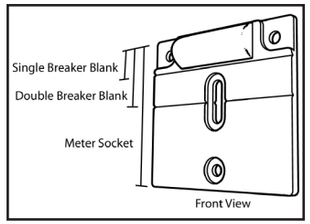
OPI-II Socket Mount Diagnostic Light Kit Installation

Tools Needed:

Power Driver
1/4" Hex Power Drill Bit
Pliers



Kit Includes:
OPI-II Lens
Fiber Cable
Speed Nut
Self-Tapping 1/4 Hex #6 Screws

Step 1: Determine the best mounting location.
The lens should be located on the side of the meter can as close to the bottom as possible. The lens may be broken down into smaller pieces at the score lines, if necessary.

Step 2: Mount Lens
Make 1/4" hole for the light pipe in the desired location. Insert the light pipe into the drilled hole. Push the speed nut on to the light pipe to secure the lens in place. Use pliers to push the speed nut in place for a tight fit.

Step 3: Secure the lens
Secure lens to sockets by using the provided self-tapping screw through the elongated oval opening in the center of the lens.

Step 4: Connect the fiber optic line.
Connect the fiber optic line from the MAP silicon indicator hole to the fiber light pipe on the lens by pushing the fiber line into each of the holes until the fiber line stops.

Step 5. Finish Installation
Make sure that the work area is safe before you apply power to check operation.

MAP Hardwire Installation for 320 Amp Meter Socket

1. Remove .25 slide connectors from black wires. Attach supplied ring terminal to each wire using a crimping tool.

2. Using provided washers and appropriate jam nut, attach ring terminal to exposed threads on connector lug mounting stud. Torque between 75 and 100 inch-pounds.

3. A Neutral/Ground connection can be made in one of two ways:
   A. Attach the neutral to the meter can with self-tapping screw (Figure 2)
   B. Connect the neutral to the existing unused compression lug (Figure 3)

MAP Series Devices are NOT rated for outdoor use and must be installed within an enclosure.


Figure 1

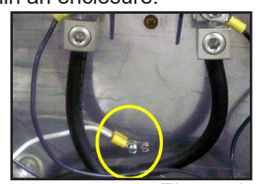


Figure 2

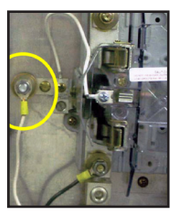


Figure 3

WARRANTY INFORMATION

Meter-Treater, Inc. (MTI) warrants all MAP 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 warranteed, 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.

IF UNIT(S) ARE RECEIVED DAMAGED, NOTIFY THE SHIPPING COMPANY IMMEDIATELY. RETAIN ALL SHIPPING CONTAINERS AND PACKING MATERIALS FOR INSPECTION.

Please Note:
There are no user serviceable parts inside.

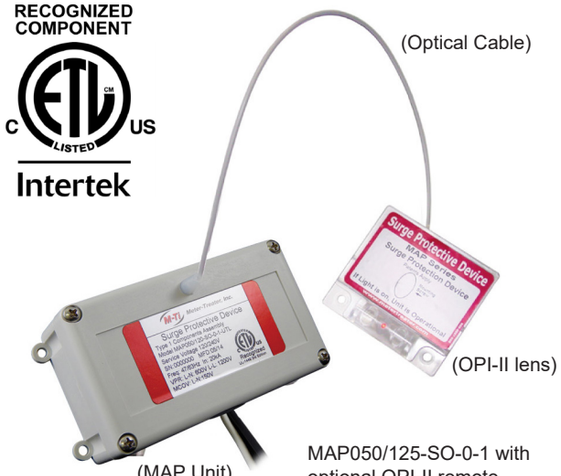
Meter-Treater, Inc.
1349 South Killian Drive • Lake Park, FL 33403
Phone: 561.845.2007 • Fax: 561.848.2372
Email: sales@metertreater.com
Website: www.metertreater.com

MT-MAPINSTALL-2/2022

MAP Series Hardwire Device
(Single & Split Phase)

USER MANUAL AND INSTALLATION GUIDE

RECOGNIZED COMPONENT
C ETL LISTED US
Intertek



MAP050/125-SO-0-1 with optional OPI-II remote fiber monitor shown.

