Square D™ brand Surgelogic™ Line-to-Line (L-L) enhanced modular panel Surge Protective Devices (SPDs) deliver specification grade performance for distribution or critical branch panel applications. These systems provide superior surge suppression with additional modules for direct, enhanced L-L mode suppression. An optional sine wave tracking module greatly increases EMI/RFI filtering and improves clamping.
L-L Enhanced Modular SPDs

Features

L-L enhanced modular external Surge Protective Devices (SPDs) provide superior design, multiple direct modes of surge suppression, and a long service life for a wide variety of commercial, industrial, or institutional applications. Square D brand Surgelogic SPDs offer unsurpassed performance and surge suppression for demanding electrical distribution applications or as part of a suppression network. The robust modular construction minimizes possible down time and helps to reduce maintenance costs. These units feature redundant diagnostic system alerts for continued suppression against harmful transients.

Superior Performance

Modular panel SPDs incorporate the latest engineering improvements. Each module utilizes high-energy circuitry with proven fast-acting Metal Oxide Varistors (MOVs) and a thermal cutout circuit for each individually fused MOV to isolate it in the event of damage. L-L enhanced systems feature additional modules that provide direct Line-to-Line (L-L) mode suppression. EMI/RFI filtering with sine wave tracking is an option for L-L enhanced modular panels to provide greater noise filtration and improved clamping.

For harsh environments, stainless steel NEMA 4X-rated modular products provide surge suppression in areas that can damage other enclosures.

Easy Installation

External modular SPDs should be mounted adjacent to the panel through a conduit connection and as close to the circuit breaker as possible to reduce lead lengths and improve transient suppression.

Warranty

Surgelogic L-L enhanced modular SPDs have a 10-year warranty.

<table>
<thead>
<tr>
<th>FEATURES</th>
<th>ADVANTAGES</th>
<th>BENEFITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEMA 3R or 4X Enclosure</td>
<td>Allows installation in outdoor applications</td>
<td>Provides suppression to vulnerable equipment powered from weather exposed panels</td>
</tr>
<tr>
<td>Optional EMI/RFI filtering with sine wave tracking</td>
<td>Greater noise filtration and increased clamping</td>
<td>Reduces high frequency noise and improves surge suppression</td>
</tr>
<tr>
<td>Advanced Diagnostics</td>
<td>Allows for online testing of the suppressor’s functionality</td>
<td>Provides immediate response if suppressor is damaged</td>
</tr>
<tr>
<td>Suppression Status Alarms</td>
<td>Allows immediate alarm if suppression is damaged</td>
<td>Provides immediate notification through audible, visual and remote signaling if reduced suppression occurs</td>
</tr>
<tr>
<td>Coordinated Fuse Technology</td>
<td>Coordinated fusing allows disconnection methods for thermal and high-current events</td>
<td>Provides premium surge suppression while managing both thermal and high-current end-of-life events</td>
</tr>
</tbody>
</table>
L-L Enhanced Modular SPDs

Features (continued)

Performance
Surge Current Rating per Phase: Up to 360kA
Short Circuit Current Rating: 200kA
Modes of Protection: 10
Fusing: Individually fused MOVs
Thermal Fusing: Yes
Overcurrent Fusing: Yes
EMI/RFI Noise Rejection*: -54dB @ 100kHz
Operating Frequency: 50/60 Hz

Mechanical Description
Enclosure: Carbon Steel or Stainless Steel
NEMA Ratings: NEMA 3R or 4X
Connection Method: #10-#2 AWG Terminals
Mounting Method/Circuit Type: Parallel
Operating Altitude: Sea Level-12,000’ (3,658 m)
Storage Temperature: -40˚ F (-40˚ C) to 149˚ F (65˚ C)
Operating Temp.: -4˚ F (-20˚ C) to 149˚ F (65˚ C)
LCD Operating Temp.: 32˚ F (0˚ C) to 149˚ F (65˚ C)
Operating Humidity: 0 to 95% non-condensing

Diagnostics
Push-to-test diagnostic switches, red and green status LEDs per phase (internal redundant status LEDs are green), module status LEDs per mode, dry contacts, audible alarm with disable switch, surge counter.

