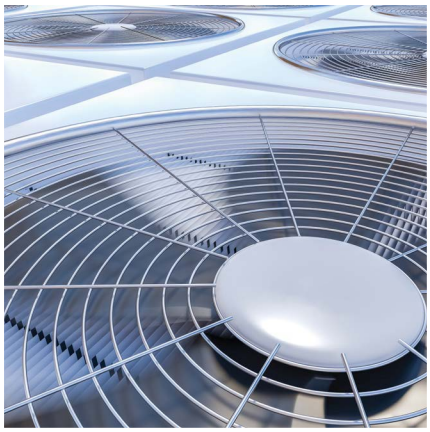
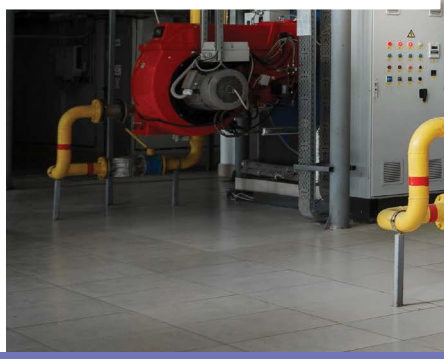
Littelfuse®

Expertise Applied | Answers Delivered









SURGE PROTECTIVE DEVICES CATALOG

SPD2 SERIES

SPDN SERIES





SPD2 Series



SPDN Series

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Surge Protective Devices

TABLE OF CONTENTS

SPD2 SERIES

Overview 2

SPD2 XP+0 SERIES

SPD2 1P+0 3
SPD2 2P+0 5
SPD2 3P+0 7
SPD2 4P+0 9

SPD2 XP+1 SERIES

SPD2 1P+1 11
SPD2 3P+1 13

SPD2 PV SERIES

SPD2 PV 15

SPD2 Series Cross Reference Guide 17

SPDN SERIES

Overview 18
SPDN-A 19
SPDN-B 21
SPDN-C 23
SPDN-D 25
SPDN Series Dimensional Diagrams 27
SPDN Series Cross Reference Guide 28

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Surge Protective Devices

SPD2 SERIES OVERVIEW

Littelfuse Type 2 Surge Protection Devices (SPDs) for branch circuits safeguard components from transient overvoltage or surges by limiting the fault current to a load or the unit being protected. Surges may be caused by an indirect lightning strike but, the majority—sixty to eighty percent*—are caused by equipment being turned on or off within a facility. These surges damage components costing money to repair or replace as well as create unplanned downtime resulting in unfulfilled orders, missed deadlines, unreliable systems and/or dangerous situations.

The DIN-rail mounted SPDs are available in a wide range of operating voltages and include solar applications. They are ideal for:

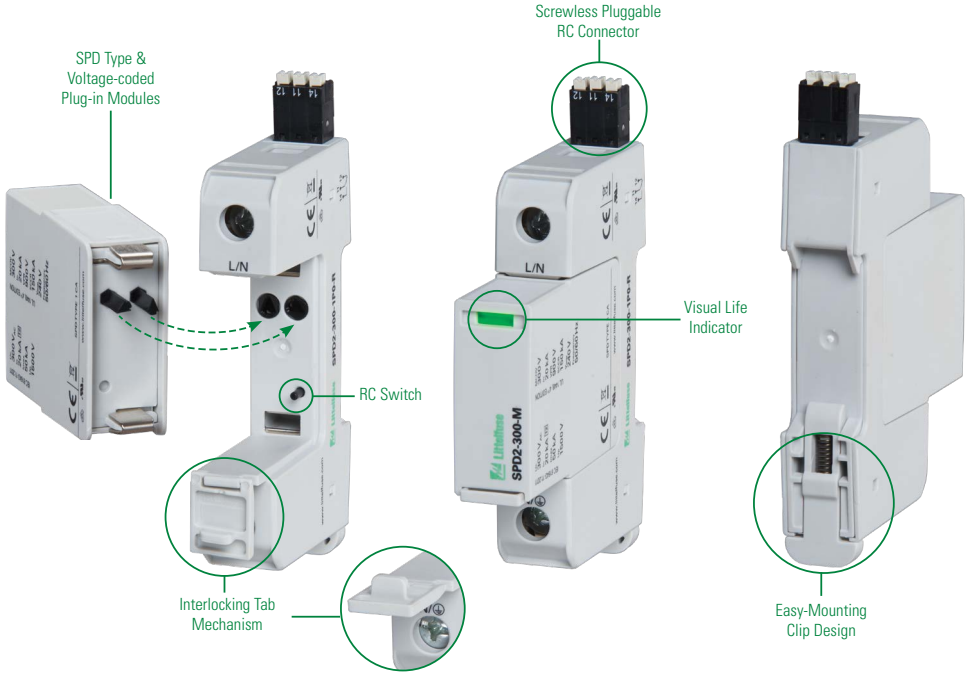
Power Distribution
- Load Centers
- Transformers
- Generators

