

MST Series

SURGE PROTECTION DEVICES FOR AC POWER APPLICATIONS

USER MANUAL AND INSTALLATION GUIDE (ALL MODELS)



120 Volt AC	240 Volt AC	277 Volt AC	480 Volt AC
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The MST Series is ETL Listed to UL 1449 for use in Type 1 and Type 2 SPD Locations and installation in accordance with Local and National Electric Codes.

GENERAL

1. Locate a position to mount the SPD that will minimize the length of connecting wires required. SPD's should be located as close as possible to the AC panel or service area as possible. Mount the units using the mounting holes provided on the enclosure.
2. The MST Series of protectors are installed and connected in parallel ("shunt") across the AC supply to be protected. Connecting wires do not carry the supply current, only the short duration currents associated with the suppression of a transient event.
3. Identified or indicated leads/wires must be connected exactly with respect to the AC Power feeding the SPD. Failure to do so may result in damage to the device or pose a danger to personnel.
4. Incorrect installation may significantly impair the performance of the SPD. It is particularly important that all installation procedures and guidelines be followed exactly.
5. Check to ensure that all connections are correct and secure before energizing.
6. Keep this manual in a safe, dry place for future reference.

MOUNTING INFORMATION

NOTE: BEFORE STARTING THE INSTALLATION, MEASURE THE LINE VOLTAGE WITH AN AC VOLTMETER TO ENSURE THE CORRECT DEVICE HAS BEEN SELECTED FOR THE APPLICATION. L-N/G VOLTAGE SHOULD NOT EXCEED THE MAXIMUM CONTINUOUS OPERATING VOLTAGE (MCOV) LISTED ON THE SPD LABEL.

1. When mounting the MST SERIES SPD, use the four mounting holes.
2. Place the SPD as close as possible to the connection point in the electrical enclosure. Keeping the wire length short will increase the performance of the unit.

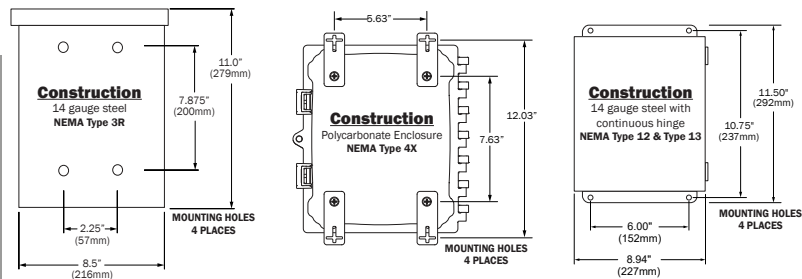
NOTE: Cable penetrations may be made from any side, including the back, to facilitate locating the device. Observe the open area of the backplane inside the enclosure for guidance before creating access holes.

NOTE: The 3R enclosure has internal mounting holes that may be accessed by first removing the module and touch-safe cover. The 3R enclosure must be oriented with the supplied knockouts facing down to allow for proper weather resistance.

WARNING: WORKING IN THE VICINITY OF ENERGIZED GEAR IS HAZARDOUS. OBSERVE ALL SAFETY PROCEDURES APPLICABLE FOR A LIVE METER SOCKET OR ELECTRICAL PANEL.

NOTE: SPLICING WIRES TO GAIN EXTRA LEAD LENGTH IS NOT ADVISABLE AS THE EXTRA LEAD LENGTH WILL DEGRADE THE PERFORMANCE OF THE DEVICE.

Enclosure Diagrams



WARNING

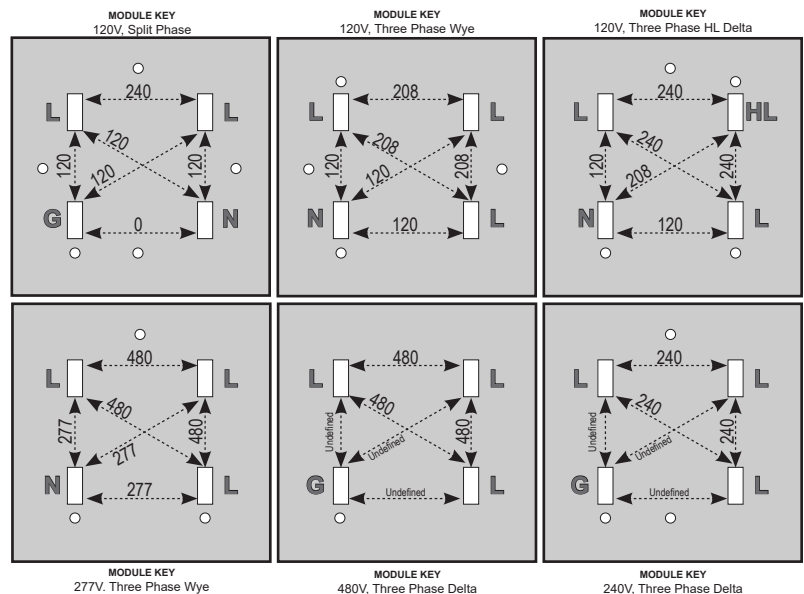
WORKING NEAR EXPOSED LIVE CONDUCTORS IS HAZARDOUS. POWER SHOULD BE SECURED OR APPROPRIATE ELECTRICAL SAFETY EQUIPMENT SHOULD BE USED TO THE GREATEST EXTENT POSSIBLE BEFORE CONNECTING.