SURGE PROTECTION DEVICES FOR AC POWER APPLICATIONS

120 Volt AC

240 Volt AC

The MAP Series is a Type 1 SPD Component Assembly for use in Type 1 or Type 2 environments. (IEEE Cat C) The MAP Series is built to 1449 Fourth Edition SPD standards.

GENERAL

1. This document provides detailed information on how to install and operate the MAP Series of Surge Protective Devices. (SPD) READ COMPLETE DOCUMENT BEFORE INSTALLING.

2. The MAP Series of SPDs 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.

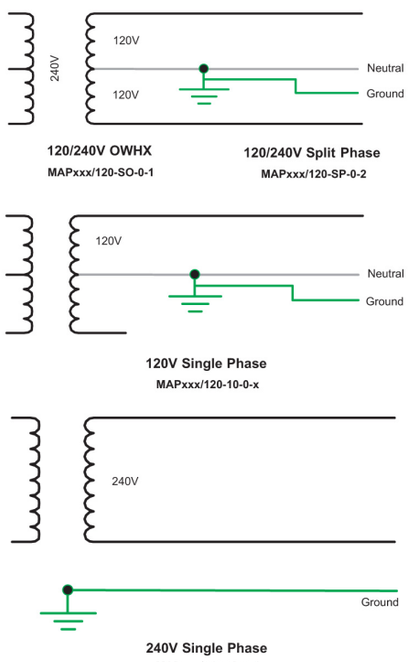
4. Incorrect installation may significantly impair the performance of the SPD. It is particularly important that all installation procedures and guidelines be followed exactly.

5. INSTALLATION OF THIS DEVICE SHOULD ONLY BE PERFORMED BY A QUALIFIED INSTALLER

6. CHECK TO ENSURE THAT ALL CONNECTIONS ARE CORRECT AND SECURE BEFORE ENERGIZING.

7. KEEP THIS MANUAL IN A SAFE, DRY PLACE FOR FUTURE REFERENCE.

Electrical Configurations



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.

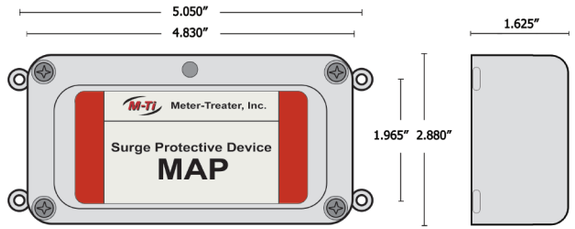
1. When mounting the MAP SERIES SPD, if applicable, use the four mounting holes.

2. Place the SPD as close as possible to the connection point in the NEMA enclosure. Keeping the lead length short will increase the performance of the unit.

NOTE: IF YOU CHOOSE TO MOUNT THE MAP UNIT, OBSERVE ALL SAEFTY 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.

NOTE: MOUNTING TABS ON THE MAP SPD MAY BE REMOVED IF MOUNTING IS NOT NECESSARY.



Construction:
Polycarbonate

Mounting Holes:
4 Places

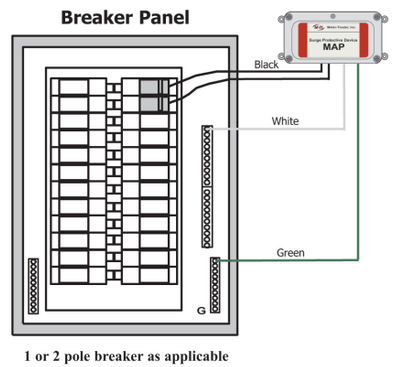
RED LED IS A FUNCTIONALITY/POWER INDICATOR

When all SPD wires are connected properly, and power is applied, the unit is operating normally, the red LED indicator will be ON.

