REVISED 01/2021

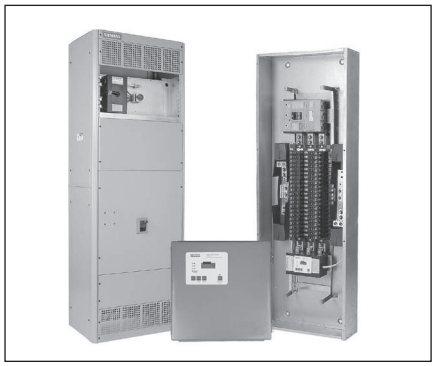
Contents

Siemens TPS3 family of hardwired Surge Protective Devices

(formally known as Surge/Lightning Arrestors and/or Transient Voltage Surge Suppressors –TVSS)

SPD Families	9-2
SOLID Protection	9-3
BoltShield™ Surge Protective Devices	9-4 – 9-5
First Surge	9-6
Telephone & CATV (Coax) SPD's	9-7
TPS3 01 and TPS3 L1 (10 Mode)	9-8
TPS3 02 and TPS3 L2 (10 Mode)	9-9
TPS3 03	9-10
TPS3 03 DC	9-11
TPS3 05 and TPS3 L5 (10 Mode)	9-12
TPS3 06 and TPS3 L6 (10 Mode)	9-13
TPS3 09	9-14
TPS3 11	9-15
TPS3 12 and TPS3 L12 (10 mode)	9-16
TPS3 15 and TPS3 L15 (10 mode)	9-17
Frequently Asked Questions	9-18

Integrally Mounted SPDs



Features

- Per Phase Surge Current Capacity ranging from 100 kA to 1000 kA
- Industry best VPRs
- I_n = 20 kA (most models)
- Standard 'Type 2' or optional 'Type 1' construction
- Ground Reference Monitoring (GRM) diagnostics

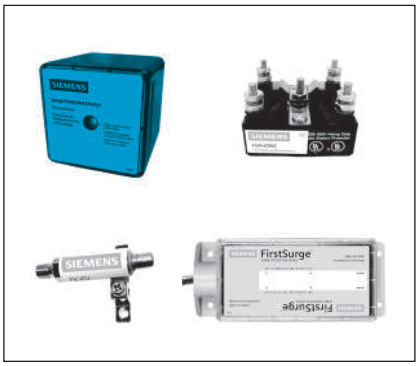
External or Wall Mounted SPDs



Features

- Per Phase Surge Current Capacity ranging from 50 kA to 1000 kA
- Industry best VPRs
- I_n = 20 kA (most models)
- Standard 'Type 2' or optional 'Type 1' construction
- Ground Reference Monitoring (GRM) diagnostics (excluding TPS3 03 & TPS3 09)

Residential SPDs



Features

- Per Phase Surge Current Capacity of 60kA, 100kA or 140kA
- Complete Service Protection for
  - Power
  - Telephone
  - CATV (Coax)
- Ground Reference Monitoring (GRM) diagnostics

Surge Protection Devices (SPD)

Siemens Surge Protection Innovations

Introduction

In today's electronic world, home and business electrical systems just aren't complete unless they incorporate surge protection. **Stopping Surges Before They Get Into these systems** is best accomplished through the installation of appropriately sized hard-wired surge protective devices (SPDs) beginning at the incoming service followed by installations at other key surge entry points.

When Siemens first developed the Transient Protection System (TPS) family of surge protectors, we knew early on that hard-wired surge protectors needed fully coordinated safety controls. This led to the adoption of a number of SPD industry safety control firsts including the patented Ceramgard and TranSafe circuitry, coordinated fusing and thermal cutouts, dielectric isolation, mechanical re-enforcing taping, etc… resulting in a design that ensures the highest possible electrical system surge protection and reliability.

Our next generation UL 1449 4th Edition and CSA 22.2 No. 269 TPS3 SPDs carry on this same legacy. Every TPS3 is infused with Siemens engineering safety and performance "know-how" culminating with surge protection having the highest degree of safety while delivering the industry's best performance ratings – some of lowest Voltage Protection Ratings (VPRs), Type 1 or 2, and 20kA I-nominal ratings (for most models) with surge current ratings from 50 to 1000 kA.

The BoltShield line of SPDs helps address the changing NEC codes that require surge protection in all dwellings. The Siemens BoltShield family of residential and commercial products allows this to be done easily and at a reasonable cost.

Electrical disturbances will always occur, but they don't have to cause surge protectors to fail in an unsafe manner. Safer surge protection means uncompromised electrical system **protection, safety, and reliability.**

The following pages provide additional technical and ordering information concerning our entire offering of Surge Protective Devices (SPDs).

Surge Protector Per Phase Surge Current Capacities

Wall Mounted Standard Mode

Per Phase Surge Current	TPS3 01	TPS3 02	TPS3 03	TPS3 03 DC	TPS3 05	TPS3 06	TPS3 09	TPS3 11	TPS3 12	TPS3 15
										
50 kA										
100 kA										
150 kA										
200 kA										
250 kA										
300 kA										
400 kA										
500 kA										
600 kA										
800 kA										
1000 kA										

10 Mode SPDs

Per Phase Surge Current	TSP3 L1	TPS3 L2		TPS3 L5	TPS3 L6		TPS3L 12	TPS3L 15
								
100 kA								
150 kA								
300 kA								
450 kA								
500 kA								
600 kA								
900 kA								

Surge Protection Devices (SPD)

Recommending Surge Protection

SOLID Protection

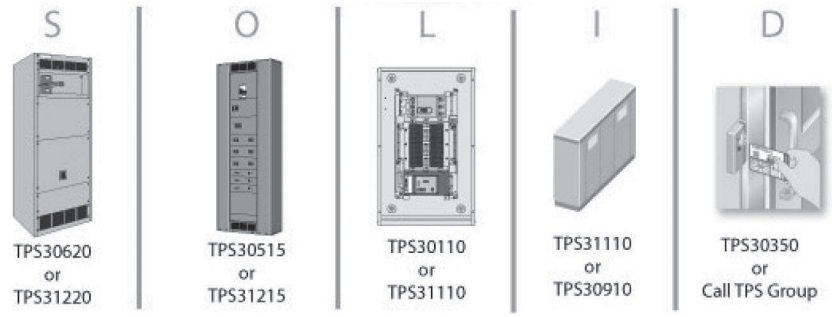
Either at home or in the work place, nearly every electrical load is electronic infused. With electrical infrastructure being the same as it was 50 years ago, equipment is more susceptible to surge damage and/or disruption generated by normal electrical distribution interactions.

Places where lightning activity is minimal are now experiencing more electronic failures due to surges generated by the day to day operations of equipment like washers and dryers, copiers, chillers, etc.

In response to this susceptibility, code authorities have mandated emergency power distribution equipment now must be protected by a listed SPD.

The reasoning is based upon anecdotal understating that surge protected systems are more reliable. Supported by government studies, the most efficient way to protect electrical systems from surges is through the installation of hardwired SPDs at key points throughout the distribution system. These locations can easily be remembered by memorizing the locations of the acrostic found within the following phrase, "The best surge protected system is a SOLID one," where each letter of the word SOLID stand for the locations on the electrical system where SPDs should be installed.

The illustration to the right shows "SOLID" locations for a school's electrical system. Under each 'SOLID' location is a Siemens TPS3 model number with surge current capacities matching those to what are typically specified by consultants across North America.



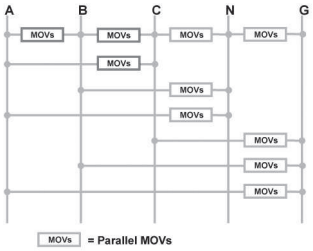
Service Entrance

Outside loads like Parking Lot Lighting powered from distribution panels

Lower voltage distribution panels powering computers and other electronics

Individual critical equipment like servers

Data, telephone, and coaxial cables

Surge Arrestor Replacement		Discrete, True, or L-L Enhanced 10 Mode Style SPDs	
 **TPS3 03 Type 1 SPD with I_n = 20kA**	Low-voltage surge and lightning arrestors became obsolete when UL 1449 3rd edition went into effect in 2009. They were replaced with Type 1 SPDs having an I-nominal (I_n) rating equal to 20kA. Most all Siemens TPS3's are rated as Type 1, I_n = 20kA SPDs. However, the style and form factor of traditional surge arrestors is best replaced using our TPS3 03.		For mission critical or high profile applications, a growing number of end users prefer the assurance discrete or true 10-mode SPDs provide. When surges traverse the electrical system via phase to phase conductors, standard SPDs indirectly protect via the line to neutral or line to ground modes of protection. Siemens integral or wall mounted "Discrete," "True," or L-L Enhanced 10-mode SPDs address L-L surges by incorporating directly connected line to line surge protection elements. This style of SPD provides the "Just in Case" assurance mission critical or high pro-file projects require.