Touch-Safe Cover/Key Configurations

INSTALLATION INSTRUCTIONS FOR:

MST/XXX-120-SO-#-XX	Service Entrance, 2W+N/G	120/240V
MST/XXX-120-SP-#-XX	Split Phase, 3 Wire + Gnd	120/240V
MST/XXX-240-2P-0-XX	Single Phase, 2 Wire + Gnd	240V
MST/XXX-120-3W-#-XX	3 Phase Wye, 4 Wire + Gnd	120/208 Y
MST/XXX-120-3H-#-XX	High Leg, 4 Wire + Gnd	120/240 HLD
MST/XXX-240-3D-0-XX	3 Phase Delta, 3 Wire + Gnd	240V D
MST/XXX-220-3W-#-XX	3 Phase Wye, 4 Wire + Gnd	220/320 Star
MST/XXX-230-3W-#-XX	3 Phase Wye, 4 Wire + Gnd	230/400 Star
MST/XXX-240-3W-#-XX	3 Phase Wye, 4 Wire + Gnd	240/415 Star
MST/XXX-277-3W-#-XX	3 Phase Wye, 4 Wire + Gnd	277/480 Y
MST/XXX-480-2P-0-XX	Single Phase, 2 Wire + Gnd	480V
MST/XXX-480-3D-0-XX	3 Phase Delta, 3 Wire + Gnd	480V D

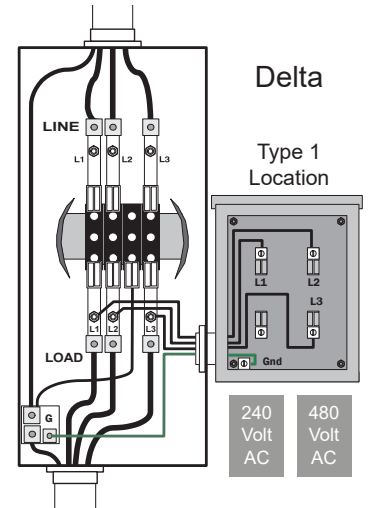
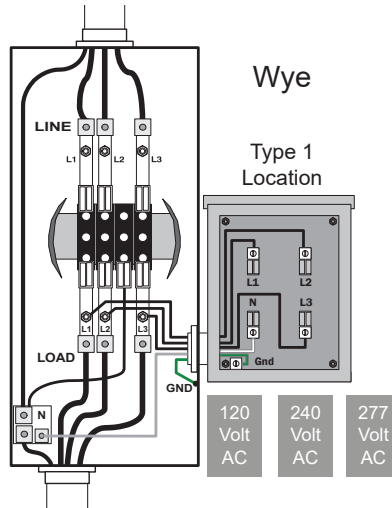
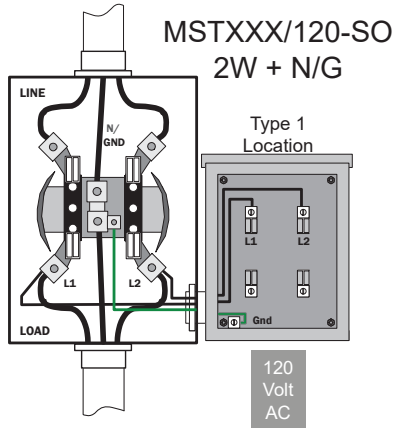
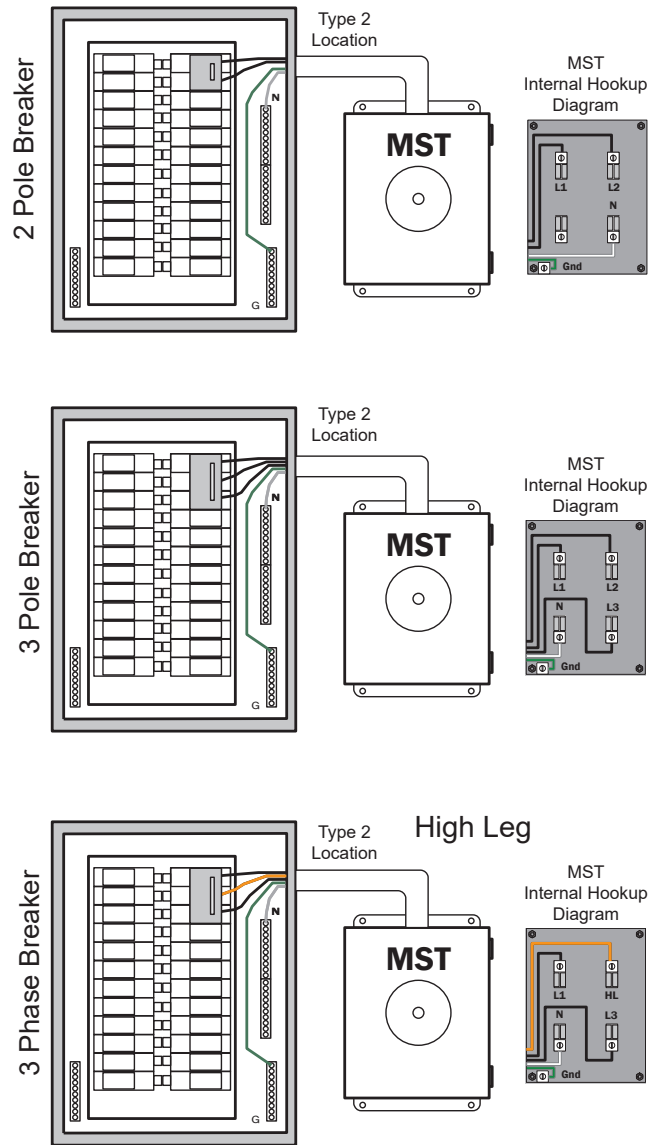
Replace XXX with desired kA Rating. Replace # with F for optional Filtering (50kA models only). Replace XX for NEMA Enclosures 3R, 12 or POL (polycarbonate 4X).