Options
- NEMA 4X rating with stainless steel enclosure
- Sine Wave Tracking Module
- Flush mount kit
- Remote monitor

Listings and Performance
cULus UL1449 3rd Edition Type 2 SPD, UL 1283
5th Edition, CSA C22.2 No. 8-M1986
Complies with UL 96A 12th Ed. Master Label requirements for Lighting Protection Systems

* With optional sine wave tracking module

NEMA 3R, Carbon Steel Enclosure
NEMA 4X, Stainless Steel Enclosure
Weight: 55lbs ± 4lbs
L-L Enhanced Modular SPDs
Specifications

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Surge Current per Phase</th>
<th>Modes of Protection</th>
<th>Configuration</th>
<th>Model Number</th>
<th>MCOV</th>
<th>L-N</th>
<th>L-G</th>
<th>L-L</th>
<th>N-G</th>
</tr>
</thead>
<tbody>
<tr>
<td>208Y/120V</td>
<td>▲</td>
<td>120kA</td>
<td>10</td>
<td>TVS2MEMA12_</td>
<td>150V</td>
<td>20kA</td>
<td>700V</td>
<td>700V</td>
<td>1000V</td>
</tr>
<tr>
<td>480Y/277V</td>
<td>▲</td>
<td>120kA</td>
<td>10</td>
<td>TVS4MEMA12_</td>
<td>320V</td>
<td>20kA</td>
<td>1200V</td>
<td>1200V</td>
<td>1800V</td>
</tr>
<tr>
<td>208Y/120V</td>
<td>▲</td>
<td>180kA</td>
<td>10</td>
<td>TVS2MEMA18_</td>
<td>150V</td>
<td>20kA</td>
<td>700V</td>
<td>700V</td>
<td>1000V</td>
</tr>
<tr>
<td>480Y/277V</td>
<td>▲</td>
<td>180kA</td>
<td>10</td>
<td>TVS4MEMA18_</td>
<td>320V</td>
<td>20kA</td>
<td>1200V</td>
<td>1200V</td>
<td>1800V</td>
</tr>
<tr>
<td>208Y/120V</td>
<td>▲</td>
<td>270kA</td>
<td>10</td>
<td>TVS2MEMA27_</td>
<td>150V</td>
<td>20kA</td>
<td>700V</td>
<td>700V</td>
<td>1000V</td>
</tr>
<tr>
<td>480Y/277V</td>
<td>▲</td>
<td>270kA</td>
<td>10</td>
<td>TVS4MEMA27_</td>
<td>320V</td>
<td>20kA</td>
<td>1200V</td>
<td>1200V</td>
<td>1800V</td>
</tr>
<tr>
<td>208Y/120V</td>
<td>▲</td>
<td>360kA</td>
<td>10</td>
<td>TVS2MEMA36_</td>
<td>150V</td>
<td>20kA</td>
<td>700V</td>
<td>700V</td>
<td>1000V</td>
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<tr>
<td>480Y/277V</td>
<td>▲</td>
<td>360kA</td>
<td>10</td>
<td>TVS4MEMA36_</td>
<td>320V</td>
<td>20kA</td>
<td>1200V</td>
<td>1200V</td>
<td>1800V</td>
</tr>
<tr>
<td><strong>208Y/120 series also applies to the following voltage 220Y/127</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>480Y/277 series also applies to the following voltages 380Y/220, 400Y/230, and 415Y/240</strong></td>
<td></td>
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<tr>
<td><strong>Model numbers not recognized as line items in Schneider Electric ordering system until a suffix code is applied</strong></td>
<td></td>
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</tbody>
</table>

**SUFFIX CODES**

A = NEMA 3R, steel enclosure (e.g. TVS4MEMA12A)

ASWT = NEMA 3R, steel enclosure with Sine Wave Tracking module (e.g. TVS4MEMA12ASWT)

S = NEMA 4X, stainless steel enclosure (e.g. TVS4MEMA12S)

SSWT = NEMA 4X, stainless steel enclosure with Sine Wave Tracking module (e.g. TVS4MEMA12SSWT)

**Optional Sine Wave Tracking Module**

<table>
<thead>
<tr>
<th>EMI/RFI Noise Rejection</th>
<th>Measured Let-Through Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>at 100 kHz</td>
<td>A1 Ringwave (2kv,67A) at 180 Degree Phase Angle</td>
</tr>
<tr>
<td>-54 dB</td>
<td>L-N</td>
</tr>
<tr>
<td></td>
<td>L-L</td>
</tr>
</tbody>
</table>

**SPD OPTIONS**

Remote Monitor TVS12RMU

16"X20" Flush Mount Kit TVS20FMK

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