BoltShield™ Surge Protective Devices

BSPD – Commercial Surge Protection for Panel Boards

Catalogue Logic

BSPD series for panelboards

Ordering Information

Catalog # BSPD – 2 – A – 100

Series	Poles	Voltage Code	Surge Current Rating
BSPD	**2** = 2 Pole **3** = 3 Pole	**A** = 120/240V, 1Ø 3W (Fig.1)① **B** = 240/120V, 3Ø 4W (Fig.3) **C** = 208Y/120V, 3Ø 4W (Fig.2) **D** = 240V, 3Ø 3W (Fig.4) **E** = 480Y/277V, 3Ø, 4W (Fig.1) **F** = 480V, 3Ø, 3W (Fig.4) **G** = 600V, 3Ø, 3W (Fig.4) **K** = 380Y/220V, 3Ø, 4W (Fig.1) **L** = 600Y/347V, 3Ø, 4W (Fig.1) **S** = 400Y/230V, 3Ø, 4W (Fig.1) **T** = 415Y/240V, 3Ø, 4W (Fig.1)	**100** = 100kA per Mode/Phase



BSPD Series

Product specifications

General specifications	
Maximum surge current rating range	100 kA per phase
UL Type designation	SPD Type 1②
UL 1449 I-nominal rating	20kA
UL 1449 short circuit current rating	200kA
Repetitive impulse	5,000 hits
Response time	<1 ns

Diagnostic monitoring specifications
Green/red visual mechanical flag failure indicators
Flashing dual color LED (green/red) status indicator
Audible alarm with silence switch/button
Form C dry contact, 240V AC, 1A max, 48V DC, 0.5A max

Design specifications
Monolithic distribution grade MOV
Integrated optimized thermal protection
Fits in footprint of BL/BQD, or xGB/3VA41③
Modes of protection (L-N or L-G, L-L)

BSPD Catalog Numbers and UL 1449 performance data

Catalog numbers	System voltage	L-N (L-G)	L-L	I_n	SCCR	MCOV	Siemens breaker form factor
BSPD2A100①	120/240V, 1Ø, 3W	600V	900	20kA	200kA	150V	2-P, BL/BQD or xGB/3VA41
BSPD3B100	240/120V, 3Ø, 4W	600V/800V	1200	20kA	200kA	150V	3-P, BL/BQD or xGB/3VA41
BSPD3C100	208Y/120V, 3Ø, 4W	600V	900	20kA	200kA	150V	3-P, BL/BQD or xGB/3VA41
BSPD3D100	240V, 3Ø, 3W	800V	1500	20kA	200kA	280V	3-P, BL/BQD or xGB/3VA41
BSPD3E100	480Y/277V, 3Ø, 4W	1000V	1800	20kA	200kA	320V	3-P, BL/BQD or xGB/3VA41
BSPD3F100	480V, 3Ø, 3W	1800V	3000	20kA	200kA	550V	3-P, BL/BQD or xGB/3VA41
BSPD3G100	600V, 3Ø, 3W	2000V	4000	20kA	200kA	700V	3-P, BL/BQD or xGB/3VA41
BSPD3K100	380Y/220V, 3Ø, 4W	900V	1800	20kA	200kA	320V	3-P, BL/BQD or xGB/3VA41
BSPD3L100	600Y/347V, 3Ø, 4W	1200V	2500	20kA	200kA	400V	3-P, BL/BQD or xGB/3VA41
BSPD3S100	400Y/230V, 3Ø, 4W	900V	1800	20kA	200kA	320V	3-P, BL/BQD or xGB/3VA41
BSPD3T100	415Y/240V, 3Ø, 4W	900V	1800	20kA	200kA	320V	3-P, BL/BQD or xGB/3V

Benefits of installing multiple BSPDs

Adding multiple BSPDs in a single panelboard can increase modes of protection and a surge capacity. See the BoltShield brochure for more details and review an example chart below:

Number of BSPDs	Connection	Modes of protection	Surge current capacity per mode	Surge current capacity per phase
1	Neutral	3	100kA	100kA
2	Neutral + Ground	6	100kA	200kA
2	Neutral(2)	3	200kA	200kA
3	Neutral(2) + Ground(1)	6	200kA(L-N) + 100kA (L-G)	300kA
3	Ground(3)	3	300kA	300kA
4	Neutral(2) + Ground(2)	6	200kA	400kA

① Can also be used on 208Y/120V, 1Ø, 3W system.
② Type 1 SPDs suitable for use in Type 2 applications.
③ Each SPD comes with an adapter for xGB/3VA41 applications. Replacement adapter kit BSPDXGB1 is available, containing 2 and 3 pole adapters (1 each).

QSPD series for load centers

Ordering Information

QSPD catalog number logic

QSPD – 2 – A – 065

Series	Poles	Voltage Code	Surge Current Rating
QSPD	**2** = 2 Pole **3** = 3 Pole	**A** = 120/240V, 1Ø 3W (Fig.1)① **B** = 240/120V, 3Ø 4W (Fig.3) **C** = 208Y/120V, 3Ø 4W (Fig.2) **D** = 240V, 3Ø 3W (Fig.4)	**065P** = 65kA per Mode/Phase in retail blister pack packaging



QSPD Series

Product specifications

General specifications	QSPD
Maximum surge current rating range	65kA per phase
UL Type designation	SPD Type 1②
UL 1449 I-nominal rating	20kA
UL 1449 short circuit current rating	200kA
Repetitive impulse	5,000 hits
Response time	<1 ns

Diagnostic monitoring specifications	QSPD
Green/red visual mechanical flag failure indicators	√
Flashing dual color LED (green/red) status indicator	√
Audible alarm with silence switch/button	√
Design specifications	**QSPD**
Monolithic distribution grade MOV	√
Integrated optimized thermal protection	√
Fits in footprint of Siemens QP breaker	√
Modes of protection (L-N or L-G, L-L)	√

QSPD Catalog Numbers and UL 1449 performance data

Catalog numbers	System voltage	L-N (L-G)	L-L	I_n	SCCR	MCOV	Siemens breaker form factor
QSPD							
QSPD2A065P③	120/240V, 1Ø, 3W①	600V	1000	20kA	200kA	150V	2-P, QP
QSPD3B065	240/120V, 3Ø, 4W	600V/900V	1200	20kA	200kA	150V	3-P, QP
QSPD3C065	208Y/120V, 3Ø, 4W	600V	1000	20kA	200kA	150V	3-P, QP
QSPD3D065	240V, 3Ø, 3W	900V	1500	20kA	200kA	280V	3-P, QP

Benefits of installing multiple QSPDs

Adding multiple QSPDs in a single load center can increase the modes of protection and the surge capacity.

See the Boltshield brochure for more details and review the example chart below:

			Multiple QSPD	
No. of QSPDs or QSPD-Bases	**Connection**	**Modes of protection**	**Surge current capacity per mode**	**Surge current capacity per phase**
1	Neutral	3	65kA	65kA
2	Neutral + Ground	6	65kA	130kA
2	Neutral	3	130kA	130kA
3	Neutral(2) + Ground(1)	6	130kA(L-N) + 65kA (L-G)	195kA
3	Ground	3	195kA	195kA
4	Neutral(2) + Ground(2)	6	130kA	260kA

① Can also be used on 208Y/120V, 1Ø, 3W system.
② Type 1 SPDs suitable for use in Type 2 applications.
③ QSPD2A065P comes in retail style blister pack packaging.

Surge Protection Devices (SPD)

Power Service Entrance Surge Protection

FirstSurge™

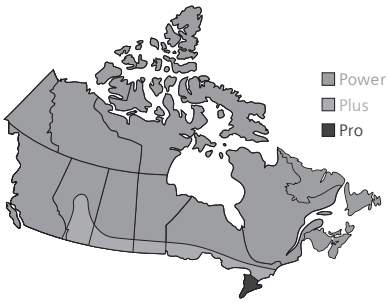
Total Home Protection
Siemens believes today's residential surge protectors come up short when protecting today's modern home filled with smart appliances and electronics.

This is why we developed our FirstSurge™ commercial class total home surge protectors. These electrical system surge protectors are sized for where you live. They will let you know when there is something wrong or when they are worn out.

Based upon thunderstorm frequency, geographic location, and home size, we developed a surge exposure map correlating with FirstSurge™ current capacities known to provide years of protective service for each shaded area.

Sized For Where You Live

Model	Surge Capacity
FirstSurge™ Power	(FS060) 60,000 A
FirstSurge™ Plus	(FS100) 100,000 A
FirstSurge™ Pro	(FS140) 140,000 A



Know You're Protected:
3 Stage Commerical Grade Notification
When there is a problem, Siemens FirstSurge™ takes the guesswork out of knowing when it is time to be replaced. What will you see and hear when this occurs?

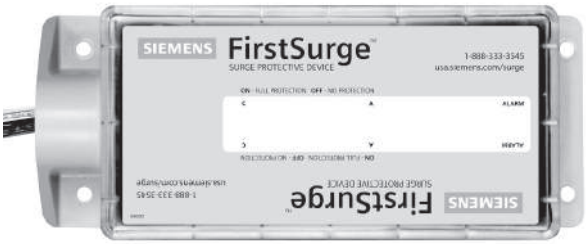
Audible Alarm: Beeps
Green LED(s): Extinguish
Red Service Light: Flashes

Ground Reference Monitoring (GRM)
FirstSurge™ is GRM-equipped notifying you a rare safety hazard exists due to a compromised electrical system neutral to ground bond. What will you see and hear when this occurs?

