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ICM Controls ICM517

ICM Controls ICM517 Single Phase Surge Protector User Manual

Model: ICM517

1. Introduction

This manual provides essential instructions for the safe installation, operation, and maintenance of the ICM Controls ICM517 Single Phase Surge Protector. The ICM517 is designed to protect electrical systems from damaging voltage surges, ensuring the longevity and reliability of connected equipment. It features a durable NEMA Type 3R rated enclosure, making it suitable for both indoor and outdoor applications.

2. Safety Information

WARNING: Installation and servicing of this device must be performed by qualified personnel only. Failure to follow these instructions may result in electrical shock, fire, or property damage.

- Always disconnect power at the main service panel before installing or servicing the surge protector.
- Verify all wiring connections are secure and comply with local electrical codes.
- Do not install this device in hazardous locations unless specifically rated for such use.
- Ensure the surge protector is properly grounded.
- This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. Wash hands after handling.

3. Package Contents

The ICM517 package typically includes:

- ICM Controls ICM517 Single Phase Surge Protector Unit
- Control (internal component)

4. Product Features

- **High Protection:** 100,000 Amp, 1020 Joules of surge protection.
- **Single Phase:** Designed for single phase electrical systems.
- **UL Listed:** UL Listed Type 2 device, ensuring compliance with safety standards.
- **Durable Enclosure:** Metal NEMA Type 3R rated enclosure for indoor/outdoor use, providing protection against rain, sleet, snow, and external ice formation.

- **Easy Installation:** Designed for straightforward installation.
- **Voltage Compatibility:** Suitable for 120/240 VAC systems.

5. Specifications

Feature	Specification
Brand	ICM Controls
Model Number	ICM517
Voltage	120/240 Volts AC
Maximum Current	100,000 A
Surge Protection Rating	1020 Joules
Enclosure Type	NEMA Type 3R (Metal)
Item Dimensions (L x W)	2.16"L x 2.78"W
Item Weight	8.8 ounces
UL Listing	Type 2 Device
Frequency	50/60 Hz

6. Setup and Installation

The ICM517 is designed for easy installation in single-phase electrical systems. It can be installed indoors or outdoors due to its NEMA Type 3R rated enclosure. Always ensure power is disconnected before beginning installation.

1. **Power Disconnection:** Turn off the main circuit breaker at the electrical panel to completely de-energize the circuit where the surge protector will be installed. Verify with a voltage tester.
2. **Mounting Location:** Choose a suitable mounting location near the electrical panel or the equipment to be protected. The NEMA Type 3R enclosure allows for outdoor installation, but ensure it is protected from direct impact.
3. **Mounting the Unit:** Securely mount the ICM517 unit to a stable surface using appropriate fasteners.
4. **Wiring Connections:**
    - Connect the **black wire** to the L1 (Line 1) terminal or circuit breaker.
    - Connect the **white wire** to the Neutral terminal.
    - Connect the **green wire** to the Ground bus bar.
    - For 240V applications, connect the **red wire** to the L2 (Line 2) terminal or circuit breaker. For 120V applications, the red wire may not be used or should be capped off according to local codes.

    Refer to the wiring diagram on the product label for specific connection details.
5. **Circuit Protection:** The unit is suitable for use on a circuit capable of delivering not more than 10,000 RMS symmetrical Amps, 240 Volts max, when protected by a circuit breaker rated 20 to 60 Amps maximum and 120 Volts minimum.
6. **Power Restoration:** Once all connections are secure and verified, restore power at the main circuit breaker.



Figure 1: Front view of the ICM Controls ICM517 Single Phase Surge Protector, displaying the product label with voltage, frequency, VPR, MCOV, In, and SCCR specifications, along with LED indicators.



Figure 2: Side view of the ICM Controls ICM517 Surge Protector, illustrating the pre-wired connections for Line 1 (black), Neutral (white), Ground (green), and Line 2 (red).

7. Operation

Once properly installed and powered, the ICM517 operates automatically to protect your electrical system from voltage surges. It continuously monitors the incoming power lines and diverts excess voltage away from sensitive equipment.
LED Indicators: The unit is equipped with LED indicators (LED 1, LED 2, LED 3) to show its operational status. Refer to the product label for specific meanings of these indicators, typically indicating active protection or fault conditions.

- **LED ON:** Indicates active protection.
- **LED OFF:** May indicate a fault or that the surge protector has sacrificed itself to protect the system. If an LED is off, the unit should be inspected and potentially replaced.

8. Maintenance

The ICM517 is designed for maintenance-free operation. However, periodic visual inspection is recommended.

- **Visual Inspection:** Periodically check the unit for any signs of physical damage, corrosion, or loose connections.
- **LED Status Check:** Regularly observe the LED indicators. If any LED is off, it suggests the unit may have absorbed a significant surge and might require replacement.
- **Cleaning:** If installed outdoors, ensure the enclosure remains free of excessive dirt or debris. Clean with a damp cloth if necessary, ensuring power is off.

9. Troubleshooting

Problem	Possible Cause	Solution
No LEDs are lit	No power to the unit, or the surge protector has failed after a large surge.	Check circuit breaker for the protected circuit. Verify wiring connections. If power is present and wiring is correct, the unit may need replacement.
Equipment still experiences surge damage	Surge protector may be undersized for the surge event, or it has reached its end-of-life.	Check LED indicators. If any are off, replace the unit. Ensure the unit's specifications (100,000A, 1020 Joules) are adequate for the expected surge environment.
Unit is physically damaged	External impact or environmental factors.	Disconnect power immediately. Replace the unit.

10. Warranty and Support

For warranty information or technical support regarding your ICM Controls ICM517 Single Phase Surge Protector, please contact ICM Controls directly. Refer to their official website or product packaging for the most current contact details.
Manufacturer: Icm Controls
Website: www.icmcontrols.com (*Note: This is a general link and may not be the exact support page.*)

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