

MV SERIES HANDBOOK



Increase Production
Reduce Downtime



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FEATURES & SPECIFICATIONS

- Build America, Buy America (BABA) Compliant
- **Warranty:** 5 Year
- **Listing:** ETL-EU Listed to IEC 61643-11
- **Enclosure:** NEMA® Type 3R
- **Type (Class):** 2 (2)
- **Nominal Discharge Current:** 2 kA
- **Filtering:** UL 1283
- **Operating Temperature:** -40° C to 85° C
- **Operating Humidity:** 1% to 95%
- **EMI-RFI Noise Attenuation:** < 40 dB
- **Indication:** Normally Off Neon Lights
- **Capacitance:** 1 to 1.5 μ F / Line
- **Frequency Range:** 50-400 Hz
- **Component Response Time:** <1 ns
- **Conductor:** #14 AWG Stranded
- **Fusing:** Field Serviceable
- **UL & IEC Type:** 2
- **Environmental:** RoHS
- **Rated Power Dissipation:** <1 W / Line
- **Degree of Protection:** IP20

Model	Voltage	Configuration	Fusing (Field Replaceable)	Modes of Protection	Clamp Voltage* L-N (L-L)	VPL [Up] L-N (L-L)	SCCR	MCOV L-N (L-L) [Hi-Leg]
MV-100	120 / 240 VAC	Split $\emptyset$ / 3 Wire	Buss 5 Amp 250V AGC-5	L-N, L-L	220 (440)	500 (960)	10 kA	140 (280)
MV-100C	120 / 240 VAC	Split $\emptyset$ / 3 Wire	Buss 5 Amp 250V AGC-5	L-N, L-L	220 (440)	500 (960)	10 kA	140 (280)
MV-200	120/208 VAC	3 $\emptyset$ / 4 Wire	Buss 5 Amp 250V AGC-5	L-N, L-L	220 (440)	500 (960)	10 kA	140 (280)
MV-200N	120/240 VAC	3 $\emptyset$ / 4 Wire [Hi-Leg]	Buss 5 Amp 250V AGC-5	L-N, L-L	220 (440) [390]	500 (960) [780]	10 kA	140 (280) [250]
MV-200P	240 VAC	3 $\emptyset$ / 3 Wire	Buss 5 Amp 250V AGC-5	L-L	780	1360	10 kA	500
MV-201	220 VAC	1 Pole / 2 Wire	Buss 5 Amp 250V AGC-5	L-N	390	780	10 kA	250
MV-202	220/380 VAC	2 Pole / 3 Wire	Buss 5 Amp 250V AGC-5	L-N, L-L	390 (780)	780 (1360)	10 kA	250 (500)
MV-300	230/415 VAC	3 $\emptyset$ / 4 Wire	Buss 5 Amp 600V KTK-5	L-N, L-L	420 (840)	780 (1360)	100 kA	275 (540)
MV-300P	415 VAC	3 $\emptyset$ / 3 Wire	Buss 5 Amp 600V KTK-5	L-L	840	1360	100 kA	540
MV-301	240 VAC	1 Pole / 2 Wire	Buss 5 Amp 250V AGC-5	L-N	420	780	100 kA	275
MV-302	240/415 VAC	2 Pole / 3 Wire	Buss 5 Amp 500V KTK-5	L-N, L-L	420 (840)	780 (1360)	100 kA	275 (540)
MV-400	277/480 VAC	3 $\emptyset$ / 4 Wire	Buss 5 Amp 600V KTK-5	L-N, L-L	472 (942)	840 (1360)	100 kA	300 (600)
MV-400P	480 VAC	3 $\emptyset$ / 3 Wire	Buss 5 Amp 600V KTK-5	L-L	942	1360	100 kA	600
MV-401	277 VAC	1 Pole / 2 Wire	Buss 5 Amp 600V KTK-5	L-N	472	840	100 kA	300
MV-402	480 VAC	2 Pole / 2 Wire	Buss 5 Amp 600V KTK-5	L-L	942	1360	100 kA	600
MV-600	347/600 VAC	3 $\emptyset$ / 4 Wire	Buss 5 Amp 600V KTK-5	L-N, L-L	620 (1240)	1020 (1700)	100 kA	385 (770)
MV-600P	600 VAC	3 $\emptyset$ / 3 Wire	Buss 5 Amp 600V KTK-5	L-L	1240	1700	100 kA	770

*A testing metric that attempts to identify the voltage at which an SPD begins significant conduction. Clamping voltage is not a fixed limit, varying with current, waveform, and system conditions.