HVAC or Medical Equipment

Industrial Controls
- Programmable Logic Controllers
- Motor Controls
- Variable-Frequency Drives
- Proximity Sensors
- Barcoding Equipment
- Machine Vision Systems

Electrical Loads
- Motors
- Fans
- Heaters
- Blowers
- Ballasts

Computers and Communications
- LANs
- WANs
- Intercoms
- Fire, Security, UPS or Building Management Systems

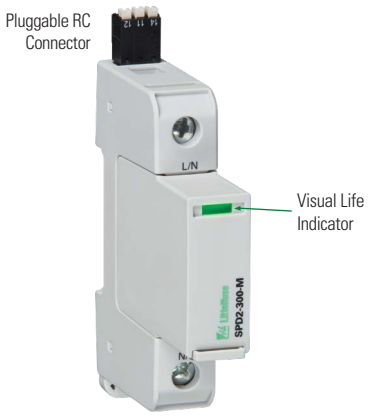


FEATURES	BENEFITS
Capability to clamp and withstand high-energy transients	Ensures low-residual voltage during high-energy surge events and higher nominal discharge current to prevent disruption, downtime, and degradation or damage to equipment
UL and VDE-IEC compliant in single part number	One component can be utilized globally, reducing inventory needs and simplifying allocation of parts
Interlocking tab mechanism	Secures module to withstand vibration
SPD type and voltage-coded plug-in module	Prevents specific SPD/voltage module from being plugged into wrong base. Eliminates risk of improper protection
No additional overcurrent protection devices required in UL applications	Reduces the number of components and costs required for protection
Compact footprint	Increases panel design flexibility
Visual life indicator	Quick visual determines module replacement status to avoid loss of protection
Pluggable modules	Fast and simple to replace, minimizing maintenance and downtime. No tools required
Thermal protection	Eliminates catastrophic failure
IP20 protection rating	Finger-safe design increases worker protection

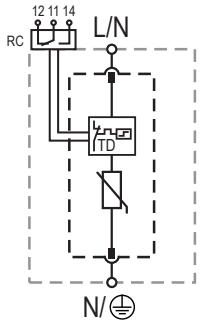
*National Electrical Safety Month 2015, Electrical Safety Foundation International [website] Surge and Protect. Available: https://www.esfi.org/resource/surge-and-protect-413

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Class II/Type 2/Type 1 CA Pluggable Single-Pole



Internal Configuration



Legend

L *Line*
N *Neutral*
⏚ *Protective Earth*
RC *Remote Contacts*
TD *Thermal Disconnection*

Description

Surge protection devices (SPDs) provide equipment protection from transient overvoltage events lasting micro-seconds. By limiting the overvoltage to the equipment during these events, costly damage and downtime can be mitigated.

The surge protection devices for the 1+0 configuration are available for 60 V to 600 V nominal voltage sub-distribution board applications.