Audible Alarm: Beeps
Green LED(s): Remains Lit
Red Service Light: Flashes



*See warranty for details



Features & Benefits
- UL 1449 Listed, Type 2, Surge Protective Device (SPD)
- Rated for 120/240 split phase panels up to 400A
- Surge Current Capacities:
  - 60,000 A
  - 100,000 A
  - 140,000 A
- 3 Stage Commercial Grade Notification
- Ground Reference Monitoring (GRM)
- Installs onto any brand loadcentre
- Type 4 rated outdoor enclosure
- 10 year product and connected equipment warranty*

Technical Specifications	
Surge Spike Capacity	FirstSurge™ Power (FS060) 60,000 A FirstSurge™ Plus (FS100) 100,000 A FirstSurge™ Pro (FS140) 140,000 A
Line Voltage	120/240 Split Phase, 50/60 Hz
UL 1449 3rd Ed VPR	L-N: 600 V L-G: 600 V N-G: 600 V L-L: 900 V
Rated Voltage (MCOV)	150V – L-N, L-G, and N-G; 300V – L-L
Response Time	<1 nanosecond
Enclosure	NEMA 4X Indoor and Outdoor Rated
Selection Information	
FirstSurge™ Power	FS060
FirstSurge™ Plus	FS100
FirstSurge™ Pro	FS140
FirstSurge™ Flush Mount Kit	XMFMKIT

Surge Protection Devices (SPD)

Telephone Service Entrance Surge Protection

Siemens FSPHONE is a 2 pair, hardwired surge protector for telephone, DSL or modem connected electronics in residential and light commercial applications. The FSPHONE protects against electrical power surges that can enter through the main telephone connection and is equipped with a failshort device to permanently ground the telephone line in the event of a power cross.

The FSPHONE is designed for indoor applications or can be mounted inside another weatherproof enclosure for outdoor mounting applications.

The FSPHONE4X consists of the FSPHONE plus a weatherproof enclosure to facilitate indoor or outdoor applications. The enclosure is molded of temperature and humidity resistant thermoplastic to resist cracking and discoloration. The cover can be secured with a tie wrap or similar locking device.

For total home protection please use FirstSurge™ to protect your incoming AC Power lines and FSPHONE to protect your incoming telephone line.

Features & Benefits

- UL listed
- Hardwired Modem/Fax/DSL protection
- Easy to install
- Exceptionally fast response time
- Low insertion loss
- Available with or without enclosure
- 5-Year product warranty*





Technical Specifications	
Catastrophic Surge Circuit	Yes
Spike Capacity	200 Amps
Let Through Voltage	<270 V
Overcurrent Protection	Yes
Response Time	<1 nanosecond
Enclosure	Yes
Agency Approvals & Warranty	
UL/cUL Listings	497C
Meets Telcordia (formally Bellcore) GR-974-CORE Requirements for Telecommunications Line Protectors	Yes
Product Warranty	FS140
Catalogue Number	
FSPHONE	2 pair protection module
FSPHONE4X	2 pair protection module & 1 Weatherproof Enclosure

UL Model No. - SATH2

Coaxial Service Entrance Surge Protection

Siemens FSCATV shields coaxial connected electronics in residential and light commercial applications against electrical transient damage, including lightning, from entering through the main cable connection.

FSCATV includes a section of coaxial cable with female to female splice for line side application. The Siemens warranty covers product defects for 5 years. To have complete protection for your equipment, home, or business, it is important to protect AC power lines and all data lines the equipment is connected through.

Features & Benefits

- UL Listed
- Rated for CATV, DSS, TV, VCR, and Cable Modem
- Easy to install
- Standard Female to Female F connector
- Low insertion loss
- Automatic recovery
- 5 Year product warranty*



Technical Specifications	
Frequency Range	DC thru 1.5 GHz
Catastrophic Surge Circuit	Yes
Spike Capacity	5000 Amps, 8/20 µSec
Impedance	75 Ohms
Overcurrent Protection	Yes
Return Loss Insertion Loss	30dB @ 1 GHz <0.1dB
Agency Approvals & Warranty	
UL/cUL Listings	497C
Meets IEEE C62.41.1 Requirements	Yes
Product Warranty	FS140
Catalogue Number	
FSCATV	F-Type Inline Coax Protector

UL Model No. - SurgeassureTM SAVFFF

*See warranty for details

TPS3 01 and TPS3 L1
(True or Discrete 10-Mode)

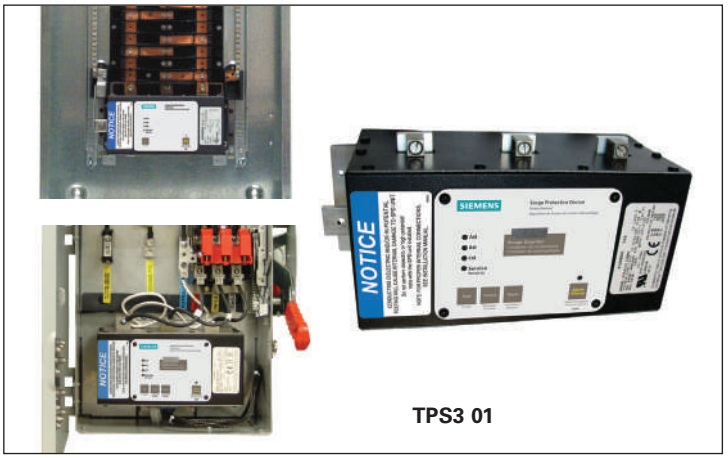
Siemens TPS3 01 and L1 surge protective devices are designed for integration within our P1, P2, and P3 power distribution panel boards, as well as TIASTAR motor control centers and busway systems. The TPS3 01 and L1 SPDs feature Ground Integrity Monitoring (GIM) diagnostics

TPS3 01 and TPS3 L1 Key Features

- UL 1449-4 Type 2 SPD and UL 1283 Listed
  – Optional UL 1449 4th Edition Listed Type 1
- Type 1 / Type 2 SPD
- 100 - 300 kA Per Phase Surge Current
- 20 kA I_n (Most models)
- 200 kA SCCR (Most models)
- UL 96A Lightning Protection Master Labeling compliant (@ 20 kA)
- Large block, individually fused, thermally protected, 50kA MOVs
- Every MOV is monitored, including N-G
- Mounts internal to:
  – P1, P2, and P3 panels
  – TIASTAR motor control centers – standard 6"bucket
  – STP series busplug on SX series busway
- Consult factory for field retrofit in P1 panels
- Modes of Protection: L-N, L-G, N-G, and L-L
- All UL required OCP & safety coordination included
  – Type 1 SPDs intended for Line or Load side of Main Disconnect
  – Type 2 SPDs intended for Load side of Main Disconnect
- Standard Monitoring: LED Indicators, Surge Counter, Dry Contacts, Audible Alarm w/ silence switch & test button
- Dimensions: 11.5" x 7.2" x 4.5" (292.1 mm x 182.9 mm x 114.3 mm)
- Weight: 4.55 lb. (2.06 kg)
- Designed, manufactured & tested consistent with:
  – ANSI / IEEE C62.41.1-2002, C62.41.2-2002, C62.45-2002, C62.62-1010, C62.72-2007 and CSA C22.2 No. 269.1 and 269.2
  – 1992/2000 NEMA LS-1
  – NEC Article 285
  – IEC 61643, CE
- 10 Year Product Warranty

Available Options:

- Direct bus connected or can be wired to a circuit breaker (include W option)



TPS3 01

Ordering Information

Catalog # TPS3 □ 01 □□ □□□□

Voltage Code	Surge Current (kA)	Options
A = 120/240 V, 1Ø, 3W	**10** = 100 kA per phase	**X** = Surge counter (Standard)
B = 120/240 V, 3Ø, 4W	**15** = 150 kA per phase	**W**= Terminal lug
C = 120/208 V, 3Ø, 4W	**20** = 200 kA per phase	**B** = Busway application
D = 240 V, 3Ø, 3W	**25** = 250 kA per phase	**M** = MCC application
E = 277/480 V, 3Ø, 4W	**30** = 300 kA per phase	**2** = Type 2 SPD (Default) Includes UL 1283 EMI/ RFI Filters
F = 480 V, 3Ø, 3W		**0** = Type 1 SPD (Consult Factory Prior to Ordering)
G = 600 V, 3Ø, 3W①		
K = 380/220 V, 3Ø, 4W		
L = 600/347 V, 3Ø, 4W		
S = 400/230 V, 3Ø, 4W		

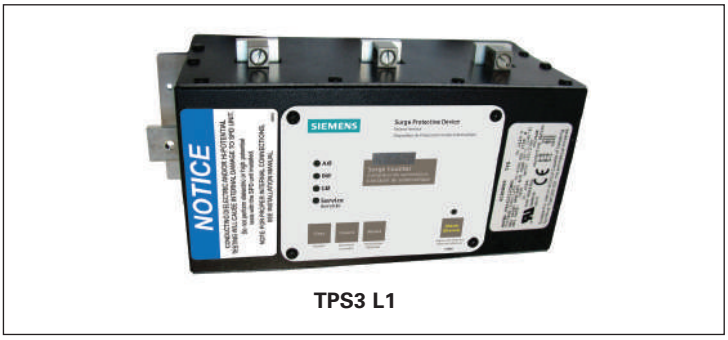
Example: **TPS3C0120X002** = Type 2 SPD (Default) for a 208/120V panelboard with a surge current capacity of 200 kA per phase and a surge counter.

When an option is not selected, include a **zero (0)** in the field.

Available Accessories: Ordered Separately

RMSIE = Remote monitor

① Available in 100 kA & 150 kA only



TPS3 L1

Ordering Information

Catalog # TPS3 □ L1 □□ □□□□

Voltage Code	Surge Current (kA)	Options
A = 120/240 V, 1Ø, 3W	**15** = 150 kA per phase	**X** = Surge counter (Standard)
B = 120/240 V, 3Ø, 4W	**30** = 300 kA per phase	**W**= Terminal lug
C = 120/208 V, 3Ø, 4W		**B** = Busway application
E = 277/480 V, 3Ø, 4W		**M** = MCC application
K = 380/220 V, 3Ø, 4W		**2** = Type 2 SPD (Default) Includes UL 1283 EMI/ RFI Filters
S = 400/230 V, 3Ø, 4W		**0** = Type 1 SPD

Example: **TPS3CL130X002** = 10 Mode Type 2 SPD (Default) for a 208/120V panelboard with a surge current capacity of 300 kA per phase and a surge counter.

