# RPM Series

## Modular Kit Assembly Commercial & Industrial Surge Protection Devices

**RPM Modules** are Surge Protection Devices capable of providing **heavy-duty surge protection and filtering for industrial and commercial sites** against the harmful effects of transient energies induced on AC power lines.

The RPM's unique construction allows it to deliver **low clamping voltages** while safely handling large surge currents. It can be incorporated into an OEM or VAR protection design and provided the end enclosure is listed it will maintain its Recognized status as a SPD device. One module per phase is required.

**Configured for parallel installation**, units cost nothing to maintain and are **easy to upgrade while in service**. All models have a 100kA rms symmetrical fault current rating. The surge suppression function of the RPM is provided by large diameter MOV and "smart sensing" technology. Each module is capable of providing L-N, L-G and N-G protection modes.

On-board **LED indicators** continuously **monitor the operational status** of each protection mode (5 - 10 VDC Supply Required). Additional safety features include color-coded labels and keyed mounting by voltage application. Filtering & remote monitor options available.

RPM Assembly
(complete)
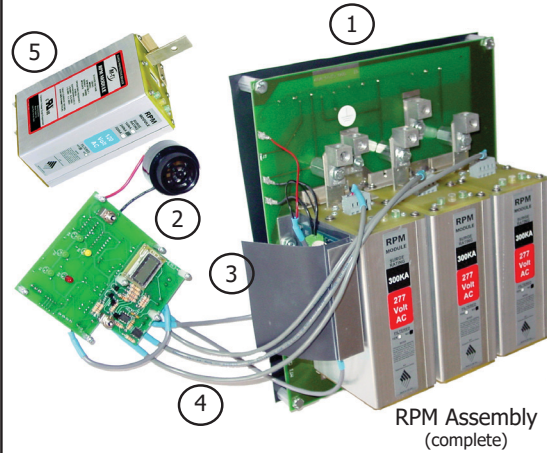
| Product Specifications | |
|---|---|
| Surge Current Ratings | 100, 200, 300kA per phase |
| Short Circuit Rating | 100kA RMS Symmetrical Amps |
| Fusing | Coordinated Surge and Thermal |
| Operating Frequency | 50/60 Hz |
| Operating Temperature | -40° to +140°F (-40° to +60°C) |
| Diagnostics | LED, Surge Counter, Alarm |
| Safety Standards (Type 4 SPD) | UL 1449 (most current) |
| Warranty | 15 Year Product Warranty |

| Dimensions & Weight | |
|---|---|
| **RPM Module:** | 6.582" x 4.256" x 2.784" (2.255 lb) |
| **RPM Assembly:** | 12.25" x 10.25" x 5.487" (9.434 lb) |

**RPM Assembly Parts**
1 - Mounting Board
2 - Front Panel Diagnostics
3 - Power Supply
4 - Cable Assembly
5 - RPM Modules

| RPM Modules | | | VPR | | |
|---|---|---|---|---|---|
| Model Number | Service Voltage | MCOV | L - N | L - G | N - G |
| RPMXXX/120-W-#-1 | 120 Volt, Single Phase | 150 Vac | 600V | 600V | 500V |
| RPMXXX/240-D-0-1 | 240 Volt, Single Phase, Delta | 320 Vac | N/A | 1000V | N/A |
| RPMXXX/220-W-#-1 | 220 Volt, Single Phase | 320 Vac | 1000V | 1000V | 1000V |
| RPMXXX/230-W-#-1 | 230 Volt, Single Phase | 320 Vac | 1000V | 1000V | 1000V |
| RPMXXX/240-W-#-1 | 240 Volt, Single Phase, Wye | 320 Vac | 1000V | 1000V | 1000V |
| RPMXXX/277-W-#-1 | 277 Volt, Single Phase | 320 Vac | 1000V | 1000V | 1000V |
| RPMXXX/480-D-0-1 | 480 Volt, Single Phase | 520 Vac | N/A | 1800V | N/A |
| **RPM Kit Assembly** | | | | | |
| RPMKITXXX/120-10-#-1/ | 120 Volt, Single Phase | 150 Vac | 700V | 700V | 700V |
| RPMKITXXX/120-SP-#-1/ | 120/240 Volt, Split Phase | 150 Vac | 700V | 700V | 700V |
| RPMKITXXX/120-3W-#-1/ | 120/208 Volt, 3 Phase Wye | 150 Vac | 700V | 700V | 700V |
| RPMKITXXX/120-3H-#-1/ | 120/240 Volt, 3 Phase HL Delta | 150/320 Vac | 700/1000V | 700/1000V | 700V |
| RPMKITXXX/240-3D-0-1/ | 240 Volt, 3 Phase Delta | 320 Vac | N/A | 1000V | N/A |
| RPMKITXXX/220-3W-#-1/ | 220/380 Volt, 3 Phase Wye | 320 Vac | 1000V | 1000V | 1000V |
| RPMKITXXX/230-3W-#-1/ | 230/400 Volt, 3 Phase Wye | 320 Vac | 1000V | 1000V | 1000V |
| RPMKITXXX/240-3W-#-1/ | 240/415 Volt, 3 Phase Wye | 320 Vac | 1000V | 1000V | 1000V |
| RPMKITXXX/277-3W-#-1/ | 277/480 Volt, 3 Phase Wye | 320 Vac | 1000V | 1000V | 1000V |
| RPMKITXXX/480-3D-0-1/ | 480 Volt, 3 Phase Delta | 520 Vac | N/A | 1800V | N/A |