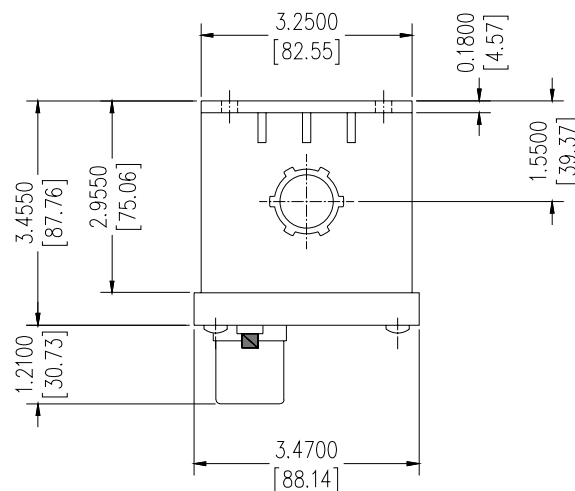
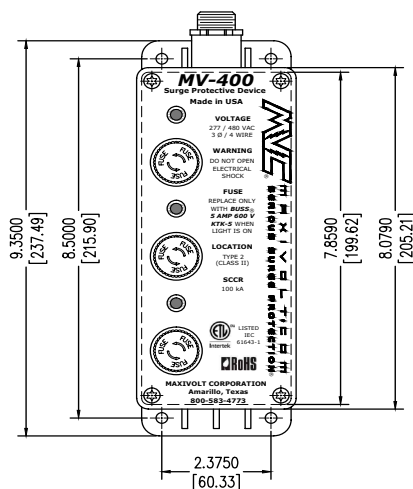


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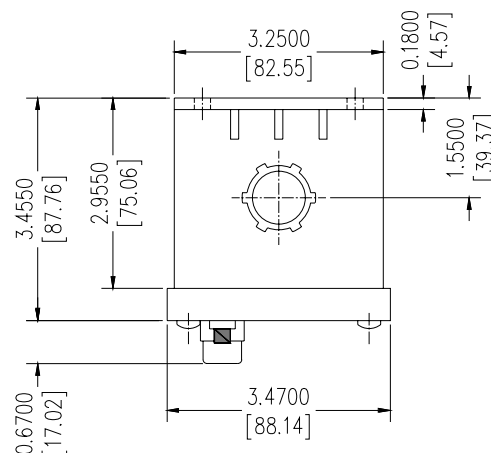
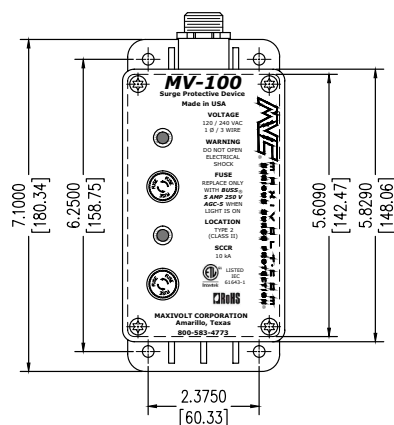


DIMENSIONAL DRAWINGS

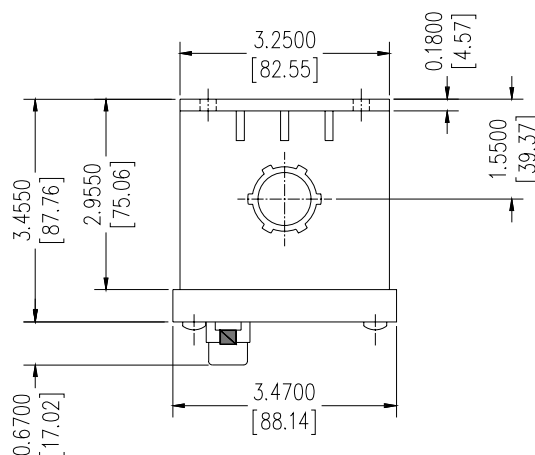
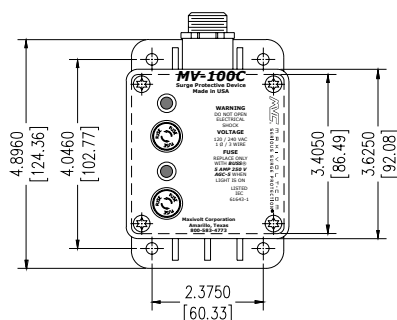
MV-300
MV-300P
MV-400
MV-400P
MV-600
MV-600P