When an option is not selected, include a **zero (0)** in the field.

Available Accessories: Ordered Separately

RMSIE = Remote monitor

TPS3 02 and TPS3 L2
(True or Discrete 10-Mode)

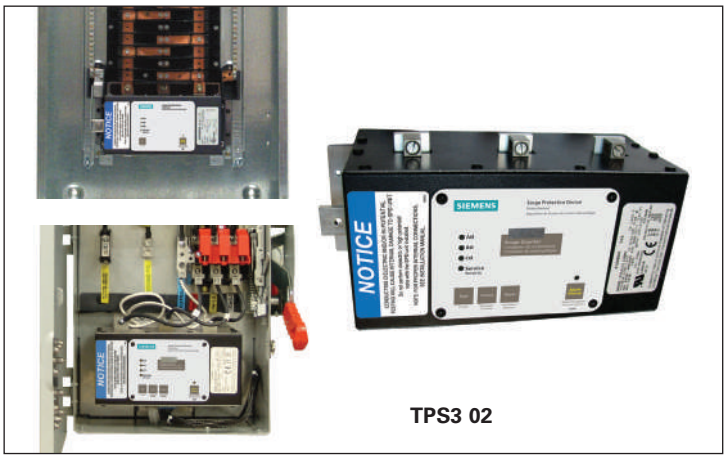
Siemens TPS3 02 and L2 surge protective devices are designed for integration within our Revised P1 power distribution panel boards. The TPS3 01 and L1 SPDs feature Ground Integrity Monitoring (GIM) diagnostics.

TPS3 02 and TPS3 L2 Key Features

- UL 1449-4 Type 2 SPD and UL 1283 Listed
  – Optional UL 1449 4th Edition Recognized Type 1
- Type 1 / Type 2 SPD
- 100 - 300 kA Per Phase Surge Current
- Large block, individually fused, thermally protected, 50kA MOVs
- 20 kA I_n (Most models)
- 200 kA SCCR (Most models)
- UL 96A Lightning Protection Master Labeling compliant (@ 20 kA)
- Large block, individually fused, thermally protected, 50kA MOVs
- Every MOV is monitored, including N-G
- Mounts internal to:
  – Revised P1 Lighting Panelboards
- Consult factory for field retrofit in P1 panels
- Modes of Protection: L-N, L-G, N-G, and L-L
- All UL required OCP & safety coordination included
  – Type 1 SPDs intended for Line or Load side of Main Disconnect
  – Type 2 SPDs intended for Load side of Main Disconnect
- Standard Monitoring: LED Indicators, Surge Counter, Dry Contacts, Audible Alarm w/ silence switch & test button
- Dimensions: 11.6" x 5.7" x 4.9"
  (294.6 mm x 144.8 mm x 124.5 mm)
- Weight: 4.55 lb. (2.06 kg)
- 10 Year Product Warranty

Available Options:

- Direct bus connected
  Can be wired to a circuit breaker (consult factory at time of order or see installation manual for retrofit)



TPS3 02

Ordering Information

Catalog # TPS3 ☐ 02 ☐☐☐☐

Voltage Code	Surge Current (kA)	Options
A = 120/240 V, 1Ø, 3W	**10** = 100 kA per phase	**X** = Surge counter (Standard)
B = 120/240 V, 3Ø, 4W	**15** = 150 kA per phase	**2** = Type 2 SPD (Default) Includes UL 1283 EMI/RFI Filters
C = 120/208 V, 3Ø, 4W	**20** = 200 kA per phase	**0** = Type 1 SPD (Consult Factory Prior to Ordering)
D = 240 V, 3Ø, 3W	**25** = 250 kA per phase	
E = 277/480 V, 3Ø, 4W	**30** = 300 kA per phase	
F = 480 V, 3Ø, 3W		
G = 600 V, 3Ø, 3W①		
K = 380/220 V, 3Ø, 4W		
L = 600/347 V, 3Ø, 4W		
S = 400/230 V, 3Ø, 4W		

Example: **TPS3C0220X2** = Type 2 SPD (Default) for a 208/120V panelboard with a surge current capacity of 200 kA per phase and a surge counter.

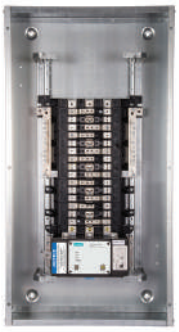
When an option is not selected, include a **zero** (**0**) in the field.

Available Accessories: Ordered Separately

RMSIE = Remote monitor

① Available in 100kA & 150 kA only





TPS3 L2

Ordering Information

Catalog # TPS3 ☐ L2 ☐☐☐☐

Voltage Code	Surge Current (kA)	Options
A = 120/240 V, 1Ø, 3W	**15** = 150 kA per phase	**X** = Surge counter (Standard)
B = 120/240 V, 3Ø, 4W	**30** = 300 kA per phase	**2** = Type 2 SPD (Default) Includes UL 1283 EMI/RFI Filters
C = 120/208 V, 3Ø, 4W		**0** = Type 1 SPD (Consult Factory Prior to Ordering)
E = 277/480 V, 3Ø, 4W		
K = 380/220 V, 3Ø, 4W		
S = 400/230 V, 3Ø, 4W		

Example: **TPS3CL230X2** = 10 Mode Type 2 SPD (Default) for a 208/120 V panelboard with a surge current capacity of 300 kA per phase and a surge counter.

When an option is not selected, include a **zero** (**0**) in the field.

Available Accessories: Ordered Separately

RMSIE = Remote monitor

TPS3 03

TPS3 03 is a UL 1449 4th Edition 50 kA Type 1 compact surge protective device that can be used as a replacement secondary surge or lighting arrestors. Having a Type 1 designation allows for flexible electrical system connection location (line or load side) as well as UL 96A compliance (@ 20 kA I_n).

TPS3 03 Key Features

- UL 1449 4th Edition Listed Type 1
- Type 1 Rated SPD
- 50 kA Per Phase Surge Current
- 20 kA I_n (Most models)
- 200 kA SCCR (Most models)
- UL 96A Lightning Protection Master Labeling compliant (@ 20 kA))
- Every MOV is monitored
- Mounts external to electrical distribution equipment – Recommend for Line Side or Load Side Applications
- Standard compact NEMA 4X polycarbonate enclosure
- Modes of Protection: L-N or L-G and L-L
- Standard Monitoring: LED Indicator
- Dimensions: 3.25" x 3.25" x 3.3" (82.6 mm x 82.6 mm x 83.8 mm)
- Weight: 2 lb. (0.9 kg)
- 2 Year Product Warranty

Available Options:

- Dry contacts & Audible Alarm (option "D")
- Neutral to Ground Protection (option "N")



TPS3 03



TPS3 01 DIN RAIL Mounting

Ordering Information

Catalog # TPS3 ☐ 03 ☐☐ ☐ ☐

Voltage Code

A = 120/240 V, 1Ø, 3W
B = 120/240 V, 3Ø, 4W
C = 120/208 V, 3Ø, 4W
D = 240 V, 3Ø, 3W
E = 277/480 V, 3Ø, 4W
F = 480 V, 3Ø, 3W
G = 600 V, 3Ø, 3W
K = 380/220 V, 3Ø, 4W
L = 600/347 V, 3Ø, 4W

Surge Current (kA)

05 = 50 kA per phase

Options

D = Dry contact & audible alarm
N = Adds N-G Protection

Example: **TPS3C0305D0** = Type 1 SPD for a 208/120V application with a surge current capacity of 50 kA per phase, in a standard NEMA 4X enclosure with dry contacts and audible alarm option.

When an option is not selected, include a **zero** (**0**) in the field.

Available Accessories: Ordered Separately

RMSIE = Remote monitor

TPS3 03 DC

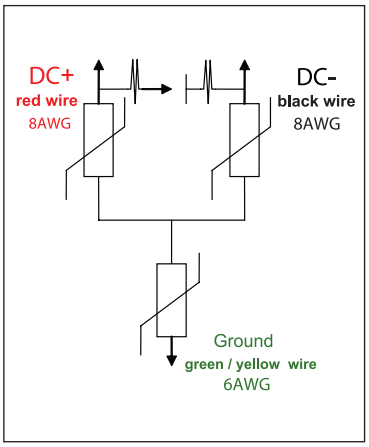
TPS3 03 DC is available in 300VDC, 600VDC and 1000VDC versions, which are designed to protect photovoltaic electrical systems. Typical PV installation would be on the DC solar panel side and also on the AC side of the inverter/converter. AC voltage TPS3 03's are also available. SPDs are highly recommended when lightning activity is present to protect sensitive electrical photovoltaic components.

TPS3 03 DC is designed as a stand alone device in a NEMA 4X polycarbonate enclosure. Large block, thermally protected 50 kA MOVs are utilized. A green LED illuminates for diagnostic monitoring. TPS3 03 DC comes standard with a Tri-Mount installation kit which allows it to be Nipple, DIN-rail or Bracket mounted.

