



Features:

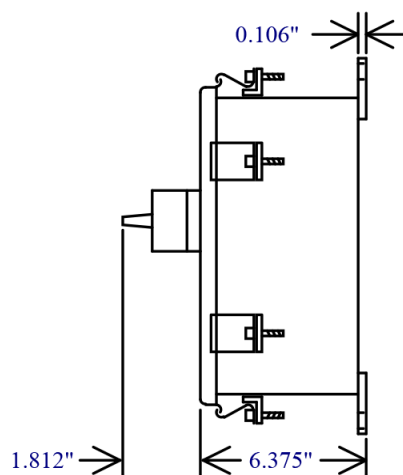
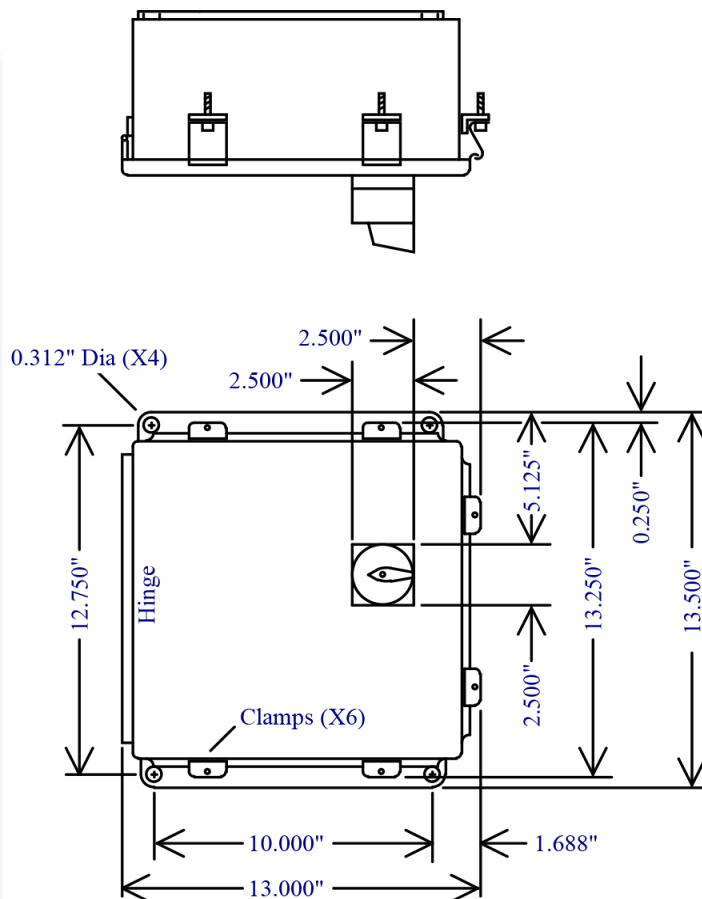
- Thermally Protected MOV
- Surge Current Levels:
 - 50 kA/Mode, 100 kA/Phase
 - 75 kA/Mode, 150 kA/Phase
 - 100 kA/Mode, 200 kA/Phase
 - 125 kA/Mode, 250 kA/Phase
 - 150 kA/Mode, 300 kA/Phase
- ANSI/UL 1449 4th Edition, CUL
- Short Circuit Rating: 200 kAIC
- Sine Wave Tracking: UL Type 2
- Surge Impulse Rated and Tested
- NEMA 4, 12, & 13 Enclosure
- Visual Diagnostics - Dual color LED status indication, Form C Relays, Surge Counter
- Audible Alarm w/ Disable Switch
- Disconnect
- Warranty: 10 Years

The **Tier 450** Series of surge protection devices (SPDs) feature the industry's most advanced metal oxide varistor (MOV) technology. Its thermally protective and arc extinguishing design have a significant advantage when subjected to abnormal over-voltage and high fault current.