MV-100
MV-200
MV-200N
MV-200P
MV-302



MV-100C
MV-201
MV-202
MV-301
MV-401
MV-402



inches
[mm]



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IMPORTANT NOTES

DANGER: HAZARDOUS VOLTAGE

- Contact with energized conductors may result in death or serious injury.
- To avoid injury:
 - De-energize all power sources before installation.
 - Follow applicable Lockout/Tagout (LOTO) procedures.
 - Verify absence of voltage using an appropriately rated voltmeter before touching conductors.
 - Never install the SPD on energized circuits.

WARNING: INSTALLATION BY QUALIFIED PERSONNEL ONLY

- Improper installation may result in electrical shock, fire, equipment damage, or loss of surge protection.
- Requirements:
 - Installation must be performed by a qualified electrician only.
 - Follow all applicable national, state, local, and facility electrical codes.
 - Contact Maxivolt if questions arise regarding installation or grounding requirements.

CAUTION: EQUIPMENT DAMAGE HAZARD

- Improper wiring, modification, or mounting may damage the SPD and void the warranty.
- Do Not:
 - Connect two SPD conductors to the same bus.
 - Add wire to SPD conductors.
 - Use wire nuts, kernies, or similar splicing devices on SPD conductors.
 - Modify, alter, or disassemble the SPD.
 - Install the SPD without the provided mounting feet unless the device is recessed-mounted.

NOTICE: APPLICATION INFORMATION

- "P" models are suitable for installation on 3-phase electrical systems, including:
 - Delta systems
 - High-Resistance Grounded (HRG) systems





INSTALLATION **INSTRUCTIONS**

DANGER: ELECTRICAL SHOCK / ARC FLASH HAZARD

- Failure to de-energize equipment can result in serious injury or death.
- Verify absence of voltage using properly rated test equipment.
- Installation must be performed by a qualified electrician only.

WARNING: EQUIPMENT DAMAGE / SAFETY RISK

- Do NOT install with power present.
- Do NOT extend factory-provided conductors.
- Do NOT nick, cut, or damage conductor insulation.
- Improper installation may result in equipment failure, fire, or hazardous conditions.

CAUTION: PERFORMANCE & RELIABILITY

- Keep conductor length as short as possible.
- Avoid sharp bends to prevent added impedance.
- Use rigid conduit only (no flex conduit).
- Use a properly rated 20 Amp circuit breaker installed in accordance with applicable national, state, local, and facility electrical codes. Failure to provide a dedicated 20 Amp circuit breaker may increase service time and complicate maintenance procedures.

NOTICE: INSTALLATION BEST PRACTICES

- Mount as close as possible to connection points.
- Ensure proper conduit routing before securing the unit.





INSTALLATION INSTRUCTIONS

INSTALLATION STEPS

1. READ IMPORTANT NOTES BEFORE INSTALLING

2. Isolate Power

- Open the supplying circuit breaker or disconnecting means and verify all power sources are de-energized.

3. Mount the SPD

- Mount the SPD as close as possible to the electrical connection point using the provided mounting feet.

4. Route Conductors

- Insert conductors through the enclosure knockout and secure with an appropriate locknut.

5. Trim Conductors

- Cut conductors as short as practical without placing strain on the conductors.
- Avoid sharp bends. Excess conductor length and sharp bends increase impedance and reduce protection performance.

6. Make Electrical Connections

- Connect SPD conductors in accordance with the applicable wiring diagram.
- Verify all connections are secure before energizing the circuit.

7. Verify Indicator Operation

- Remove the fuse(s).
 - Energize the circuit.
 - Verify the indicator light(s) illuminate.
 - De-energize the circuit.
 - Reinstall the fuse(s).
 - Re-energize the circuit.
- Under normal operating conditions, all indicator lights should remain OFF when energized.