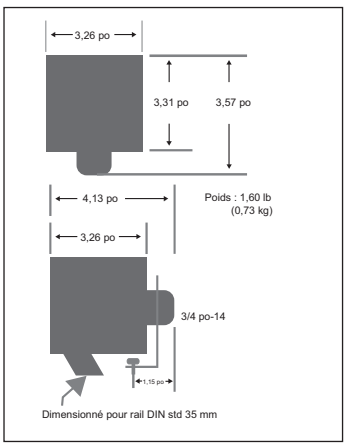


TPS3 09

Diagram



Dimensions



Ordering Information

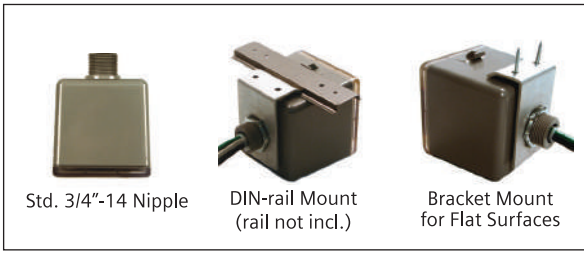
Catalog # TPS3 ☐ 0305

Voltage Code

M = 300 VDC **P** = 1000 VDC **R** = 600 VDC

Tri-Mount Installation

Mounting Kit Included



Std. 3/4"-14 Nipple | DIN-rail Mount (rail not incl.) | Bracket Mount for Flat Surfaces

Performance Data

Siemens Part Number		TPS3M0305	TPS3R0305	TPS3P0305
Modes of Protection		DC+ – DC- , DC+ – Ground, DC- – Ground		
Nominal Network Voltage	U_n	300VDC	600VDC	1000VDC
Technology		Large Block, Thermally Protected 50kA MOVs		
Maximum Continuous Operating Voltage DC	U_c	425VDC	760VDC	1180VDC
Maximum Surge Current (8/20 µs)	Imax	50kA	50kA	50kA
Nominal Discharge Current (8/20 µs)	I_n	20kA	20kA	10kA
Voltage Protection Level (3kA 8/20µs)	U_p	<600V	<1800V	<2500V
Operating Temperature		-40oC + 65oC		
Response Time	t_A	<1ns		
Installation mounting method		DIN Rail, Nipple or Bracket		
Enclosure Material		NEMA 4X Polycarbonate		
Wiring (red = + , black = - , green / yellow = gnd)		Pre-wired w/3'(~1m) of 8AWG + 6AWG Ground Conductor		
Diagnostic circuit		Low Consumption LED Indicator		
Safety Disconnectors		Thermal/Overcurrent Protection; Arc-Breaking Slide Gate		
UL Listing		UL 1449 Listed as Type 1 SPD as a DC SPD for PV and other types of DC applications		
Warranty		5 Years		

TPS3 05 and TPS3 L5
(True or Discrete 10-Mode)

Siemens TPS3 05 and L5 surge protective devices are designed for integration within our P4 and P5 panelboards as well as distribution switchboards. The TPS3 01 and L1 SPDs feature Ground Integrity Monitoring (GIM) diagnostics.

TPS3 05 and TPS3 L5 Key Features

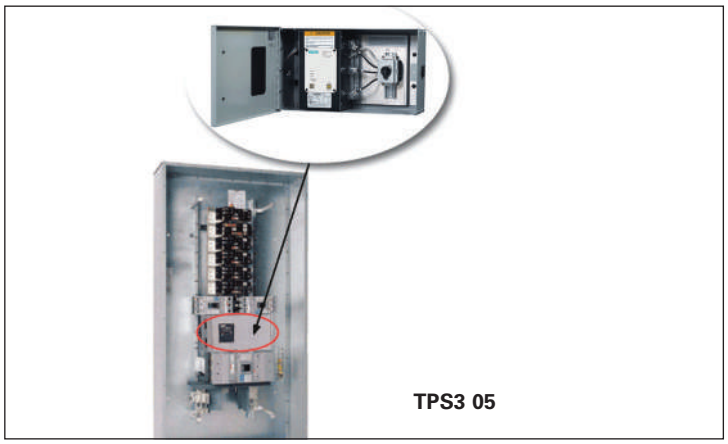
- UL 1449-4 Type 2 SPD and UL 1283 Listed
  – Optional UL 1449 4th Edition Listed Type 1
- Type 1 / Type 2 SPD
- 100 - 300 kA Per Phase Surge Current
- 20 kA I_n (Most models)
- 200 kA SCCR (Most models)
- UL 96A Lightning Protection Master Labeling compliant (@ 20 kA)
- Large block, individually fused, thermally protected, 50kA MOVs
- Every MOV is monitored, including N-G
- Mounts internal to:
  – P4 & P5 panelboards and distribution switchboards
- Modes of Protection: L-N, L-G, N-G, and L-L
- All UL required OCP & safety coordination included
  – Type 1 SPDs intended for Line or Load side of Main Disconnect
  – Type 2 SPDs intended for Load side of Main Disconnect
- Standard Monitoring: LED Indicators, Surge Counter, Dry Contacts, Audible Alarm w/ silence switch & test button
- Dimensions: 10" x 17" x 6"
  (254 mm x 431.8 mm x 152.4 mm)
- Weight: 9.4 lb. (4.2 kg)
- Designed, manufactured & tested consistent with:
  – ANSI / IEEE C62.41.1-2002, C62.41.2-2002, C62.45-2002, C62.62-1010, C62.72-2007 and CSA C22.2 No. 269.1 and 269.2
  – 1992/2000 NEMA LS-1
  – NEC Article 285
  – IEC 61643, CE
- 10 Year Product Warranty

Panelboard Features:

- Copper or aluminum bus
  MB or MLO

Switchboard Features:

- Copper or aluminum bus
  200% rated neutral bus for harmonic-rich applications
  CSA, UL 891, UL 67 and NEMA PB-2



TPS3 05

Ordering Information

Catalog # TPS3 ☐ 05 ☐☐☐☐

Voltage Code	Surge Current (kA)	Options
A = 120/240 V, 1Ø, 3W	**10** = 100 kA per phase	**X** = Surge counter (Standard)
B = 120/240 V, 3Ø, 4W	**15** = 150 kA per phase	**2** = Type 2 SPD (Default) Includes UL 1283 EMI/RFI Filters
C = 120/208 V, 3Ø, 4W	**20** = 200 kA per phase	**0** = Type 1 SPD (Consult Factory Prior to Ordering)
D = 240 V, 3Ø, 3W	**25** = 250 kA per phase	
E = 277/480 V, 3Ø, 4W	**30** = 300 kA per phase	
F = 480 V, 3Ø, 3W		
G = 600 V, 3Ø, 3W①		
K = 380/220 V, 3Ø, 4W		
L = 600/347 V, 3Ø, 4W		
S = 400/230 V, 3Ø, 4W		

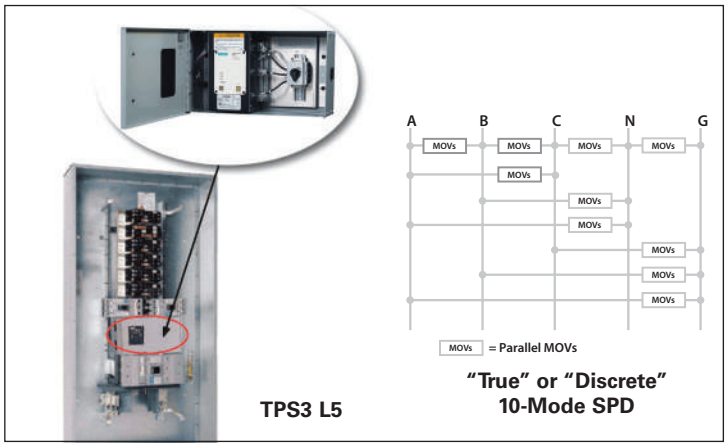
Example: **TPS3C0530X2** = Type 2 SPD (Default) for a 208/120V power panel with a surge current capacity of 300 kA per phase and a surge counter.

When an option is not selected, include a **zero (0)** in the field.

Available Accessories: Ordered Separately

RMSIE = Remote monitor

① Available in 100 kA & 150 kA only



TPS3 L5

"True" or "Discrete" 10-Mode SPD

Ordering Information

Catalog # TPS3 ☐ L5 ☐☐☐☐

Voltage Code	Surge Current (kA)	Options
A = 120/240 V, 1Ø, 3W	**15** = 150 kA per phase	**X** = Surge counter (Standard)
B = 120/240 V, 3Ø, 4W	**30** = 300 kA per phase	**2** = Type 2 SPD (Default) Includes UL 1283 EMI/RFI Filters
C = 120/208 V, 3Ø, 4W		**0** = Type 1 SPD (Consult Factory Prior to Ordering)
E = 277/480 V, 3Ø, 4W		
K = 380/220 V, 3Ø, 4W		
S = 400/230 V, 3Ø, 4W		

Example: **TPS3C0530X2** = Type 2 SPD (Default) for a 208/120V power panel with a surge current capacity of 300 kA per phase and a surge counter.

When an option is not selected, include a **zero (0)** in the field.

Available Accessories: Ordered Separately

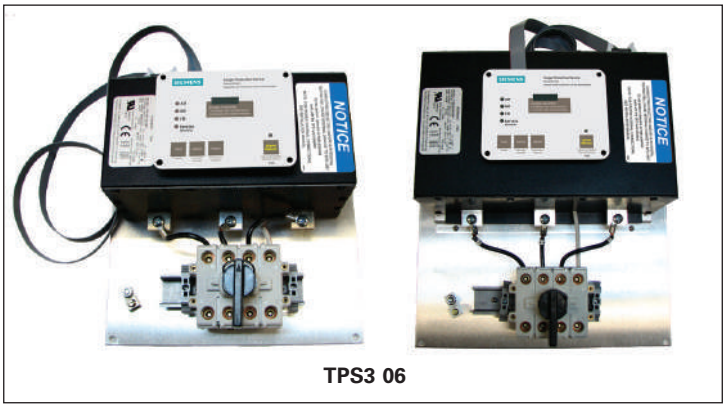
RMSIE = Remote monitor

TPS3 06 and TPS3 L6
(True or Discrete 10-Mode)

Siemens TPS3 06 and L6 surge protective devices are designed for integration within our SB1, SB2, SB3, Type RCS Switchboards, Low-voltage Switchgear, Motor Control Centers, and Busway Systems. The TPS3 01 and L1 SPDs feature Ground Integrity Monitoring (GIM) diagnostics.

