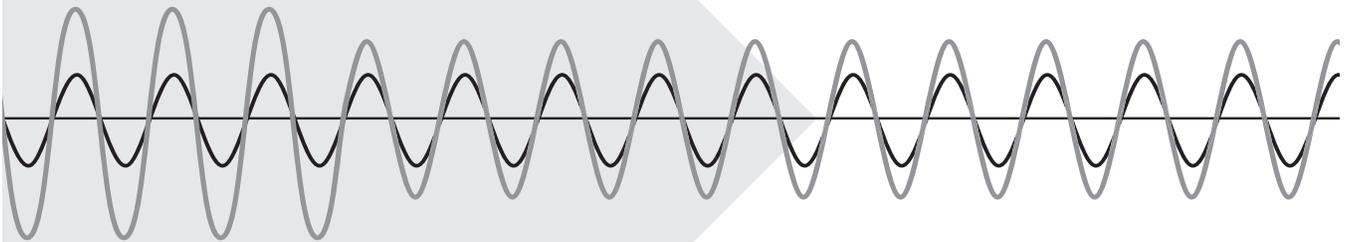


MSU
SURGE
PROTECTION

LoadGuard™

Installation, Operation and Maintenance Manual

PN 750-0071-001 C00



Surge Protective Device
LoadGuard™
MSU

Table of Contents

| | |
|------------------------------------------------|---|
| Guide to Installation and Assistance | 3 |
| Pre-Installation Checklist | 3 |
| Mounting | 4 |
| Electrical Connections | 4 |
| Service Configurations | 5 |
| Dimensional Specifications | 6 |
| Standards and Listings | 6 |
| Warranty Statement | 7 |

Guide to Installation and Assistance

Thank you for choosing the Current Technology® LoadGuard™ MSU Surge Protective Device (SPD). We look forward to fulfilling your facility wide surge protection needs.

Should you have questions about installing the LoadGuard MSU please call Current Technology® Technical Support at 800.238.5000 or 804.236.3300, Monday through Friday, 8:00 a.m. to 5:00 p.m. (EST). Or, email us at currenttechnology@tnbpowersolutions.com

Install the 2 Port LoadGuard™ MSU electrically in series between the AC electrical power source and the load to be protected.



△ W A R N I N G !

HAZARDOUS VOLTAGES PRESENT: The following is intended for qualified electrical personnel only. Completely read these instructions before installation. It is the final responsibility of the installing electrician to ensure that all local codes and other applicable safety/environmental conditions are met and the unit is correctly installed.

△ W A R N I N G !

IMPORTANT SAFETY INSTRUCTIONS: Serious injury or damage may result from installing a product with an improper voltage rating. Contact Current Technology® if voltage ratings are not identical.

Prior to installation, verify that the voltage rating(s) of the intended LoadGuard™ MSU match those of the electrical system or circuit to which the product is to be installed. Verify that the intended load does not exceed 24 RMS amperes.

| LOADGUARD MSU MODEL NUMBER | NOMINAL VOLTAGE (L-N) |
|----------------------------|---------------------------|
| MSU50-120-1G-24A-3 | 120 |
| MSU50-220-1G-24A-3 | 220 |
| MSU50-277-1G-24A-3 | 277 |
| LOADGUARD MSU MODEL NUMBER | NOMINAL VOLTAGE (L-N/L-L) |
| MSU50-120/240-2G-24A-6 | 120/240 |
| MSU50-220/380-2G-24A-6 | 220/380 |
| MSU50-277/480-2G-24A-6 | 277/480 |

The Two-Port LoadGuard™ MSU series SPD is provided with a Power **ON** indicator. When power is applied to the LoadGuard™ MSU series SPD, the Power **ON** indicator will illuminate. When power is removed from the LoadGuard™ MSU series SPD, the Power **ON** indicator will extinguish.

The LoadGuard™ MSU series is intended to be installed and operated in an ambient environment that does not exceed 104°F (+40°C), and does not contain conductive liquids or combustible dusts, fibers, vapors, or liquids. The environment should also maintain a humidity range of 5% – 95% (non-condensing).

The LoadGuard™ MSU series is intended to be stored in a dry location where the temperature range does not exceed -40°F to +140°F (-40°C to +60°C).