**RPM MODULE NOTE:** Replace XXX with desired kA rating, per phase: 100 for 100kA, 200 for 200kA or 300 for 300kA. Replace # with F if filtering is required (WYE Models Only).
**RPM KIT NOTE:** Replace XXX with desired kA rating, per phase: 100 for 100kA, 200 for 200kA or 300 for 300kA. Replace # with F if filtering is required (WYE Models Only). Place an /RM at the end of the part number for the Remote Monitoring option.

All product dimensions provided are ± 0.125

# RPM REMOVAL & REPLACEMENT

1. Make sure the power has been turned off to the MPT unit. Never work on the SPD unit while energized.

2. Disconnect the sensor cable from the RPM module (Ø Side end cap)

3. Remove the 1/4-20 bolts securing the RPM module to the phase and neutral tabs. One bolt at each end of the module. Also remove the compression lug.

4. Remove the (2) #6 screws (1 at each end of the unit) securing the RPM to the back plane PC board.

5. Remove the module from the MPT unit.

6. To mount the replacement module, reverse steps 4,3, and 2. Remember to reinstall the compression lug.

7. Close the MPT door and reconnect power.

Yellow LED
Neutral to ground warning indicator
Normal operations = Off
(Not present on delta configurations)

Green LED's
Protection mode status
(Normal Operation = On)

Sensor cable interface to front panel display

Phase Buss

Keyed (grounded) mounting bracket
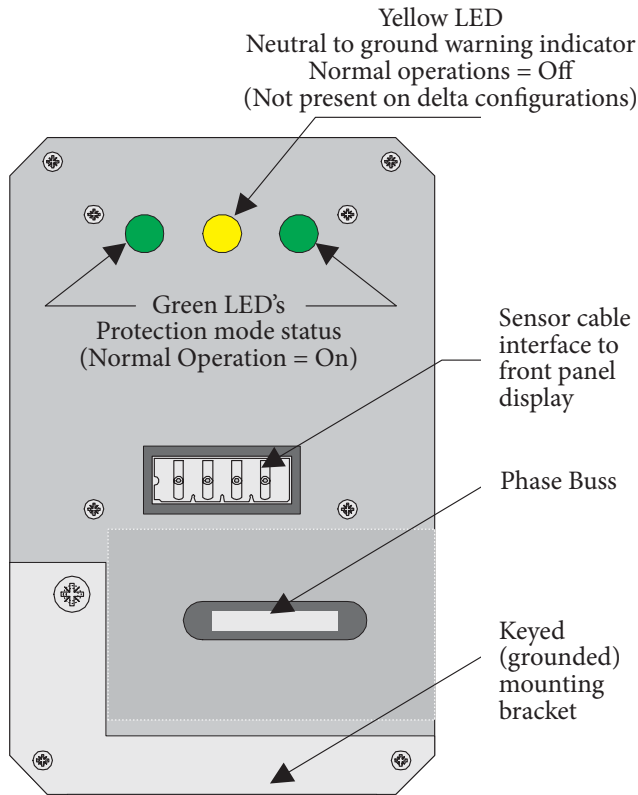
# WARRANTY INFORMATION

Meter-Treater, Inc. (MTI) warrants all RPM Series models to be free from defects, and will at our option repair or replace the product should it fail within fifteen (15) (residential installations) 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 specified, 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.