The **Tier 450** Series of products incorporates this technology in a compact, easy to install package. The **Tier 450 M2 Disconnect** is available in a wide range of surge capacity levels, and multiple voltage and phase configurations. Its modular design allows modules to be replaced without completely removing the enclosure and wiring. It has a NEMA 4, 12, & 13 rated steel enclosure which makes it suitable for any environment or location. Its multiple MOV technology allows a module to continue to operate after a failure, under reduced protection, until a repair or replacement can be made (This is covered under our warranty). Another benefit of the multiple MOVs is the unit distributes surges across the array, reducing the strain on the MOVs in the module, further increasing the life span of the unit. These features makes this SPD an ideal choice for long lasting and robust protection for any business that relies on microprocessor driven, or any type of sensitive, equipment.

If you don't see a specification you are looking for, call our factory. We will accommodate custom job specifications.

| General Technical Specifications | |
|--|--|
| Connection Type | Parallel |
| Maximum Continuous Operating Voltage | 120V, 150 VAC (125%); 240V, 320 VAC; 277V, 320 VAC; 480V, 550 VAC; All Others 115% |
| Short Circuit Current Rating (SCCR) | 200kAIC |
| Protection Modes | All Connected Modes: L-N, L-L, L-G, N-G |
| Operating Frequency Range | 47 - 63 Hz |
| UL 1449 Location Type | Type 2 or Type 1 |
| UL 1449 Nominal Discharge Current (In) | 20kA |
| Connection | Disconnect #10 - #2 |
| Status Indication | Blue/Red LEDs, Form C Relay, Surge Counter, Audible Alarm w/ Disable Switch |
| Enclosure | NEMA 4, 12, & 13 Rated Steel Enclosure |
| 50Ohm EMI/RFI Attenuation (Type 2 only) | 50dB |
| Response Time | <0.5 nanoseconds |
| Operating Temperature | -40°C to +75°C |
| Operating Humidity | 0% to 95% non-condensing |
| Weight | 21 lbs |
| Size: Modular M2 NEMA 4 (Steel) 50kA-150kA / Mode | 13.50" x 13.00" x 6.375" (H x W x D) |
| Warranty | 10 Years |



The **M2 SPD** is lifecycle tested. Repeated IEEE Category C, 10kA impulses ensures each product will last for years.

Why Install Surge Protection?

Transients generated by lightning, utility switching or an internal process can significantly impact your facility's power quality. These power anomalies can easily disrupt your process or damage important equipment, leading to costly downtime and equipment repair.

Install SPDs Throughout Your Building

The IEEE (Institute of Electrical and Electronics Engineers) recommends cascading surge protection throughout your facility. Placing high surge capacity SPDs at the service entrance (or conductor entry points), followed by SPDs at critical downstream distribution and branch locations.



Southern Tier Technologies

Tier 450 M2 Modular Disconnect Surge Protection Device

Table A: Voltage & Source Configuration

| Model Code | Voltage | Source Configuration |
|------------|---------|--|
| 120S | 120/240 | Split Phase, 3W+G (L1, L2, N, G) |
| 120N | 120 | Single Phase, 2W+G (L1, N, G) |
| 120Y | 120/208 | Three Phase Wye, 4W+G (L1, L2, L3, N, G) |
| 208N | 208 | Single Phase, 2W+G (L1, L2, G) |
| 240N | 240 | Single Phase, 2W+G (L1, L2, G) |
| 240D | 240 | Three Phase Delta, 3W+G (L1, L2, L3, G) |
| 277Y | 277/480 | Three Phase Wye, 4W+G (L1, L2, L3, N, G) |
| 480D | 480 | Three Phase Delta, 3W+G (L1, L2, L3, G) |
| 480N | 480 | Single Phase, 2W+G (L1, L2, G) |

Table B: Surge Current Capacity

| Model Code | Surge Capacity /Mode | Surge Capacity / Phase |
|------------|----------------------|------------------------|
| 025 | 25 kA | 50 kA |
| 050 | 50 kA | 100 kA |
| 075 | 75 kA | 150 kA |
| 100 | 100 kA | 200 kA |
| 125 | 125 kA | 250 kA |
| 150 | 150 kA | 300 kA |
| 200* | 200 kA | 400 kA |
| 250* | 250 kA | 500 kA |
| 300* | 300 kA | 600 kA |

