WENGART WG-40N

Wengart WG-40N Mini Surge Protection Device

User Manual

1. Introduction

The Wengart WG-40N is a comprehensive surge protection device (SPD) designed to safeguard electrical systems and equipment from lightning strikes and various transient overvoltages. It integrates the functions of a lightning arrester and a surge protector into a single unit, ensuring effective and economical protection for your electrical installations and household appliances.
This device is particularly suitable for environments where both lightning and non-lightning overvoltage protection are required, such as power distribution sides or common household electrical installations. It helps to minimize the risk of damage to sensitive electronic equipment.

2. Safety Information

- Installation must be performed by a qualified electrician in accordance with national and local electrical codes.
- Ensure the main power supply is disconnected before any installation, wiring, or maintenance work.
- Do not operate the device if it appears damaged or if the indicator window shows a fault (red).
- This device is designed for permanent installation within an electrical panel.
- Always ensure proper grounding connections.

3. Product Overview

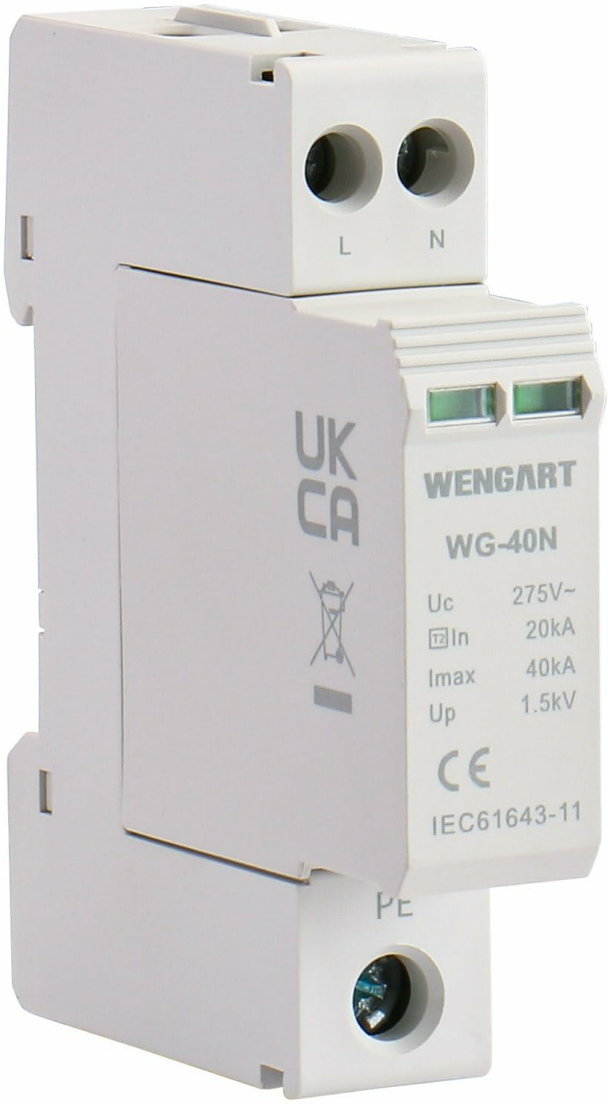

Figure 1: Wengart WG-40N Product Analysis

The Wengart WG-40N features a clear design for easy identification of its components and status:

- **L Input:** Live wire connection terminal.
- **N Input:** Neutral wire connection terminal.
- **Indicator Windows:** Visual status indicators. A **green** window indicates normal working condition. A **red** window indicates a working state failure, requiring module replacement.
- **Rated Voltage (Uc):** 275V AC.
- **Nominal Discharge Current (In):** 20kA (8/20µs).
- **Maximum Discharge Current (Imax):** 40kA (8/20µs).
- **Voltage Protection Level (Up):** 1.5kV.
- **Ground (PE):** Protective Earth connection terminal.