Pre-Installation Checklist

Mounting

1. The LoadGuard™ MSU series is intended to be installed in a control cabinet or similar enclosure with a degree of protection of at least IP20 (NEMA 1). The enclosure shall provide protection against accidental contact by requiring a tool, key or similar device to ensure only Qualified Personnel are allowed access to exposed live (energized) circuits. Metal enclosures shall be adequately bonded (grounded).
2. Remove all power feeding the site of the LoadGuard™ MSU connection.
3. The LoadGuard™ MSU series is designed for installation in or adjacent to electrical or electrically-driven equipment. Adjacent installation requires a sealed enclosure. Care should be taken to ensure exposed terminals do not come in contact with personnel.
4. Within the equipment to be protected, mount the LoadGuard™ MSU securely to the enclosure or other mounting surface using the holes provided in the opposite corners.
5. Using 10 AWG (5MM²) conductors and #8 insulated ring terminals, connect the LoadGuard™ MSU series using the provided #8 (m4) screws. The maximum torque to be applied to the mounting hardware is 16 in-lbs (1.8Nm).

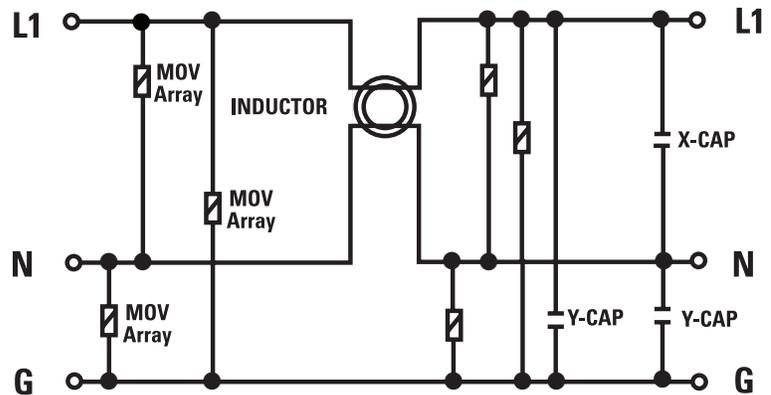
Electrical Connections

1. The LoadGuard™ MSU must be protected via a circuit breaker with a maximum capacity of 30 amps.
2. Determine the location of the AC source supplying power to the load.
3. The LoadGuard™ MSU is to be installed in series between the AC power source and the equipment to be protected.
4. Using the appropriate phase, neutral and ground conductors, connect the incoming power source to the input terminals of the LoadGuard™ MSU.
5. Connect the Line 1 conductor to the L1 terminal of the LoadGuard™ MSU.
6. Connect the Neutral conductor to the N terminal of the LoadGuard™ MSU.
7. Connect the PE (Ground) conductor to the G terminal of the LoadGuard™ MSU.
8. For systems that have a single-phase 3W+G supply and load, connect the Line 2 conductor to the L2 terminal of the LoadGuard™ MSU.
9. Repeat Steps 5 through 8 on the load side of the LoadGuard™ MSU series SPD.
10. For best performance, the SPD should be connected as close as possible to the load. Additionally, load side conductors should not be run in the same conduit, cable tray, or cable trough as the input conductors.

Apply power to the device once proper installation has been completed. An illuminated LED indicates proper operation of the device. See Figures 1 and 2 for LoadGuard™ MSU line diagram. This unit contains no serviceable parts.

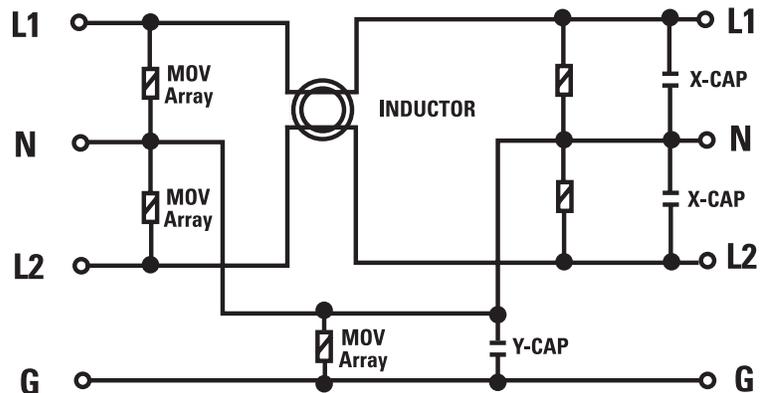
Service Configurations

Figure 1
Single-Phase



Use only the L1 Terminal lug for the phase wires (input & output) when connecting a single-phase configuration.