TPS3 06 and TPS3 L6 Key Features

- UL 1449-4 Type 2 SPD and UL 1283 Listed
  – Optional UL 1449 4th Edition Listed Type 1
- Type 1 / Type 2 SPD
- 100 - 500 kA Per Phase Surge Current
- 20 kA I_n (Most models)
- 200 kA SCCR (Most models)
- UL 96A Lightning Protection Master Labeling compliant (@ 20 kA)
- Large block, individually fused, thermally protected, 50kA MOVs
- Every MOV is monitored, including N-G
- Mounts internal to:
  – SB1, SB2, SB3 and Type RCS Switchboards
  – Type WL low-voltage switchgear
  – TIASTAR motor control centers - standard 12" bucket
  – STP series busplug on SX series busway
- Modes of Protection: L-N, L-G, N-G, and L-L
- All UL required OCP & safety coordination included
  – Type 1 SPDs intended for Line or Load side of Main Disconnect
  – Type 2 SPDs intended for Load side of Main Disconnect
- Standard Monitoring: LED Indicators, Surge Counter, Dry Contacts, Audible Alarm w/ silence switch & test button, Rotary disconnect switch
- Dimensions: 10.7" x 11.5" x 4.5" (271.8 mm x 292.1 mm x 114.3 mm)
- Weight: 6.8 lb. (3.0 kg)
- Designed, manufactured & tested consistent with:
  – ANSI / IEEE C62.41.1-2002, C62.41.2-2002, C62.45-2002, C62.62-1010, C62.72-2007 and CSA C22.2 No. 269.1 and 269.2
  – 1992/2000 NEMA LS-1
  – NEC Article 285
  – IEC 61643, CE
- Designed, manufactured & tested consistent with:
  – ANSI / IEEE C62.41.1-2002, C62.41.2-2002, C62.45-2002, C62.62-1010, C62.72-2007 & CSA C22.2 No. 269.1 and .2
  – 1992/2000 NEMA LS-1
  – NEC Article 285
  – IEC 61643, CE
- 10 Year Product Warranty



TPS3 06

Ordering Information

Catalog # TPS3 □06 □□ □□□

Voltage Code	Surge Current (kA)	Options
A = 120/240 V, 1Ø, 3W	**10** = 100 kA per phase	**X** = Surge counter (Standard)
B = 120/240 V, 3Ø, 4W	**15** = 150 kA per phase	**B** = Busway application
C = 120/208 V, 3Ø, 4W	**20** = 200 kA per phase	**M** = MCC application
D = 240 V, 3Ø, 3W②	**25** = 250 kA per phase	**2** = Type 2 SPD (Default) Includes UL 1283 EMI/ RFI Filters
E = 277/480 V, 3Ø, 4W	**30** = 300 kA per phase	**0** = Type 1 SPD (Consult Factory Prior to Ordering)
F = 480 V, 3Ø, 3W②	**40** = 400 kA per phase	
G = 600 V, 3Ø, 3W①	**50** = 500 kA per phase	
K = 380/220 V, 3Ø, 4W		
L = 600/347 V, 3Ø, 4W		
S = 400/230 V, 3Ø, 4W		

Example: **TPS3C0120X002** = Type 2 SPD (Default) for a 208/120V panelboard with a surge current capacity of 200 kA per phase and a surge counter.

When an option is not selected, include a **zero** (**0**) in the field.

Available Accessories: Ordered Separately

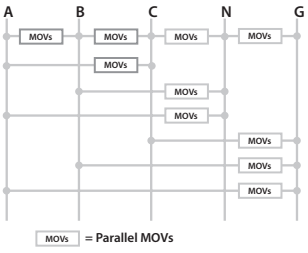
RMSIE = Remote monitor

① G voltage code only available in 200 & 250 kA

② Not available in 500 kA



TPS3 L6



"True" or "Discrete" 10-Mode SPD

Ordering Information

Catalog # TPS3 □L6 □□ □□□

Voltage Code	Surge Current (kA)	Options
A = 120/240 V, 1Ø, 3W	**15** = 150 kA per phase	**X** = Surge counter (Standard)
B = 120/240 V, 3Ø, 4W	**30** = 300 kA per phase	**B** = Busway application
C = 120/208 V, 3Ø, 4W	**45** = 450 kA per phase	**M** = MCC application
E = 277/480 V, 3Ø, 4W		**2** = Type 2 SPD (Default) Includes UL 1283 EMI/ RFI Filters
K = 380/220 V, 3Ø, 4W		**0** = Type 1 SPD (Consult Factory Prior to Ordering)
S = 400/230 V, 3Ø, 4W		

Example: **TPS3CL645X2** = 10 mode Type 2 SPD (Default) for a 208/120V switchboard with a surge current capacity of 450 kA per phase and a surge counter.

When an option is not selected, include a **zero** (**0**) in the field.

Available Accessories: Ordered Separately

RMSIE = Remote monitor

TPS3 09

TPS3 09 is a UL 1449 4th Edition 100 kA Type 1 compact multi-mode surge protective device that can be installed on either the line or load side of the electrical service. When installed at the electrical service entrance, it can be used for UL 96A compliance (@ 20 kA I_n).

TPS3 09 Key Features

- UL 1449 4th Edition Listed Type 1
- Type 1 Rated SPD
- 100 kA Per Phase Surge Current
- 20 kA I_n (Most models)
- 200 kA SCCR (Most models)
- UL 96A Lightning Protection Master Labeling compliant (@ 20 kA)
- Every MOV is monitored, including N-G
- Mounts external to electrical distribution equipment
  – Weatherproof hub included
- Mounts internal to P1 panelboards & busway
  – P1 - Field retrofit or factory install
  – P2 and P3 - factory install only
- Standard compact NEMA 4X polycarbonate enclosure
- Modes of Protection: L-N, L-G, N-G, and L-L
- Standard Monitoring: LED Indicators
- Wire Size: Prewired with 3' (91.4 cm) of #10 AWG
- Dimensions: 8.3" x 3.6" x 3.0" (211 mm x 91 mm x 77 mm)
- Weight: 3 lb. (1.4 kg)
- 10 Year Product Warranty

Available Options:

- Dry contacts & Audible Alarm (option "D")
- Extended indicator light (option "E")
- Internal mounting in P1, P2 Panels (option "I"), requires TPS9IKITP1 or TPS9IKITP2 mounting bracket accessory.



TPS3 09

Ordering Information

Catalog # TPS3 ☐09 ☐☐ ☐☐☐

Voltage Code	Surge Current (kA)	Options
A = 120/240 V, 1Ø, 3W **B** = 120/240 V, 3Ø, 4W **C** = 120/208 V, 3Ø, 4W **D** = 240 V, 3Ø, 3W **E** = 277/480 V, 3Ø, 4W **F** = 480 V, 3Ø, 3W **G** = 600 V, 3Ø, 3W **K** = 380/220 V, 3Ø, 4W **L** = 600/347 V, 3Ø, 4W **S** = 400/230 V, 3Ø, 4W	10 = 100 kA per phase Example: **TPS3C0910D000** = Type 1 SPD for a 208/120V panelboard with a surge current capacity of 100 kA per phase with standard NEMA 4X enclosure, dry contacts and audible alarm option. Available for field retrofit in P1 panels.	**E** = Extended indicator light **I** = Internal mounting in P1, P2 panels① **D** = Dry Contact & audible alarm

When an option is not selected, include a **zero** (**0**) in the field.

Available Accessories: Ordered Separately

RMSIE = Remote monitor
XMFMKIT = Flush mount plate
TPS9IKITP1 = Mounting bracket for installation in P1 panels
TPS9IKITP2 = Mounting bracket for installation in P2 panels (factory install only)

① Requires TPS9IKITP1 or TPS9IKITP2 mounting bracket accessory, see available Accessories. Prewired cables are extended from 3 to 6 feet.

TPS3 11

TPS3 11 is a UL 1449 3rd Edition Listed multi-mode Type 1 surge protective device with a per phase surge current capacity that can be increased to 200 kA. In addition, this unit provides UL 1283 listed EMI/RFI or Sine Wave tracking filtering that will condition low energy L-N coupled noise. When installed at the electrical service entrance, it can be used for UL 96A compliance (@ 20 kA I_n).

Standard monitoring includes protection status indication LEDs. Complete protection is intact when the status indicators are illuminated. When protection is lost, the status indicator will extinguish and the red service light will illuminate. An audible alarm and dry contacts are available monitoring options.

A new diagnostic feature integrated within the TPS3 11 is Ground Integrity Monitoring or (GIM) diagnostic indication circuit. Ground Integrity Monitoring or (GIM) diagnostics monitors the health of the electrical system's neutral to ground bond. If voltage is seen across neutral and ground, the phase indicators will remain illuminated, while the red service light begins to flash alerting the end user that the electrical system grounding needs to be checked and serviced. This feature can be remotely monitored when the optional dry contacts are included. Siemens TPS3s are one of the first in the industry to offer this power quality safety and performance indication.