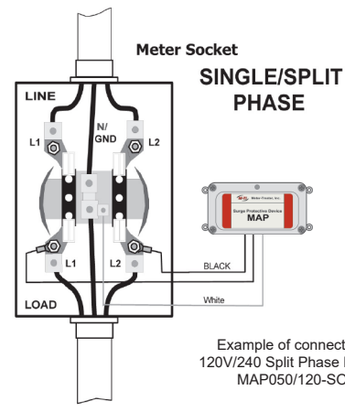
WORKING NEAR EXPOSED LIVE CONDUCTORS IS HAZARDOUS. POWER SHOULD BE SECURED OR APPROPRIATE ELECTRICAL SAFETY EQUIPMENT SHOULD BE USED TO THE GREATEST EXTENT POSSIBLE BEFORE CONNECTING.

120/240VAC, Single Phase 2 Wire + Ground
120/240VAC, Split Phase, 3 Wire + Ground
120VAC Single Phase, 3 Wire + Ground
240VAC Single Phase, 2 Wire + Ground

1. Deenergize as much as possible prior to installation.
2. Locate the mounting position of the SPD as close as possible to the electrical connection point. The SPD may be connected directly to the load side of the meter socket via spare/additional lugs or through a disconnect, fuse or circuit breaker rated not less than 15amps.
3. Prepare any supplementary conduit, enclosures, or other materials for wire routing. Minimize right angles as they will degrade overall SPD performance.
4. Mount the device in your predetermined location inside the panel or equipment to be protected.
5. If present, connect the Green Ground wire to the system ground.
6. Connect the White Neutral wire to the neutral. Where neutral and ground are bonded (service entrance) and the SPD is equipped with a white neutral wire, the white neutral wire from the SPD should be connected to the same point as the ground.
7. Connect the Black Phase wire(s) to each phase.
8. Energize the circuit if applicable. Check that the LED light is on.



1 or 2 pole breaker as applicable



Example of connection to a 120V/240 Split Phase Meter Can MAP050/120-SO-0-1

INSTALLATION INSTRUCTIONS FOR:

MAPXXX/12#-SO	120V/240V Single Phase	2 Wire + Gnd
MAPXXX/12#-10	120V Single Phase	2 Wire + Gnd
MAPXXX/12#-SP	120V/240V Split Phase	2 Wire + Gnd
MAPXXX/240-2P	240V SINGLE PHASE	2 Wire + Gnd

ALL MAP MODELS MUST BE INSTALLED INSIDE AN APPROPRIATE NEMA APPROVED ENCLOSURE.

1. MAP Series products can be directly connected across the load side of the meter can or at the line side of the main breaker. A 30Amp or 60 Amp disconnect may be used for ease of maintenance.

2. MAP Series products may be fed from the line side of a distribution panel or via a 20 Amp or 30 Amp circuit breaker in a distribution panel for ease of maintenance.

3. Optimize device performance by keeping connecting wires as short and as straight as possible. Plan the wiring path(s) prior to commencing any installation procedure. This will assist in keeping the wire lengths and inductance to a minimum.

IF POSSIBLE, SECURE ALL POWER FROM THE PANEL TO WHICH THE DEVICE IS BEING INSTALLED.

If desired, mount the SPD using the two (4) mounting holes provided.

ENSURE ALL CONNECTIONS ARE CORRECT AND SECURE BEFORE ENERGIZING SPD

UNIT DIAGNOSTICS

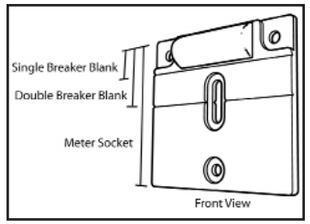
PHASE LED: When the SPD is securely connected and operating properly, the RED LED will be illuminated. Replacement of the SPD is required if the RED LED is not illuminated.