Features & Benefits

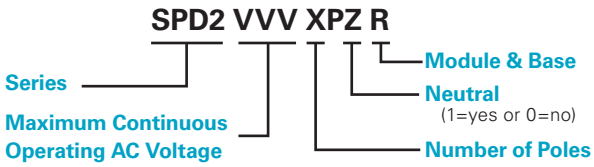
FEATURES	BENEFITS
Capability to clamp and withstand high-energy transients	Ensures low-residual voltage during high-energy surge events and higher nominal discharge current to prevent disruption, downtime, and degradation or damage to equipment
UL and VDE-IEC compliant in single part number	One component can be utilized globally, reducing inventory needs and simplifying allocation of parts
Interlocking tab mechanism	Secures module to withstand vibration
No additional overcurrent protection devices required in UL applications	Reduces the number of components and costs required for protection
Compact footprint	Increases panel design flexibility
Visual life indicator	Quick visual determines module replacement status to avoid loss of protection
Pluggable modules	Fast and simple to replace, minimizing maintenance and downtime. No tools required
Thermal protection	Eliminates catastrophic failure
IP20 protection rating	Finger-safe design increases worker protection

Module & Base Ordering Information

Ordering Number	IEC Electrical								UL Electrical				Single Unit Weight
	Nominal AC Voltage (50/60 Hz) (U_d/U_n)	Maximum Continuous Operating AC Voltage (U_c)	Nominal Discharge Current (8/20 µs) (I_n)	Maximum Discharge Current (8/20 µs) (I_{max})	Voltage Protection Level (U_p)	Short-Circuit AC Current Rating (I_{SCCR})	TOV Withstand 5 s (U_T)	TOV 120 min (U_T) / Mode	Maximum Continuous AC Operating Voltage (MCOV)	Voltage Protection Rating (VPR)	Nominal Discharge Current (8/20 µs) (I_n)	Short-Circuit Current Rating (SCCR)	
SPD2-075-1P0-R	60 V	75 V	20 kA	50 kA	800 V	25 kA / 50 kA	114 V	114 V / Withstand	75 V	330 V	20 kA	100 kA	124 g (0.274 lb)
SPD2-150-1P0-R	120 V	150 V	20 kA	50 kA	1250 V	25 kA / 50 kA	229 V	229 V / Withstand	150 V	600 V	20 kA	200 kA	128 g (0.283 lb)
SPD2-300-1P0-R	240 V	300 V	20 kA	50 kA	1500 V	25 kA / 50 kA	337 V	442 V / Safe Fail	300 V	900 V	20 kA	150 kA	135 g (0.298 lb)
SPD2-350-1P0-R	277 V	350 V	20 kA	50 kA	1750 V	25 kA / 50 kA	403 V	529 V / Safe Fail	350 V	1000 V	20 kA	200 kA	140 g (0.309 lb)
SPD2-480-1P0-R	400 V	480 V	20 kA	50 kA	2300 V	25 kA / 50 kA	581 V	762 V / Safe Fail	480 V	1500 V	20 kA	200 kA	145 g (0.320 lb)
SPD2-550-1P0-R*	480 V	550 V	20 kA	50 kA	2500 V	25 kA / 50 kA	697 V	915 V / Safe Fail	550 V	2000 V	20 kA	200 kA	148 g (0.326 lb)
SPD2-750-1P0-R	600 V	750 V	20 kA	35 kA	3400 V	25 kA / 50 kA	871 V	1143 V / Safe Fail	750 V	2500 V	20 kA	200 kA	161 g (0.355 lb)

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Module & Base Part Numbering System