NOTICE: POST-INSTALLATION VERIFICATION

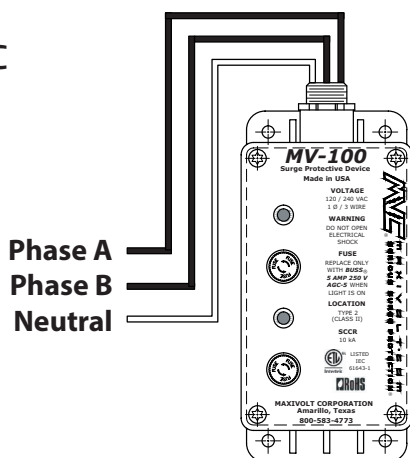
- If any indicator light remains illuminated after fuse installation:
 - De-energize the circuit.
 - Verify wiring connections.
 - Confirm proper fuse type and rating.
 - Contact Maxivolt Technical Support for assistance.



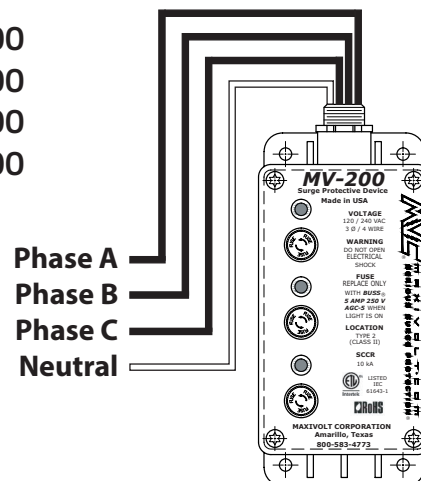


WIRING DIAGRAMS

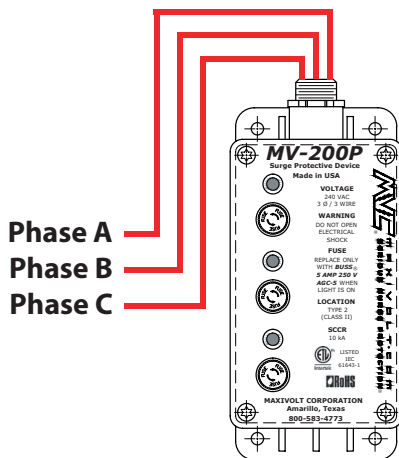
MV-100
MV-100C
MV-202
MV-302



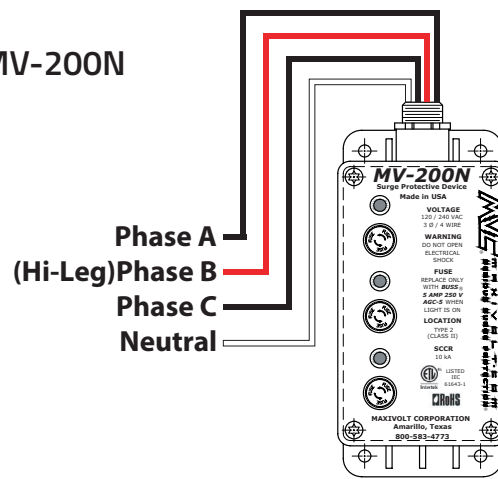
MV-200
MV-300
MV-400
MV-600



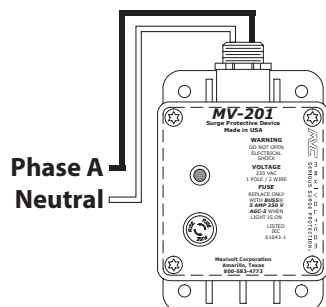
MV-200P
MV-300P
MV-400P
MV-600P



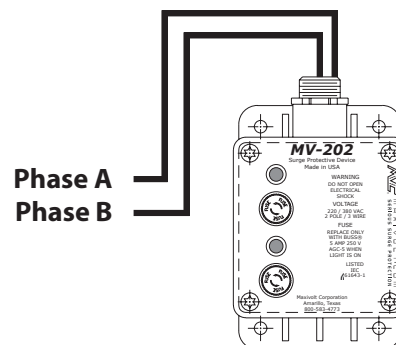
MV-200N



MV-201
MV-301
MV-401



MV-402



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OPERATION AND MAINTENANCE

CAUTION: EQUIPMENT DAMAGE HAZARD

- Do not substitute fuse types or ratings.
- Installing an incorrect fuse may impair surge protection performance, create unsafe operating conditions, and damage the device.
- Replace fuses only with the exact fuse type and rating specified on the device faceplate.