**M-Ti Meter-Treater, Inc.**
QUALITY SURGE PROTECTION DEVICES SINCE 1986

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# RPM Series

## USER MANUAL AND INSTALLATION GUIDE

RECOGNIZED COMPONENT

c ETL us
LISTED
Intertek

COMMERCIAL INSTALLATIONS

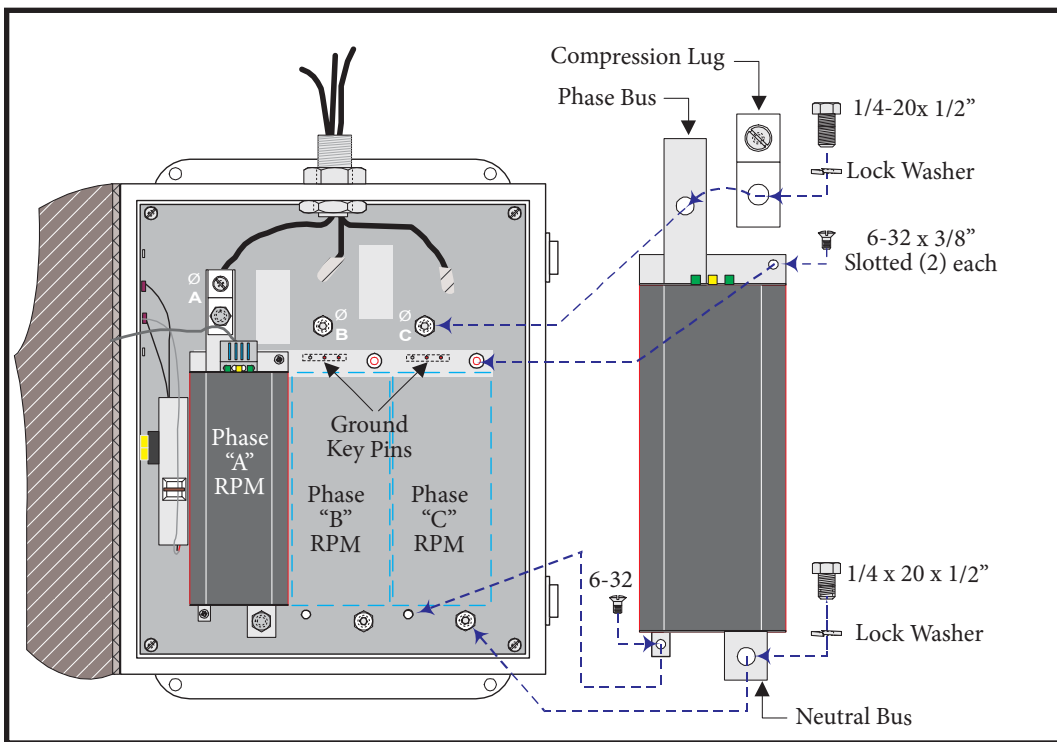SURGE PROTECTION DEVICES FOR AC POWER APPLICATIONS

Figure 1: Installation Layout
The design of the RPM modules and their connection method to the back plane PC board make it physically impossible to install them against their proper polarity.
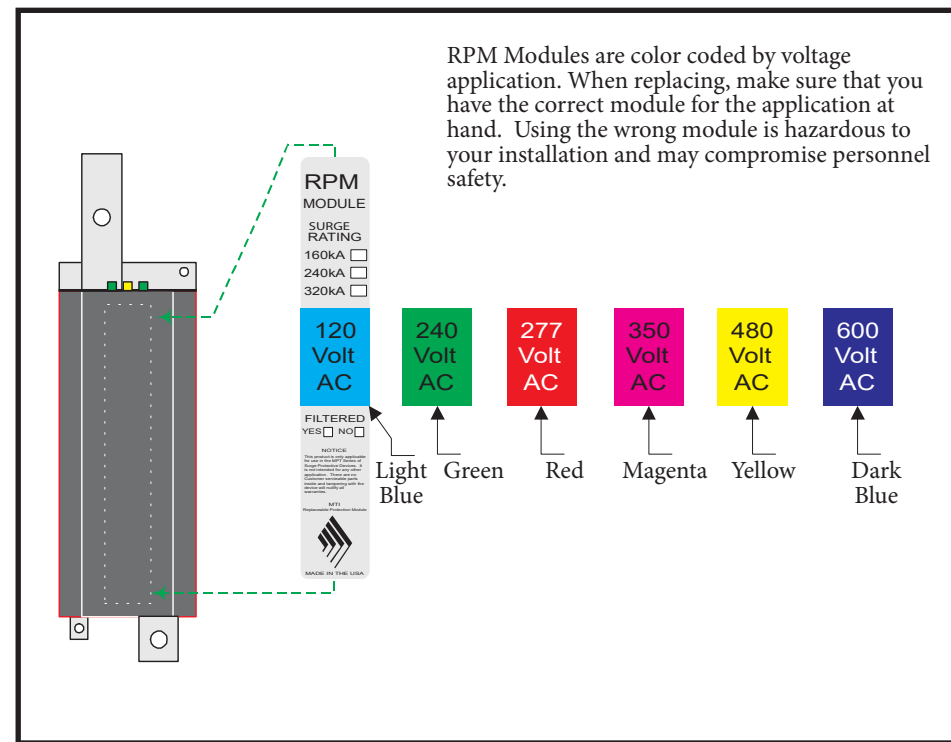


RPM Modules are color coded by voltage application. When replacing, make sure that you have the correct module for the application at hand. Using the wrong module is hazardous to your installation and may compromise personnel safety.