Figure 2
Split-Phase

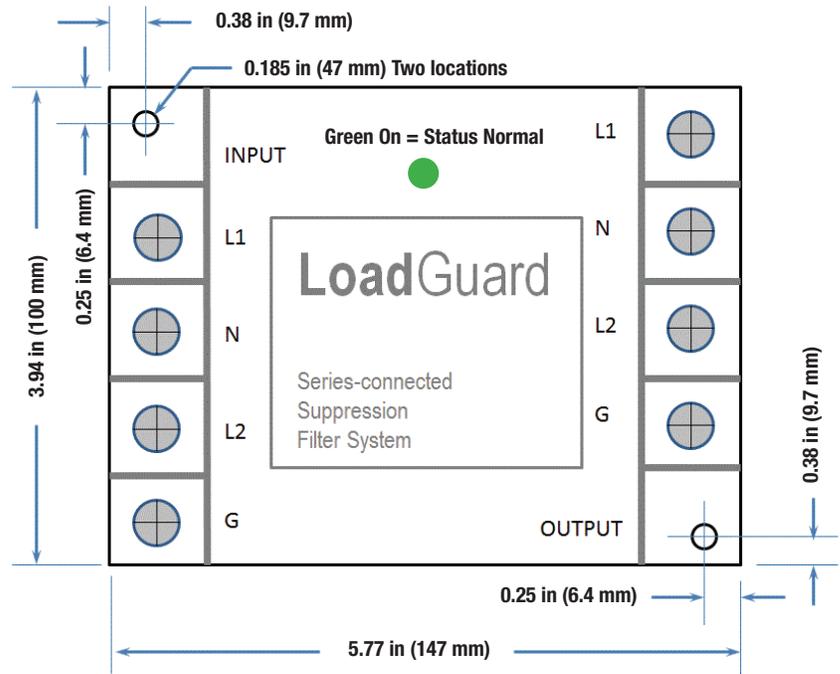


Match the corresponding L1 & L2 terminal lugs for the input & output phase wires when connecting a split-phase configuration.

Dimensional Specifications



Figure 3



Standards and Listings

- Listed to UL 1449 3rd Edition (2009 Revision), Type 4 for Type 2 SPD applications, cUL, and UL 1283
- Compliant to IEEE C62.41.1-2002, C62.41.2-2002 and C62.45-2002
- NFPA 70 [NEC], Article 28
- RoHS Compliant
- CE, IEC 61643-11-2011
- EMC Directive 2004/108/EC
- Low Voltage Directive 2006/95/EC

5 Year Limited Warranty

Thomas & Betts Power Solutions warrants that LoadGuard MSU surge protective device (the “Product”), shall meet applicable industry standards and specifications and be free from defects in materials and/or workmanship. Should any failure of the Product to conform to this warranty appear within the warranty period, Thomas & Betts Power Solutions shall either repair or replace the defective Product, or part thereof, upon return to Thomas & Betts Power Solutions manufacturing facility in Richmond, Virginia with transportation charges prepaid. The applicable warranty period is outlined below in the warranty period section.

Thomas & Betts Power Solutions shall have no liability under this warranty for any problems or defects directly or indirectly caused by misuse of the Product, alteration of the Product (including removal of any warning labels), accidents, or improper installation, application, operation, or repair of the Product.

THIS WARRANTY REPRESENTS THE ENTIRE WARRANTY OF THOMAS & BETTS POWER SOLUTIONS. ALL OTHER WARRANTIES EXPRESS OR IMPLIED, ORAL OR WRITTEN, INCLUDING, BUT NOT LIMITED TO, THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED.

The liability of Thomas & Betts Power Solutions under this warranty is expressly limited to the replacement or repair of the defective part thereof, at Thomas & Betts Power Solutions’ sole option.

IN NO EVENT SHALL THOMAS & BETTS POWER SOLUTIONS BE LIABLE FOR SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OF ANY KIND OR CHARACTER, NOR SHALL THOMAS & BETTS POWER SOLUTIONS’ LIABILITY EVER EXCEED THE PURCHASE PRICE PAID FOR SUCH DEFECTIVE PRODUCT.

This warranty is not transferable and may only be enforced by the sole purchaser. Claims under this warranty must be submitted to Thomas & Betts Power Solutions within thirty (30) days of discovery of any LoadGuard product defect.

Warranty Period

LoadGuard™ MSU 5 Years from original date of purchase

Model #

Date of Purchase

Date Installed

Installer



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