4. Specifications

Parameter	Value

Model Number	WG-40N 2P
Rated Voltage (Uc)	275V AC
Nominal Discharge Current (In)	20kA (8/20μs)
Maximum Discharge Current (Imax)	40kA (8/20μs)
Voltage Protection Level (Up)	1.5kV
Hard Wiring Capacity	10 ~ 25 mm²
Flexible Wiring Capacity	10 ~ 16 mm²
Stripping Length	10 mm
Protection Class	IP20
Operating Temperature	-40 to 70 °C
Material	Polybutylene Terephthalate
Standards Compliance	EN 61643-11, TUV Certified

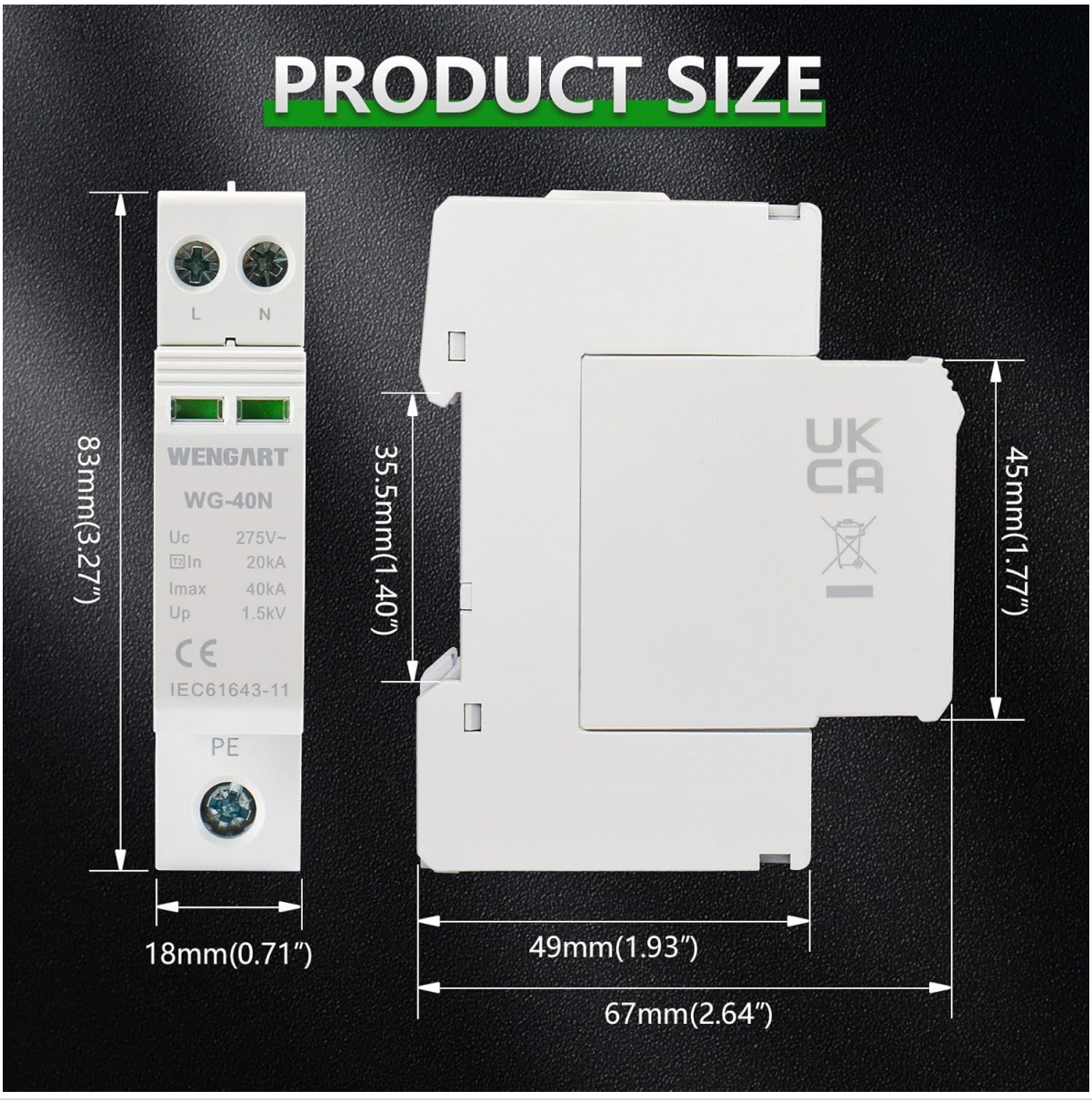

Figure 2: Product Dimensions

Dimensions:

- Height: 83mm (3.27")
- Width: 18mm (0.71")
- Depth (from DIN rail): 35.5mm (1.40")
- Overall Depth: 67mm (2.64")
- Overall Width (including module): 49mm (1.93")

5. Setup and Installation

The Wengart WG-40N is designed for DIN rail installation, making it compatible with standard electrical distribution boxes.

5.1 DIN Rail Mounting

Figure 3: DIN Rail Installation

To install the device, simply clip it onto a standard 35mm DIN rail within your electrical panel. Ensure it is securely fastened.

5.2 Wiring Instructions

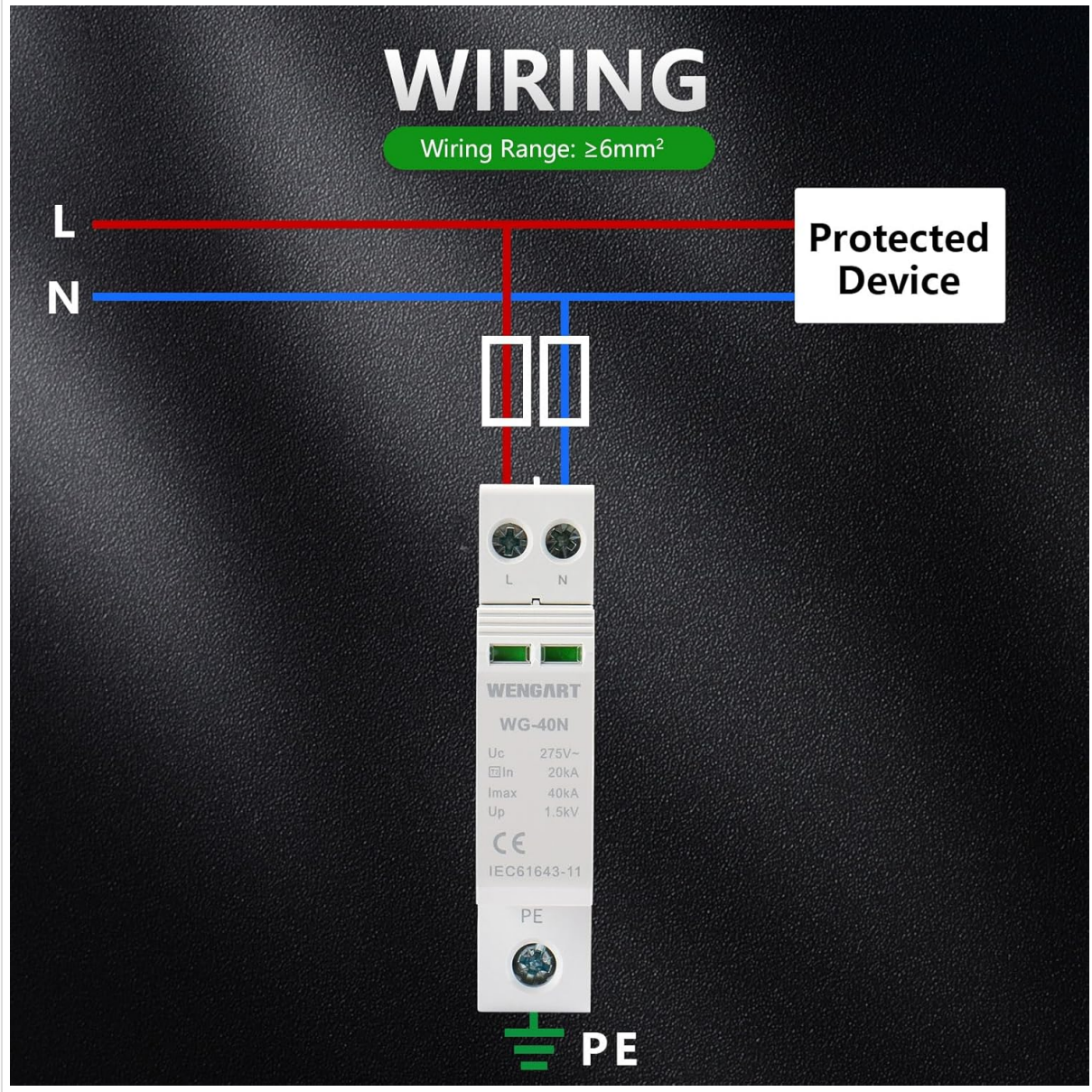

Figure 4: Wiring Diagram

Connect the WG-40N in parallel with the main power supply to the protected circuit. The wiring range should be at least 6mm² to ensure proper current handling.

1. Connect the Live (L) wire from the main power supply to the 'L Input' terminal on the SPD.
2. Connect the Neutral (N) wire from the main power supply to the 'N Input' terminal on the SPD.
3. Connect the Protective Earth (PE) wire to the 'Ground' terminal at the bottom of the SPD.
4. Ensure all connections are tight and secure.
5. The SPD should be installed downstream of the main circuit breaker or fuse for the protected circuit.

6. Operating Instructions

Once installed and wired correctly, the Wengart WG-40N operates automatically to protect your electrical system.

6.1 Status Indicators

- **Green Window:** Indicates that the surge protection module is functioning normally and providing protection.

- **Red Window:** Indicates that the surge protection module has absorbed an overvoltage event and is no longer functional. The module requires replacement.

6.2 Real-Time Protection

Figure 5: Real-Time Protection

The device continuously monitors the electrical system for transient overvoltages. Upon detection, it diverts the excess current safely to the ground, protecting connected equipment. This ensures electrical safety even during thunderstorms.

7. Maintenance

The Wengart WG-40N is designed for minimal maintenance, primarily focusing on the replacement of its protection module.

7.1 Module Replacement

Figure 6: Replaceable Module