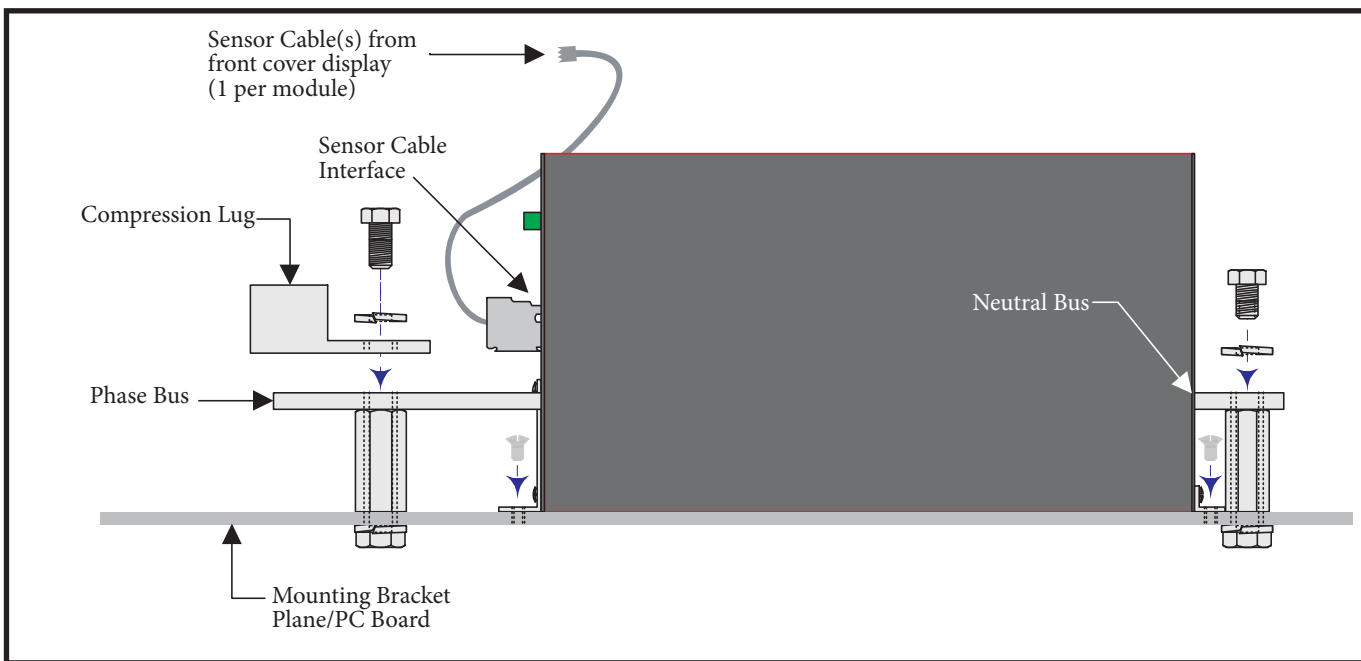Figure 2: Color Coded Application Labels
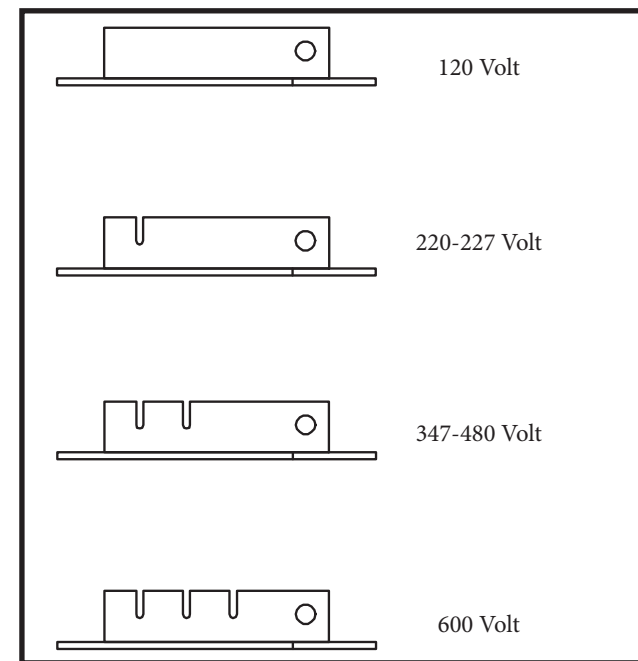


Figure 3: Installation Layout (Side View)



Figure 4: Ground Keyed Application Matrix
Keyed grounding tabs help to prevent the misapplication of a module to incorrect voltages.