Line, Neutral and Ground are not identified on the touch-safe covers provided with these devices. The key locations vary by service voltage. The keying pins protrude from base of the module and interface with their appropriate touch-safe cover.

Installation Instructions

1. Open the door or cover on the MST enclosure and remove the SPD Protection Module.
2. **If equipped:** Remove the green pigtail wire to completely disconnect the SPD Module.
3. Remove the touch-safe cover by removing the 4 corner fasteners. Be sure to note cover orientation.
4. Mount the device in your predetermined location next to the panel or equipment to be protected.
5. Connect the Ground wire to the lug marked Ground in the MST unit.
6. **If equipped:** Connect the Neutral wire to the lug marked Neutral in the MST unit.
7. Connect the Phase wire(s) to the appropriate terminals in the MST unit.
NOTE: For a High Leg Delta, connect the HIGH 208V leg to the lug marked HIGH LEG.
8. Replace the touch-safe cover (ENSURE CORRECT ORIENTATION) and secure with fasteners.
9. **If equipped:** Connect the green pigtail wire to the SPD Module.
10. Re-insert the SPD Module and close the door or replace cover.
11. Connect Ground wire to ground buss in the equipment or bond to neutral/ground in the meter can.
12. **If equipped:** Connect Neutral (white) wire to neutral buss in the equipment panel.
13. Connect Phase wire(s) to breaker(s) or load side of meter.
NOTE: For a High Leg Delta, ensure proper connection to High Leg.
14. Restore panel cover(s) and energize. LED should now be illuminated.
NOTE: RED LED IS A FUNCTIONALITY/POWER INDICATOR When all SPD wires are connected properly and power is applied, the unit is operating normally; the red LED indicator will be ON.



WARRANTY INFORMATION

Meter-Treater, Inc. (MTI) warrants all MST Series models to be free from defects, and will at our option repair or replace the product should it fail within fifteen (15) years from the first date of shipment. This warranty is limited to defects in workmanship or materials, and does not cover customer damage, abuse or unauthorized modification. If this product fails or does not perform as warranted, your sole recourse shall be repair or replacement as described above. Under no condition shall MTI be liable for any damages incurred by the use of this product. Damages include, but are not limited to, the following: lost profits, lost savings and incidental or consequential damages arising from the use of or inability to use this product. MTI specifically disclaims all other warranties, expressed or implied, and the installation or use of this product shall be deemed an acceptance of these terms by the user.

WARRANTY RETURNS

All warranty and non-warranty repairs must be returned freight prepaid and insured to MTI. All returns must have a Return Authorization (RA) number on the outside of the shipping container. This number may be obtained from MTI Warranty Department (800) 342-6890. Products returned without an RA number will not be accepted.

UNIT DIAGNOSTICS

PHASE LED INDICATORS: When the SPD is securely connected and operating properly, the RED LED(S) will be illuminated. Replacement of the SPD is required if the RED LED(S) are not illuminated.

MAINTENANCE: Check the status of the LED indicator at intervals not to exceed 2 months. If the Phase Indicators are not illuminated the SPD requires replacement.