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

OPI-II Socket Mount Diagnostic Light Kit Installation (optional)

Tools Needed:

Power Driver
1/4” Hex Power Drill Bit
Pliers



Kit Includes:
OPI-II Lens
Fiber Cable
Speed Nut
Self-Tapping 1/4 Hex #6 Screws

Step 1: Determine the best mounting location.
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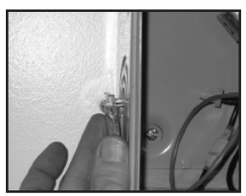
Make 1/4” hole for the light pipe in the desired location. Insert the light pipe into the drilled hole. Push the speed nut on to the light pipe to secure the lens in place. Use pliers to push the speed nut in place for a tight fit.



Step 3: Secure the lens
Secure lens to sockets by using the provided self-tapping screw through the elongated oval opening in the center of the lens.

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Connect the fiber optic line from the MAP silicon indicator hole to the fiber light pipe on the lens by pushing the fiber line into each of the holes until the fiber line stops.

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Make sure that the work area is safe before you apply power to check operation.

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Figure 1

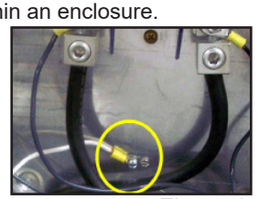
Figure 2

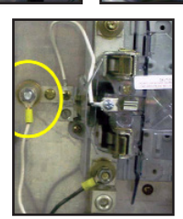
Figure 3

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Please Note:
There are no user serviceable parts inside.

Meter-Treater, Inc.
1349 South Killian Drive • Lake Park, FL 33403
Phone: 561.845.2007 • Fax: 561.848.2372
Email: sales@metertreater.com
Website: www.metertreater.com

MT-MAPTHREEINSTALL-2/2022

MAP Series Hardwire Device
(Three Phase)

USER MANUAL AND INSTALLATION GUIDE

RECOGNIZED COMPONENT
C ETL LISTED US
Intertek

SURGE PROTECTION DEVICES FOR AC POWER APPLICATIONS

120 Volt AC	240 Volt AC	277 Volt AC	480 Volt AC

The MAP is a Type 1 SPD Component Assembly for use in Type 1 or Type 2 environments. (IEEE Cat C) The MAP Series is built to 1449 Fourth Edition SPD standards.

GENERAL

1. This document provides detailed information on how to install and operate the MAP Series of Surge Protective Devices (SPD). READ COMPLETE DOCUMENT BEFORE INSTALLING.

2. The MAP Series of SPDs 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. INSTALLATION OF THIS DEVICE SHOULD ONLY BE PERFORMED BY A QUALIFIED INSTALLER

6. CHECK TO ENSURE THAT ALL CONNECTIONS ARE CORRECT AND SECURE BEFORE ENERGIZING.

7. KEEP THIS MANUAL IN A SAFE, DRY PLACE FOR FUTURE REFERENCE.

MAPXXX/125-3W	3 Phase Wye	4 Wire + Gnd
MAPXXX/220-3W	3 Phase Wye	4 Wire + Gnd
MAPXXX/230-3W	3 Phase Wye,	4 Wire + Gnd
MAPXXX/240-3W	3 Phase Wye,	4 Wire + Gnd
MAPXXX/125-3H	High Leg Delta	4 Wire + Gnd
MAPXXX/240-3D	3 Phase Delta	3 Wire + Gnd
MAPXXX/277-3W	3 Phase Wye	4 Wire + Gnd
MAPXXX/480-3D	3 Phase Delta	3 Wire + Gnd

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IF POSSIBLE, SECURE ALL POWER FROM THE PANEL TO WHICH THE DEVICE IS BEING INSTALLED.

If desired, mount the SPD using the four (4) mounting holes provided.

ENSURE ALL CONNECTIONS ARE CORRECT AND SECURE BEFORE ENERGIZING SPD

UNIT DIAGNOSTICS

RED LED IS A FUNCTIONALITY/POWER INDICATOR

When all wires are connected properly, power is applied, and the unit is operating normally, the red LED indicator will be ON.

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

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

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.

