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> ASHATA BEMS5-40A 230V 40A Digital Voltage Protector User Manual

ASHATA BEMS5-40A

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Model: BEMS5-40A | Brand: ASHATA

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of the ASHATA BEMS5-40A Intelligent Digital Voltage Protector. This device is designed to protect electrical equipment from damage caused by overvoltage, undervoltage, and overcurrent conditions in a 230V, 40A electrical system. It features an LCD display for real-time monitoring and adjustable protection parameters.

2. SAFETY INFORMATION

- Electrical Hazard:** Installation and maintenance should only be performed by qualified personnel. Ensure power is disconnected before any wiring or servicing.
- Proper Wiring:** Connect the device according to the wiring diagram provided. Incorrect wiring can lead to malfunction or electrical shock.
- Operating Environment:** Do not expose the device to moisture, extreme temperatures, or corrosive environments.
- Intended Use:** Use the device only for its intended purpose as a voltage and current protector.
- Damage:** Do not operate the device if it appears damaged.

3. PRODUCT FEATURES

- Intelligent Protection:** Automatically cuts off power during overvoltage, undervoltage, or overcurrent conditions.
- Adjustable Parameters:** User-configurable overvoltage, undervoltage, and overcurrent limits.
- Real-time Display:** LCD screen shows current voltage and current values.
- Status Indicators:** Four LED indicators for Power, Overvoltage, Undervoltage, and Overcurrent status.
- Automatic Reset:** Automatically restores power after a set delay (0.5S-5S) once voltage returns to normal.
- Durable Construction:** Shell made of ABS flame retardant material for high strength and impact resistance.
- Easy Installation:** Designed for 35mm standard DIN rail mounting.

4. SPECIFICATIONS

Parameter	Value
Product Model	BEMS5-40A
Working Voltage	230V
Working Frequency	50 / 60Hz
Current Size	40A
Overvoltage Adjustable Range	AC230V-300V
Undervoltage Adjustable Range	AC160V-210V
Overcurrent Adjustable Range	1A-40A (self-setting)
Reset Adjustable Time Range	1 second-90 seconds
Delay Reset Time	0.5S-5S
Self Power Consumption	≤2W
Prompt Method	LCD
Wiring Method	Bottom-in and top-out
Product Dimensions (L x W x H)	Approx. 85 x 65 x 37mm (3.35 x 2.56 x 1.46in)
Item Weight	6.3 ounces

5. PACKAGE CONTENTS

Upon opening the package, please verify that all items are present and undamaged:

- 1 x ASHATA BEMS5-40A Voltage Protector
- 1 x English Instruction Manual (this document)

6. PRODUCT OVERVIEW

The ASHATA BEMS5-40A features a compact design for DIN rail mounting, with a clear LCD display and intuitive controls.



Figure 6.1: Front view of the ASHATA BEMS5-40A Digital Voltage Protector. The device features an LCD screen displaying voltage and current, along with 'SET' and arrow buttons for parameter adjustment. Four LED indicators (Power, Over(V), Under(V), Over Load) are visible.



Figure 6.2: Side view of the ASHATA BEMS5-40A, showing the product label with model information.

6.1. Components

- **LCD Display:** Shows real-time voltage (V) and current (A).
- **SET Button:** Used to enter and confirm parameter settings.
- **Up/Down Arrow Buttons:** Used to navigate menus and adjust parameter values.
- **Power Indicator (LED):** Illuminates when the device is powered on.
- **Over(V) Indicator (LED):** Illuminates when an overvoltage condition is detected.
- **Under(V) Indicator (LED):** Illuminates when an undervoltage condition is detected.

- **Over Load Indicator (LED):** Illuminates when an overcurrent condition is detected.
- **Input Terminals (NI):** For connecting the incoming power line (Neutral and Line).
- **Output Terminals (OUT):** For connecting to the protected load (Neutral and Line).

7. SETUP AND INSTALLATION

The ASHATA BEMS5-40A is designed for 35mm standard DIN rail installation. Ensure all power is OFF before proceeding with installation.

7.1. Mounting

1. Locate a suitable position on a 35mm DIN rail within your electrical panel.
2. Align the device with the DIN rail and press firmly until it clicks into place.



Power indicator, overvoltage indicator,
undervoltage indicator, overcurrent indicator
35MM standard rail installation
Installed side by side with circuit breaker.
Shell made of ABS flame retardant material.