TPS3 11 Key Features

- UL 1449-4 Type 2 SPD and UL 1283 Listed
  – Optional UL 1449 4th Edition Listed Type 1
- Type 1 / Type 2 SPD
- 100, 150, 200 kA Per Phase Surge Current
- 20 kA I_n (Most models)
- 200 kA SCCR (Most models)
- UL 96A Lightning Protection Master Labeling compliant (@ 20 kA)
- Every MOV is monitored, including N-G
- Mounts external to electrical distribution equipment
- Standard NEMA 4X polycarbonate enclosure (UL 746C (f1), UL 94-5VA)
- Modes of Protection: L-N, L-G, N-G, and L-L
- Standard Monitoring: LED Indicators and Ground Integrity Monitoring diagnostics
- Wire size: #8 AWG to #10 AWG
- Dimensions: 6" x 6" x 4" (152 mm x 152 mm x 102 mm)
- Weight: 5 lb. (2.27 kg)
- 10 Year Product Warranty

Available Options:

- Dry contacts & Audible Alarm (option "D")



TPS3 11

Ordering Information

Catalog # TPS3 ☐ 11 ☐☐ ☐ ☐

Voltage Code

A = 120/240 V, 1Ø, 3W
B = 120/240 V, 3Ø, 4W
C = 120/208 V, 3Ø, 4W
D = 240 V, 3Ø, 3W
E = 277/480 V, 3Ø, 4W
F = 480 V, 3Ø, 3W
G = 600 V, 3Ø, 3W①
K = 380/220 V, 3Ø, 4W
L = 600/347 V, 3Ø, 4W
S = 400/230 V, 3Ø, 4W

Surge Current (kA)

10 = 100 kA per phase
15 = 150 kA per phase
20 = 200 kA per phase

Example: **TPS3C1110D2** = Type 2 SPD (Default) for a 208/120V application with a surge current capacity of 100 kA per phase, in a standard NEMA 4X enclosure with dry contacts and audible alarm option.

When option **D** is NOT selected, include a **zero** (**0**) in the field.

Options

2 = Type 2 SPD (Default) Includes UL 1283 EMI/RFI Filters
0 = Type 1 SPD (Consult Factory Prior to Ordering)
D = Dry Contacts & audible alarm

Available Accessories: Ordered Separately

RMSIE = Remote monitor
KITFMXF = Flush mount plate

① Available in 100 kA per phase only

SPD - Surge Protective Devices

TPS3 External or Wall Mounted SPDs

Selection

TPS3 12 and TPS3 L12 (True or Discrete 10-Mode)

TPS3 12 and TPS3 L12 are UL 1449-4 Type 2 and Optional UL 1449 4th Edition surge protective device with a per phase surge current capacity that can be increased to 500 kA (TPS3 L12 up to 450 kA). For mission critical or high profile applications, the TPS3 L12 is our "True" or "Discrete" 10-mode style SPD providing the "Just in Case" assurance of directly connected L-L MOVs.

Both TPS3 12 and TPS3 L12 are UL 1283 Listed incorporating EMI/RFI or Sine Wave tracking filtering designed to condition low energy L-N coupled noise. When installed at the electrical service entrance, it can be used for UL 96A compliance (@ 20 kA In).

Standard monitoring includes protection status indication LEDs, audible alarm, and dry contacts. Complete protection is intact when the status indicators are illuminated. When protection is lost, the status indicator will extinguish, the red service light will illuminate, and the dry contacts will change state. An optional surge counter is available.

A new diagnostic feature integrated within the TPS3 12 and TPS3 L12 is Ground Integrity Monitoring or (GIM) diagnostic indication circuit. Ground Integrity Monitoring or (GIM) diagnostics monitors the health of the electrical system's neutral to ground bond. If voltage is seen across neutral and ground, the phase indicators will remain illuminated, while the red service light begins to flash alerting the end user that the electrical system grounding needs to be checked and serviced. This feature can be remotely monitored via the dry contact outputs. Siemens TPS3s are one of the first in the industry to offer this power quality safety and performance indication.

TPS3 12 and TPS3 L12 Key Features

- UL 1449-4 Type 2 SPD and UL 1283 Listed
  - Optional UL 1449 4th Edition Listed Type 1
- Type 1 / Type 2 SPD
- TPS3 12: 100 – 500 kA Per Phase Surge Current
- TPS3 L12: 150, 300, 450 kA Phase Surge Current
- 20 kA I_n (Most models)
- 200 kA SCCR (Most models)
- UL 96A Lightning Protection Master Labeling compliant (@ 20 kA)
- Every MOV is monitored, including N-G
- Mounts external to electrical distribution equipment
  - Recommended for line side or load side applications
- Standard NEMA 1/12/3R/04 ANSI 61 steel enclosure
- TPS3 12 Modes of Protection – L-N, L-G, N-G, and L-L
- TPS3 L12 Modes of Protection – L-N, L-G, N-G, and L-L (directly connected L-L elements)
- Standard Monitoring:
  - LED Indicators
  - Ground Integrity Monitoring diagnostics
  - Dry Contacts
  - Audible alarm with silence switch and test button
- Wire size: #8 AWG to 1/0
- Dimensions: 12" x 12" x 7" (305 mm x 305 mm x 178 mm)③
- Weight: 20 lb. (9.07 kg)③
- 10 Year Product Warranty

Available Options:

- Internal rotary disconnect
- Thru-door disconnect



TPS3 12

Ordering Information

Catalog # TPS3 □ 12 □□ □ □ □□

Voltage Code	Surge Current (kA)	Enclosure	Options
A = 120/240 V, 1Ø, 3W	**10** = 100 kA per phase	**0** = Standard NEMA 1/12/3R/4 Steel	**2** = Type 2 SPD (Default) Includes UL 1283 EMI/ RFI Filters
B = 120/240 V, 3Ø, 4W	**15** = 150 kA per phase	**V** = NEMA 4X non-metallic	**0** = Type 1 SD (Consult Factory Prior to Ordering)
C = 120/208 V, 3Ø, 4W	**20** = 200 kA per phase	**S** = NEMA 4X stainless steel	**D** = Internal rotary disconnect
D = 240 V, 3Ø, 3W①	**25** = 250 kA per phase	**F** = NEMA 1 flush mount	**T** = Thru-door disconnect
E = 277/480 V, 3Ø, 4W	**30** = 300 kA per phase	**P** = NEMA 1 screwcover pullbox with extended display on 6ft cable for line side mounting in SWBD/SWGR	**X** = Surge Counter (Standard)
F = 480 V, 3Ø, 3W①	**40** = 400 kA per phase		
G = 600 V, 3Ø, 3W②	**50** = 500 kA per phase		
K = 380/220 V, 3Ø, 4W			
L = 600/347 V, 3Ø, 4W			
S = 400/230 V, 3Ø, 4W			

Example: **TPS3C12100XD2** = Type 2 SPD (Default) for a 208/120V application with a surge current capacity of 100kA per phase, in a standard NEMA 1/12/3R/4 enclosure with a surge counter and internal rotary disconnect option.

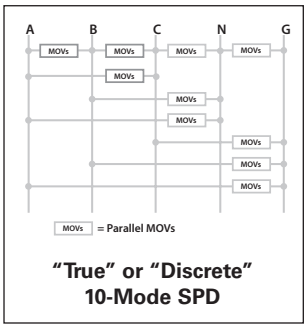
When option **X**, **T**, or **D** are NOT selected, include a **zero** (**0**) in the field.

Available Accessories: Ordered Separately

RMSIE = Remote monitor

① Not available in 500 kA

② Available in 100 kA, 150 kA, 200 kA & 250 kA only



"True" or "Discrete" 10-Mode SPD



TPS3 L12

Ordering Information

Catalog # TPS3 □ L12 □□ □ □ □□

Voltage Code	Surge Current (kA)	Enclosure	Options
A = 120/240 V, 1Ø, 3W	**15** = 150 kA per phase	**0** = Standard NEMA 1/12/3R/4 Steel	**2** = Type 2 SPD (Default) Includes UL 1283 EMI/ RFI Filters
B = 120/240 V, 3Ø, 4W	**30** = 300 kA per phase	**V** = NEMA 4X non-metallic	**0** = Type 1 SD (Consult Factory Prior to Ordering)
C = 120/208 V, 3Ø, 4W	**45** = 450 kA per phase	**S** = NEMA 4X stainless steel	**D** = Internal rotary disconnect
E = 277/480 V, 3Ø, 4W		**F** = NEMA 1 flush mount	**T** = Thru-door disconnect
K = 380/220 V, 3Ø, 4W		**P** = NEMA 1 screwcover pullbox with extended display on 6ft cable for line side mounting in SWBD/SWGR	**X** = Surge Counter (Standard)
S = 400/230 V, 3Ø, 4W			

Example: **TPS3CL12150XD2** = 10 Mode, Type 2 SPD (Default) for a 208/120V application with a surge current capacity of 150kA per phase, in a standard NEMA 1/12/3R/4 enclosure with a surge counter and internal rotary disconnect option.

When an option is NOT selected, include a **zero** (**0**) in the field.

Available Accessories: Ordered Separately

RMSIE = Remote monitor

③ Internal disconnect options and other NEMA ratings may increase enclosure size and weight

TPS3 15 and TPS3 L15 (True or Discrete 10-Mode)

TPS3 15 and TPS3 L15 are UL 1449-4 Type 2 and Optional UL 1449 4th Edition surge protective device with a per phase surge current capacity that can be increased to 1000 kA (TPS3 L15 up to 900 kA). For mission critical or high profile applications, the TPS3 L15 is our "True" or "Discrete" 10-mode style SPD providing the "Just in Case" assurance of directly connected L-L MOVs.