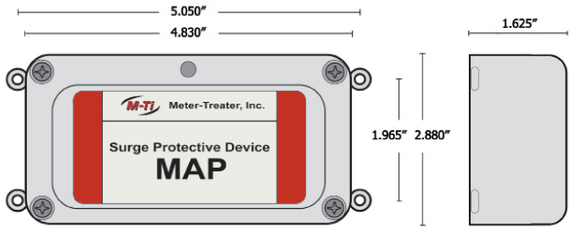
1. When mounting the MAP SERIES SPD, if applicable, use the four mounting holes.

2. Place the SPD as close as possible to the connection point in the NEMA enclosure. Keeping the lead length short will increase the performance of the unit.

NOTE: IF MOUNTING THE MAP UNIT, OBSERVE ALL SAEFTY 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.

NOTE: MOUNTING TABS ON THE MAP SPD MAY BE REMOVED IF MOUNTING IS NOT NECESSARY.



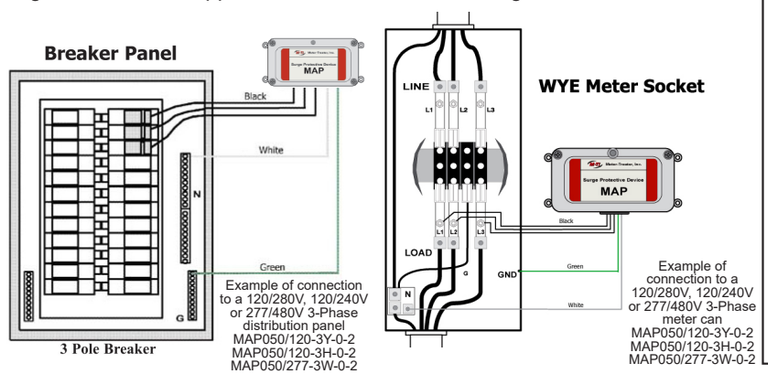
Construction: Polycarbonate

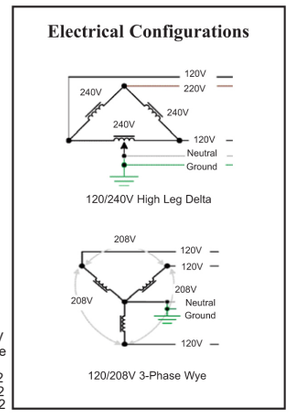
Mounting Holes: 4 Places

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.

120/240VAC, High Leg Delta, 4 Wire + Ground
120/208VAC, Three Phase Wye, 4 Wire + Ground
277/480VAC Three Phase Wye, 4 Wire + Ground

1. Deenergize as much as possible prior to installation.
2. Locate the mounting position of the SPD as close as possible to the electrical connection point. The SPD may be connected directly to the load side of the meter socket via spare/additional lugs or through a disconnect, fuse or circuit breaker rated not less than 20 amps.
3. Prepare any supplementary conduit, enclosures, or other materials for wire routing. Minimize right angles as they will degrade overall SPD performance.
4. Mount the device in your predetermined location inside the panel or equipment to be protected.
5. If present, connect the Green Ground wire to the system ground.
6. Connect the White Neutral wire to the neutral. Where neutral and ground are bonded (service entrance) and the SPD is equipped with a white neutral wire, the white neutral wire from the SPD should be connected to the same point as the ground.
7. Connect the Black Phase wire(s) to each phase.
8. Energize the circuit if applicable. Check that the LED light is on.





240VAC Three Phase Delta 3 Wire + Ground
480VAC Three Phase Delta 3 Wire + Ground

1. Deenergize as much as possible prior to installation.
2. Locate the mounting position of the SPD as close as possible to the electrical connection point. The SPD may be connected directly to the load side of the meter socket via spare/additional lugs or through a disconnect, fuse or circuit breaker rated not less than 20 amps.
3. Prepare any supplementary conduit, enclosures, or other materials for wire routing. Minimize right angles as they will degrade overall SPD performance.
4. Mount the device in your predetermined location inside the panel or equipment to be protected.
5. If present, connect the Green Ground wire to the system ground.
6. Connect the Black Phase wire(s) to each phase.
7. Energize the circuit if applicable. Check that the LED light is on.