.

9.1 Fault Inquiry

The device can display recent fault records to assist in troubleshooting.

1. Press the **SET** button briefly (do not hold).
2. The display will cycle through fault codes such as 'OV' (Over-Voltage), 'UV' (Under-Voltage), 'UL' (Lower-Voltage), 'ER' (Low-Voltage), 'RL' (Under-Voltage).
3. Each code indicates a type of fault that has occurred.



Figure 10: Smart Reset Options. This image details the fault inquiry function and the procedure for a factory reset.

9.2 Factory Reset

If you encounter persistent issues or wish to revert all settings to their default values, perform a factory reset.

1. Ensure the device is powered on.
2. Press and hold the **SET** button for approximately 5 seconds until the display indicates a reset (e.g., 'RST' or similar).
3. Release the button. The device will restart with default settings.

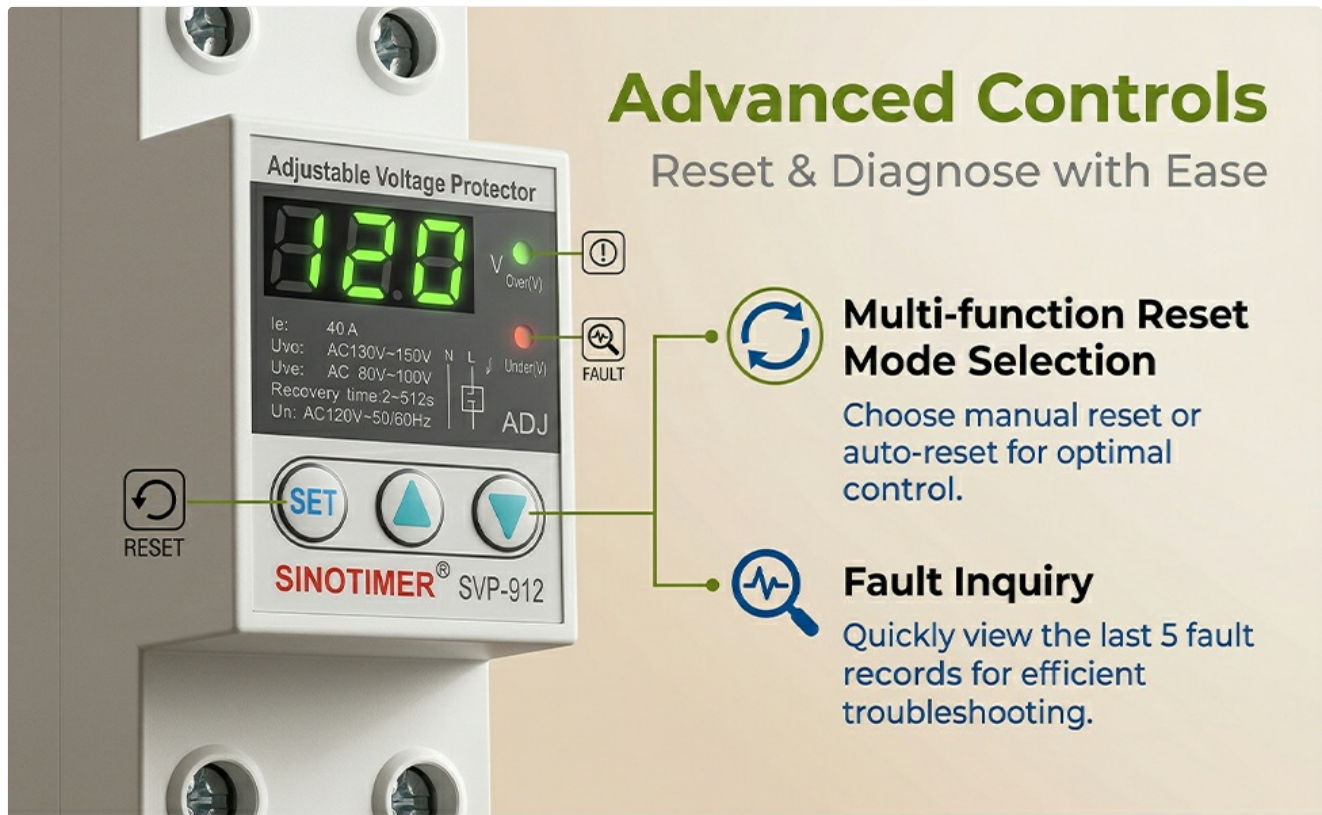


Figure 11: Advanced Controls. This diagram illustrates the multi-function reset mode selection and fault inquiry features for efficient troubleshooting.

9.3 Common Issues

- **Device not powering on:** Check the incoming power supply and ensure connections are secure. Verify the upstream circuit breaker is on.
- **Device trips frequently:** Review your set over-voltage and under-voltage thresholds. They might be too sensitive for your power supply. Check for actual voltage fluctuations in your system.
- **Incorrect voltage display:** While rare, if you suspect the display is inaccurate, verify with a calibrated voltmeter.

10. WARRANTY AND SUPPORT

For warranty information, please refer to the product packaging or contact your retailer. For technical support or further assistance, please reach out to Naroot customer service through the contact information provided with your purchase or on the official Naroot website.