Module Only Part Numbering System



Replacement Module Ordering Information

Ordering Number	IEC Electrical								UL Electrical				Single Unit Weight
	Nominal AC Voltage (50/60 Hz) (U_o/U_n)	Maximum Continuous Operating AC Voltage (U_c)	Nominal Discharge Current (8/20 µs) (I_n)	Maximum Discharge Current (8/20 µs) (I_{max})	Voltage Protection Level (U_p)	Short-Circuit AC Current Rating (I_{SCCR})	TOV Withstand 5 s (U_T)	TOV 120 min (U_T) / Mode	Maximum Continuous AC Operating Voltage (MCOV)	Voltage Protection Rating (VPR)	Nominal Discharge Current (8/20 µs) (I_n)	Short-Circuit Current Rating (SCCR)	
SPD2-075-M	60 V	75 V	20 kA	50 kA	800 V	25 kA / 50 kA	114 V	114 V / Withstand	75 V	330 V	20 kA	100 kA	50 g (0.111 lb)
SPD2-150-M	120 V	150 V	20 kA	50 kA	1250 V	25 kA / 50 kA	229 V	229 V / Withstand	150 V	600 V	20 kA	200 kA	54 g (0.120 lb)
SPD2-300-M	240 V	300 V	20 kA	50 kA	1500 V	25 kA / 50 kA	337 V	442 V / Safe Fail	300 V	900 V	20 kA	150 kA	61 g (0.135 lb)
SPD2-350-M	277 V	350 V	20 kA	50 kA	1750 V	25 kA / 50 kA	403 V	529 V / Safe Fail	350 V	1000 V	20 kA	200 kA	66 g (0.146 lb)
SPD2-480-M	400 V	480 V	20 kA	50 kA	2300 V	25 kA / 50 kA	581 V	762 V / Safe Fail	480 V	1500 V	20 kA	200 kA	71 g (0.157 lb)
SPD2-550-M*	480 V	550 V	20 kA	50 kA	2500 V	25 kA / 50 kA	697 V	915 V / Safe Fail	550 V	2000 V	20 kA	200 kA	74 g (0.163 lb)
SPD2-750-M	600 V	750 V	20 kA	35 kA	3400 V	25 kA / 50 kA	871 V	1143 V / Safe Fail	750 V	2500 V	20 kA	200 kA	87 g (0.192 lb)

Specifications

Network Systems TN-S, TN-C, TT (only L-N)
Mode of Protection L-PE, N-PE (only TN-S), L-PEN, L-N
Nominal Discharge Current (8/20 µs) (I_n) 20 kA
Maximum Discharge Current (8/20 µs) (I_{max}) Up to 50 kA
Protective Elements High Energy MOV
Response Time (L-N / N-PE t_A) < 25 ns
Back-Up Fuse (max) 315 A/250 A Gg
Number of Ports 1

Mechanical & Environmental

Operating Temperature Range (T_a) -40 °C to +80 °C (-40 °F to +185 °F)
Permissible Operating Humidity (RH) 5% to 95%
Altitude (max) 4,000 m (13,123 ft)
Terminal Screw Torque (M_{max}) 4.5 Nm (39.9 lbf-in)
Conductor Cross Section (max) 35 mm² (2 AWG) (Solid, Stranded)/ 25 mm² (4 AWG) (Flexible)
Mounting 35 mm DIN Rail, EN60715
Degree of Protection IP20 (built-in)
Housing Material Thermoplastic: Extinguishing Degree UL 94 V-0
Thermal Protection Yes
Operating State/Fault Indication Green Flag/No Green Flag
Remote Contact Switching Capacity AC: 250 V/1 A, 125 V/1 A; DC: 48 V/0.5 A, 24 V/0.5 A, 12 V/0.5 A
Remote Contact Conductor Cross Section (max) 1.5 mm² (16 AWG) (Solid)
Standards Passed* IEC 61643-11:2011
EN 61643-11:2012
UL 1449, 4th edition

Product Dimensions

1TE Module and Base **H** 90.0 mm (3.54"); **W** 18.0 mm (0.71"); **D** 70.0 mm (2.76")
1TE Replacement Module **H** 45.0 mm (1.77"); **W** 18.0 mm (0.71"); **D** 57.2mm (2.25")

Package Dimensions

1TE Module and Base **H** 102.0 mm (4.01"); **W** 28.0 mm (1.10"); **D** 110.0 mm (4.33")
1TE Replacement Module **H** 102.0 mm (4.01"); **W** 28.0 mm (1.10"); **D** 110.0 mm (4.33")

*SPD2-550-1P0-R and SPD2-550-M are UL Listed only

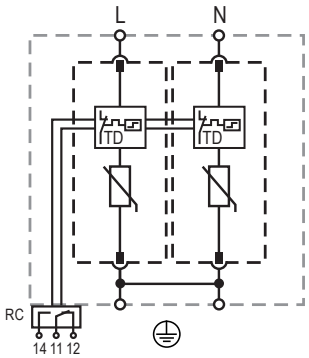
Warranty – Visit **www.littelfuse.com/warranty** for details.