Figure 7.1: The voltage protector mounted on a DIN rail within an electrical distribution board, demonstrating its compatibility with standard electrical installations.

7.2. Wiring

The device uses a 'Bottom-in and top-out' wiring method. Ensure secure connections to prevent loose contacts and

overheating.

1. **Disconnect Power:** Turn off the main power supply to the electrical panel before starting any wiring.
2. **Input Wiring:** Connect the incoming Neutral (N) and Line (L) wires from the power source to the 'NI' (Input) terminals at the bottom of the device.
3. **Output Wiring:** Connect the Neutral (N) and Line (L) wires leading to the protected load to the 'OUT' (Output) terminals at the top of the device.
4. **Verify Connections:** Double-check all wiring for correctness and tightness.



Figure 7.2: A close-up view of the voltage protector integrated into an electrical system, highlighting the wiring connections for input and output.

8. OPERATING INSTRUCTIONS

8.1. Power On and Display

Once correctly wired and power is restored, the device will power on. The LCD display will show the real-time voltage and current. The 'Power' LED indicator will illuminate.

8.2. Setting Protection Parameters

To adjust the overvoltage, undervoltage, overcurrent, and reset delay parameters:

1. Press and hold the **SET** button for approximately 3-5 seconds until the display starts flashing, indicating entry into setting mode.
2. Use the **Up** (▲) and **Down** (▼) arrow buttons to navigate through the different parameters (e.g., Overvoltage, Undervoltage, Overcurrent, Reset Time).
3. When the desired parameter is flashing, use the **Up** (▲) and **Down** (▼) arrow buttons to adjust its value.
4. Press the **SET** button again to confirm the value and move to the next parameter, or to exit setting mode if all parameters have been adjusted.
5. If no button is pressed for a few seconds during setting mode, the device will automatically exit without saving changes.

8.3. Understanding Status Indicators

- **Power LED (Green):** Indicates the device is powered on and operating normally.
- **Over(V) LED (Red):** Illuminates when the input voltage exceeds the set overvoltage limit. The device will cut off power.
- **Under(V) LED (Red):** Illuminates when the input voltage drops below the set undervoltage limit. The device will cut off power.
- **Over Load LED (Red):** Illuminates when the current drawn by the load exceeds the set overcurrent limit. The device will cut off power.

8.4. Automatic Protection and Reset

When an overvoltage, undervoltage, or overcurrent condition occurs, the device will automatically cut off power to the load, and the corresponding indicator LED will light up. Once the electrical parameters return to within the safe operating range, the device will automatically reset and restore power after the configured delay time (0.5S-5S).

9. MAINTENANCE

The ASHATA BEMS5-40A is designed for minimal maintenance. However, periodic checks can ensure optimal performance and longevity.

- **Cleaning:** Gently wipe the exterior of the device with a dry, soft cloth. Do not use abrasive cleaners or solvents. Ensure no liquids enter the device.
- **Connection Check:** Periodically inspect wiring connections to ensure they remain tight and free from corrosion.
- **Environmental Check:** Ensure the operating environment remains within specified conditions (e.g., no excessive dust, moisture, or extreme temperatures).

10. TROUBLESHOOTING

Problem	Possible Cause	Solution
Device not powering on / LCD blank	No input power; Incorrect wiring; Device fault.	Check main power supply. Verify input wiring connections. If power is present and wiring is correct, the device may be faulty; contact support.

Device trips frequently / Power cuts off	Actual overvoltage/undervoltage/overcurrent condition; Protection parameters set too low/high; Faulty load.	Check the actual voltage and current in the system. Adjust protection parameters if they are too sensitive for your application. Inspect the connected load for faults.
Incorrect voltage/current reading on LCD	Measurement error; Device fault.	Compare readings with a calibrated multimeter. If discrepancies persist, contact support.
Device does not reset automatically	Fault condition persists; Reset delay set too long; Device fault.	Ensure the fault condition (over/undervoltage, overcurrent) has cleared. Check the configured reset delay time. If the issue persists, contact support.

11. WARRANTY AND SUPPORT

For warranty information or technical support, please refer to the purchase documentation or contact your retailer. Keep your purchase receipt as proof of purchase. For further assistance, you may also visit the ASHATA store on Amazon:[ASHATA Store](#)

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