Both TPS3 15 and TPS3 L15 are UL 1283 Listed incorporating EMI/RFI or Sine Wave tracking filtering designed to condition low energy L-N coupled noise. When installed at the electrical service entrance, it can be used for UL 96A compliance (@ 20 kA I_n).

Standard monitoring includes protection status indication LEDs, audible alarm, and dry contacts. Complete protection is intact when the status indicators are illuminated. When protection is lost, the status indicator will extinguish, the red service light will illuminate, and the dry contacts will change state. An optional surge counter is available.

A new diagnostic feature integrated within the TPS3 15 and TPS3 L15 is Ground Integrity Monitoring or (GIM) diagnostic indication circuit. Ground Integrity Monitoring or (GIM) diagnostics monitors the health of the electrical system's neutral to ground bond. If voltage is seen across neutral and ground, the phase indicators will remain illuminated, while the red service light begins to flash alerting the end user that the electrical system grounding needs to be checked and serviced. This feature can be remotely monitored via the dry contact outputs. Siemens TPS3s are one of the first in the industry to offer this power quality safety and performance indication.

TPS3 15 and TPS3 L15 Key Features

- UL 1449-4 and UL 1283 Listed
  – Optional UL 1449 4th Edition Listed Type 1
- Type 1 / Type 2 SPD
- TPS3 15: 400 – 1000 kA Per Phase Surge Current
- TPS3 L15: 600 and 900 kA Phase Surge Current
- 20 kA I_n (Most models)
- 200 kA SCCR (Most models)
- UL 96A Lightning Protection Master Labeling compliant (@ 20 kA)
- Every MOV is monitored, including N-G
- Mounts external to electrical distribution equipment
  – Recommended for line side or load side applications
- Standard NEMA 1/12/3R/04 ANSI 61 steel enclosure
- TPS3 15 Modes of Protection – L-N, L-G, N-G, and L-L
- TPS3 L15 Modes of Protection – L-N, L-G, N-G, and L-L (directly connected L-L elements)
- Internal rotary disconnect switch included
- Standard Monitoring:
  – LED Indicators
  – Ground Integrity Monitoring diagnostics
  – Dry Contacts
  – Audible alarm with silence switch and test button
- Wire size: #8 AWG to 1/0
- Dimensions: 20" x 20" x 7" (508 mm x 508 mm x 178 mm)④
- Weight: 64 lb. (29 kg)④
- 10 Year Product Warranty

Available Options:

- Thru-door disconnect



TPS3 15

Ordering Information

Catalog # TPS3 □ 15 □□ □ □ □□

Voltage Code	Surge Current (kA)	Enclosure	Options
A = 120/240 V, 1Ø, 3W	**40** = 400 kA per phase①	**0** = Standard NEMA 1/12/3R/4 Steel	**2** = Type 2 SPD (Default) Includes UL 1283 EMI/ RFI Filters
B = 120/240 V, 3Ø, 4W	**50** = 500 kA per phase①	**V** = NEMA 4X non-metallic	**0** = Type 1 SD (Consult Factory Prior to Ordering)
C = 120/208 V, 3Ø, 4W	**60** = 600 kA per phase	**S** = NEMA 4X stainless steel	**T** = Thru-door disconnect
D = 240 V, 3Ø, 3W②	**80** = 800 kA per phase	**F** = NEMA 1 flush mount	**X** = Surge Counter (Standard)
E = 277/480 V, 3Ø, 4W	**1K** = 1000 kA per phase	**P** = NEMA 1 screwcover pullbox with extended display on 5ft cable for line side mounting in SWBD/SWGR	
F = 480 V, 3Ø, 3W②			
G = 600 V, 3Ø, 3W③			
K = 380/220 V, 3Ø, 4W			
L = 600/347 V, 3Ø, 4W			
S = 400/230 V, 3Ø, 4W			

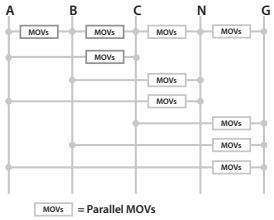
Example: **TPS3C1560SX02** = Type 2 SPD (Default) for a 208/120V application with a surge current capacity of 600 kA per phase, in a NEMA 4X stainless steel enclosure with a surge counter and standard disconnect switch.

When an option is NOT selected, include a **zero** (**0**) in the field.

Available Accessories: Ordered Separately

RMSIE = Remote monitor

① Available in G voltage code only
② Available in 600 kA & 800 kA only
③ Available in 400 kA & 500 kA only



"True" or "Discrete" 10-Mode SPD



TPS3 L15

Ordering Information

Catalog # TPS3 □ L15 □□ □ □ □□

Voltage Code	Surge Current (kA)	Enclosure	Options
A = 120/240 V, 1Ø, 3W	**60** = 600 kA per phase	**0** = Standard NEMA 1/12/3R/4 Steel	**2** = Type 2 SPD (Default) Includes UL 1283 EMI/ RFI Filters
B = 120/240 V, 3Ø, 4W	**90** = 900 kA per phase	**V** = NEMA 4X non-metallic	**0** = Type 1 SD (Consult Factory Prior to Ordering)
C = 120/208 V, 3Ø, 4W		**S** = NEMA 4X stainless steel	**T** = Thru-door disconnect
E = 277/480 V, 3Ø, 4W		**F** = NEMA 1 flush mount	**X** = Surge Counter (Standard)
K = 380/220 V, 3Ø, 4W		**P** = NEMA 1 screwcover pullbox with extended display on 5ft cable for line side mounting in SWBD/SWGR	
S = 400/230 V, 3Ø, 4W			

Example: **TPS3CL15600X02** = 10 Mode, Type 2 SPD (Default) for a 208/120V application with a surge current capacity of 600 kA per phase, in a standard NEMA 1/12/3R/4 enclosure with a surge counter.

When an option is NOT selected, include a **zero** (**0**) in the field.

Available Accessories: Ordered Separately

RMSIE = Remote monitor

Frequently Asked Questions

What is a surge protective device or SPD?

A Surge Protective Device is a device that attenuates (reduces in magnitude) random, high energy, short duration overvoltages caused by lightning, utilities, switching, etc. Such anomalies occur in the form of voltage and current spikes with a duration of less than half an ac voltage cycle. These high energy power spikes can damage sensitive electronic equipment, such as computers, instrumentation, and process controllers.

How do SPDs work?

Surge Suppressors divert high energy power away from a load by providing a lower impedance path to common point earth ground. This is similar in concept to pressure relief valves that protect water heaters from overpressure. Surge suppressors used most often for protection of AC Power have metal oxide varistors (MOVs) connected in parallel.

Where are SPDs installed?

AC voltage surge suppressors are typically installed in these three areas: at a utility service entrance for protection of an entire facility, in distribution panelboards and switchboards for protection of sensitive downstream loads; connected to a wall outlet for individual protection of a specific piece of equipment, such as a computer or solid-state controller.

What is clamping voltage?

Clamping voltage, also referred to as peak let through or suppressed voltage rating, is the amount of voltage a surge suppressor permits to pass through it to the attached load during a transient event. Clamping voltage is a performance measurement of a surge suppressor's ability to attenuate a transient. For example, a surge suppressor might limit a 6,000V surge so that only 700V is 'visible' to the load. The Voltage Protection Rating is 700V, commonly called Clamping Voltage. This performance value is confirmed by Underwriters Laboratories during tests conducted while evaluating a surge suppressor for listing.

What is surge current capacity?

Surge current capacity is the maximum amount of surge current that a surge suppressor can pass for a single transient event. This level is used to indicate the protection capacity of a particular surge suppressor design, and when specifying surge suppressors. For example, in a high exposure application with very large transients present from lightning, a higher level surge current capacity might be desired. Be aware that surges have natural limitations and that larger surge current capacity tends to add redundancy rather than the implied ability to handle an extremely large surge. For example, an entire lightning strike cannot go through wire; it is much like trying to put the output from a fire hose through a soda straw. Consequently, suppressors do not need to be sized for entire lightning strikes. There are valid reasons for adding excess surge current capacity for redundancy reasons.

What types of components make up a SPD?

The device most commonly used in AC voltage surge suppressors are MOVs, a solid-state device made of zinc oxide materials. MOVs are voltage sensitive semiconductors, which change from high impedance to low impedance when sensing an overvoltage condition. MOVs are packaged for specific voltages and current handling capacities. Other devices (more typically found in DC applications) include single junction diodes and gas tubes that ionize at preset voltages.

What features should be considered when selecting SPDs?

Two important areas to consider during the selection of a surge suppressor are performance and safety, and include the following criteria: Performance: 1) surge current capacity; and 2) clamping voltage. Safety: 1) the individual suppression circuit should be fused to clear an inoperative MOV during an extreme transient event, and 2) provide overcurrent protection for the surge suppressor during a fault condition.

What surge current capacity is required?

Surge current capacity is dependent on the application and the amount of required protection. The selection of the proper surge suppressor is not an exact science and cannot be scientifically calculated from a standard algorithm.

Questions to consider when specifying the proper surge current capacity for a surge suppressor include:

- What is the geographic location of the facility and it's susceptibility to lightning? (For example, Florida is a high-lightning area; California is a low lightning area.)
- Is the facility in a rural or urban setting?
- Is the facility the tallest building around?
- Is the facility at the end of the utility grid?
- If it is an existing facility, what is its power quality history?

Based on the above information, and taking into account the cost of protection, the following is a good rule of thumb: a surge suppressor with a surge current capacity in the range of 100kA to 300kA would be used in conjunction with a service entrance panelboard or switchboard. A surge suppressor with a surge current capacity in the range of 100kA to 200kA would be used in conjunction with a downstream panelboard