CAUTION: INSPECTION ACCURACY

- Failure to properly identify fuse status may lead to undetected system vulnerability.

NOTICE: SYSTEM FUNCTION

- Proper operation depends on:
 - The device being energized.
 - Correct installation as the path of least resistance in the system.

OPERATION

- No user interaction is required during normal operation.
- The device functions automatically when energized and properly installed.

MAINTENANCE

Routine Inspection

- Verify the device is energized at nominal voltage.
- Under normal operating conditions:
 - All indicator lights on the faceplate should be OFF.
 - No corrective action is required.

Fuse Status Identification

- If any indicator light is ON:
 - The associated protection circuit fuse may be open.
 - Internal components may not be operating within design specifications.





OPERATION AND **MAINTENANCE**

CORRECTIVE ACTION

- De-energize the device.
- Replace all fuses.
- Install only the fuse type and rating specified on the device faceplate.
- Re-energize the device and observe the indicator lights.

Verification of Repair

- If all indicator lights remain OFF:
 - The device is operating normally.
 - No further action is required.
- If any indicator light illuminates again:
 - Internal component damage is present.
 - Remove the device from service.
 - Replace the device.





WARRANTY

FIVE (5) YEAR LIMITED WARRANTY

Maxi-Volt Corporation, (Maxivolt) warrants to the original consumer purchaser that the electrical component parts of this MV-Series Unit are free from defects in material and workmanship at the time of purchase under normal use and conditions. The term of this warranty begins on the purchase date and continues for a period of five (5) years.

In the event of a defect, or other failure of the MV Series Unit not caused by any misuse or damage to the MV Series Unit while in the possession of the consumer, Maxivolt will repair or replace the MV Series unit with a new or re-manufactured equivalent, or, at Maxivolt's option, refund the purchase price. However, Maxivolt will not elect refund unless it is unable to provide replacement, and repair is not commercially practicable or cannot be made within a commercially reasonable time.

THE CONSUMER IS LIMITED TO THE REPAIR OR REPLACEMENT OF THE DEFECTIVE MV SERIES UNIT OR REFUND OF THE PURCHASE PRICE. THIS LIMITED WARRANTY REPRESENTS THE TOTAL LIABILITY OF MAXIVOLT FOR ANY WARRANTED PART. MAXIVOLT DISCLAIMS ANY OTHER EXPRESS OR IMPLIED WARRANTIES INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. MAXIVOLT SHALL NOT BE LIABLE FOR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES.

SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, OR THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE

LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER LEGAL RIGHTS, WHICH MAY VARY FROM STATE TO STATE.

This warranty does not cover: (1) installation, set-up, testing, or adjustment; (2) removal or reinstallation; (3) defects occurring after purchase due to improper installation, repair, modification, accident, tampering, misuse, abuse, or negligence; or (4) damage to the unit from fire, flood, or other catastrophe. This warranty is void if the rated capacity of the MV Series Unit is exceeded, if the MV Series has been opened or disassembled in any manner, or if the serial number of the MV Series Unit has been altered or removed. This warranty extends exclusively to the original purchaser of the MV Series Unit, and subsequent purchasers are not covered by this warranty agreement.

To obtain warranty performance, the consumer must deliver to Maxivolt: (1) the defective MV Series Unit; (2) a receipt, bill of sale, or other original evidence showing the date of purchase; and (3) the consumer's return address and daytime telephone number. If shipped, the MV Series Unit must be packaged so that it is protected from possible shipping damage, and should be addressed to: Maxivolt, 9350 S. Georgia St., Amarillo, Texas 79118, attention Warranty Claim. To obtain information on warranty performance, call toll free: 1-800-583-4773. A Warranty Information Form should be filled out and included in the package containing the MV Series Unit. This form can be requested from Maxivolt at the toll free number listed above.

Register your MAXIVOLT product at:
www.maxivolt.com/home/warranty



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ABOUT

Maxivolt delivers reliable solutions for our clients' highest priorities. Prioritizing safety and efficiency, we engineer comprehensive mitigation systems to extend equipment lifespan, minimize downtime, and produce a measurable return on investment. We aren't conformists, but instead advocate for the best possible outcomes for end-users.

For more information, contact Maxivolt:

800-583-4773

info@maxivolt.com

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