When the indicator window turns **red**, it signifies that the internal protection module has reached its end of life due to absorbing a significant surge. To restore full protection, the module must be replaced.

1. **Disconnect Power:** Ensure the main power supply to the SPD circuit is completely disconnected before attempting replacement.
2. **Remove Old Module:** Gently pull the faulty module upwards and outwards from its housing. It is designed to be easily detachable.
3. **Insert New Module:** Align the new replacement module with the slot and push it firmly into place until it clicks.
4. **Restore Power:** Reconnect the main power supply. The indicator window on the new module should display **green**.

8. Troubleshooting

- **Indicator Window is Red:** This indicates the protection module has failed and needs to be replaced. Follow the module replacement instructions in Section 7.1.
- **No Power to Protected Devices:** Check the main circuit breaker or fuse for the protected circuit. Ensure all wiring connections to the SPD are secure. If the issue persists, consult a qualified

electrician.

- **Frequent Module Failure:** If modules fail frequently, it may indicate a persistent overvoltage issue or inadequate grounding. Consult a qualified electrician to assess your electrical system.

9. Product Features

Figure 7: Key Product Features

- **24-Hour Guard:** Provides continuous protection against surges.
- **Quick Response:** Reacts rapidly to transient overvoltages.
- **Fault Indication:** Visual indicator for module status (green for normal, red for fault).
- **Heat Resistant:** Constructed with materials capable of withstanding elevated temperatures.
- **Cold Tolerance:** Operates reliably in low-temperature environments (down to -40°C).
- **Fire Resistance:** Housing made from flame-retardant materials to minimize accident risks.

10. Warranty and Support

Specific warranty information for the Wengart WG-40N is not provided in this manual. For details regarding warranty coverage, terms, and conditions, please refer to the product packaging or contact Wengart

customer support directly.
For technical assistance, troubleshooting beyond the scope of this manual, or to inquire about replacement modules, please contact Wengart customer service through their official channels.