* Surge levels only available on M3 Modular Disconnect and M3 Modular Terminal Block Models

Dimensional Data with Mount Footprint

| Enclosure | Height | Width | Depth | Weight | Mounting Dimensions | Height | Width |
|--|---------|---------|--------|-----------|---------------------|---------|---------|
| 200 - 300 kA/Mode M3 Double Module NEMA 4, 12, & 13 Disconnect | 16.000" | 16.000" | 8.800" | 34.70 lbs | | 14.500" | 14.500" |
| 200-300 kA/Mode M3 Double Module NEMA 4, 12, & 13 Terminal Block | 16.000" | 16.000" | 8.800" | 34.00 lbs | | 14.500" | 14.500" |
| M2 Modular (Steel) NEMA 4, 12, & 13 Terminal Block | 13.500" | 13.000" | 6.375" | 20.30 lbs | | 12.750" | 10.000" |
| M2 Modular (Steel) NEMA 4, 12, & 13 Disconnect | 13.500" | 13.000" | 6.375" | 21.00 lbs | | 12.750" | 10.000" |
| M1 Non-Modular NEMA 4 (Steel) Wire Lead | 11.250" | 7.750" | 4.990" | 9.20 lbs | | 10.625" | 5.500" |
| P3 Non-Modular NEMA 4X (Polycarbonate) Wire Lead | 9.140" | 5.700" | 4.150" | 5.30 lbs | | 8.575" | 5.200" |
| P2 Non-Modular NEMA 4X (Polycarbonate) Wire Lead | 6.375" | 3.160" | 3.000" | 1.40 lbs | | 5.810" | 2.437" |
| P1 Non-Modular NEMA 4X (Polycarbonate) Wire Lead | 1.630" | 3.545" | 2.290" | 0.50 lbs | | 1.525" | 3.025" |

Available Voltage Levels By Model

| Voltage Model Code | M2 or M3 Modular Disconnect or Terminal Block | Wire Lead M1 NEMA 4 Steel or P3 NEMA 4X Poly | Wire Lead NEMA 4X P2 25 kA | P1 Wire Lead NEMA 4X T42 25 KA Single Phase |
|--------------------|---|--|----------------------------|---|
| 120N | | | 120V Single Phase | 120V Single Phase |
| 120S | 120/240V Split Phase | 120/240V Split Phase | 120/240V Split Phase | |
| 120Y | 120V 3 Phase Wye | 120V 3 Phase Wye | 120V 3 Phase Wye | |
| 208N | | | 208V Single Phase | |
| 240N | | | 240V Single Phase | |
| 240D | 240V 3 Phase Delta | 240V 3 Phase Delta | 240V 3 Phase Delta | |
| 277Y | 277/480V 3 Phase Wye | 277/480V 3 Phase Wye | 277/480V 3 Phase Wye | |
| 480D | 480V 3 Phase Delta | 480V 3 Phase Delta | 480V 3 Phase Delta | |

Tier400SPD Series, 450 Family Ordering Information: Example Model Number: T45120Y100ADAM2C

| Positions: 1-3 Product Family | Positions: 4-7 Voltage / Phase Configuration | Positions: 8-10 Surge Capacity | Position: 11 Protected Modes | Position: 12 Connection Type | Position: 13 Status | Position: 14 Enclosure | Position: 15 UL Type | Position: 16 Options |
|--------------------------------------|--|--------------------------------|------------------------------|---|--|---|----------------------------|---|
| T45 = 450 Family T42 = 420 Family | See Table A | See Table B | A = All connected modes | W = Wire Lead L = Terminal Block D = Disconnect | A = Form C Contact & LED L = LED only | J = NEMA 4X; Polycarbonate M = NEMA 4; Steel | 1=UL Type 1 2=UL Type 2 | S = Standard /No Options C = Surge Counter |