

# Line-to-Line (L-L) Enhanced Modular SPDs

## Square D External Panel Surge Protective Devices

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.

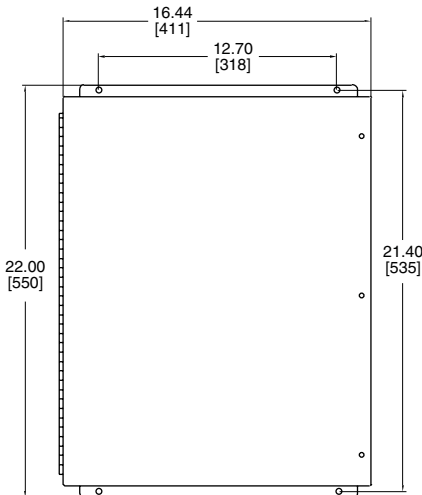
## Warranty

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

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

# L-L Enhanced Modular SPDs

## Features (continued)



NEMA 3R, Carbon Steel Enclosure  
 NEMA 4X, Stainless Steel Enclosure  
 Weight: 55lbs ± 4lbs

## L-L Enhanced Modular SPDs



### 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

# L-L Enhanced Modular SPDs Specifications

Voltage	Surge Current per Phase	Modes of Protection	Configuration	Model Number	MCOV	I <sub>n</sub>	VPR			
							L-N	L-G	L-L	N-G
208Y/120V ■	120kA	10	3 Ø, Wye, 4-wire+G	TVS2MEMA12_	150V	20kA	700V	700V	1000V	600V
480Y/277V ▲	120kA	10	3 Ø, Wye, 4-wire+G	TVS4MEMA12_	320V	20kA	1200V	1200V	1800V	1000V
208Y/120V ■	180kA	10	3 Ø, Wye, 4-wire+G	TVS2MEMA18_	150V	20kA	700V	700V	1000V	600V
480Y/277V ▲	180kA	10	3 Ø, Wye, 4-wire+G	TVS4MEMA18_	320V	20kA	1200V	1200V	1800V	1000V
208Y/120V ■	270kA	10	3 Ø, Wye, 4-wire+G	TVS2MEMA27_	150V	20kA	700V	700V	1000V	600V
480Y/277V ▲	270kA	10	3 Ø, Wye, 4-wire+G	TVS4MEMA27_	320V	20kA	1200V	1200V	1800V	1000V
208Y/120V ■	360kA	10	3 Ø, Wye, 4-wire+G	TVS2MEMA36_	150V	20kA	700V	700V	1000V	600V
480Y/277V ▲	360kA	10	3 Ø, Wye, 4-wire+G	TVS4MEMA36_	320V	20kA	1200V	1200V	1800V	1000V

■ 208Y/120 series also applies to the following voltage 220Y/127 ▲ 480Y/277 series also applies to the following voltages 380Y/220, 400Y/230, and 415Y/240  
Model numbers not recognized as line items in Schneider Electric ordering system until a suffix code is applied

## 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	EMI/RFI Noise Rejection	Measured Let-Through Voltage	
	at 100 kHz	A1 Ringwave (2kv,67A) at 180 Degree Phase Angle	
		L-N	L-L
	-54 dB	85V	80V

## SPD OPTIONS

Remote Monitor TVS12RMU

16"X20" Flush Mount Kit TVS20FMK

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