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Class II/Type 2/Type 1 CA Pluggable Multi-Pole



Internal Configuration



Legend

L *Line*
N *Neutral*
⏚ *Protective Earth*
RC *Remote Contacts*
TD *Thermal Disconnection*

Description

Surge protection devices (SPDs) provide equipment protection from transient overvoltage events lasting micro-seconds. By limiting the overvoltage to the equipment during these events, costly damage and downtime can be mitigated.

The surge protection devices for the 2+0 configuration are available for 120 V to 600 V nominal voltage sub-distribution board applications.

Features & Benefits

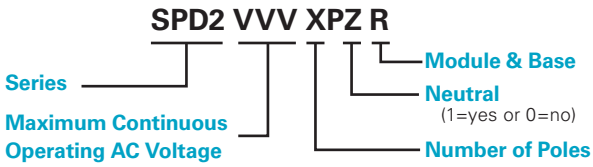
FEATURES	BENEFITS
Capability to clamp and withstand high-energy transients	Ensures low-residual voltage during high-energy surge events and higher nominal discharge current to prevent disruption, downtime, and degradation or damage to equipment
UL and VDE-IEC compliant in single part number	One component can be utilized globally, reducing inventory needs and simplifying allocation of parts
Interlocking tab mechanism	Secures module to withstand vibration
No additional overcurrent protection devices required in UL applications	Reduces the number of components and costs required for protection
Compact footprint	Increases panel design flexibility
Visual life indicator	Quick visual determines module replacement status to avoid loss of protection
Pluggable modules	Fast and simple to replace, minimizing maintenance and downtime. No tools required
Thermal protection	Eliminates catastrophic failure
IP20 protection rating	Finger-safe design increases worker protection

Module & Base Ordering Information

Ordering Number	IEC Electrical								UL Electrical				Single Unit Weight
	Nominal AC Voltage (50/60Hz) (U_o/U_n)	Maximum Continuous Operating AC Voltage (U_c)	Nominal Discharge Current (8/20 µs) (I_n)	Maximum Discharge Current (8/20 µs) (I_{max})	Voltage Protection Level (U_p)	Short-Circuit AC Current Rating (I_{SCCR})	TOV Withstand 5 s (U_T)	TOV 120 min (U_T) / Mode	Maximum Continuous AC Operating Voltage (MCOV)	Voltage Protection Rating (VPR)	Nominal Discharge Current (8/20 µs) (I_n)	Short-Circuit Current Rating (SCCR)	
SPD2-150-2P0-R	120 V	150 V	20 kA	50 kA	1250 V	25 kA / 50 kA	229 V	229 V / Withstand	150 V	600 V	20 kA	200 kA	252 g (0.556 lb)
SPD2-300-2P0-R	240 V	300 V	20 kA	50 kA	1500 V	25 kA / 50 kA	337 V	442 V / Safe Fail	300 V	900 V	20 kA	150 kA	266 g (0.587 lb)
SPD2-350-2P0-R	277 V	350 V	20 kA	50 kA	1750 V	25 kA / 50 kA	403 V	529 V / Safe Fail	350 V	1000 V	20 kA	200 kA	276 g (0.609 lb)
SPD2-480-2P0-R	400 V	480 V	20 kA	50 kA	2300 V	25 kA / 50 kA	581 V	762 V / Safe Fail	480 V	1500 V	20 kA	200 kA	286 g (0.631 lb)
SPD2-550-2P0-R*	480 V	550 V	20 kA	50 kA	2500 V	25 kA / 50 kA	697 V	915 V / Safe Fail	550 V	2000 V	20 kA	200 kA	290 g (0.639 lb)
SPD2-750-2P0-R	600 V	750 V	20 kA	35 kA	3400 V	25 kA / 50 kA	871 V	1143 V / Safe Fail	750 V	2500 V	20 kA	200 kA	318 g (0.702 lb)

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Module & Base Part Numbering System



Module Only Part Numbering System



Replacement Module Ordering Information

Ordering Number	IEC Electrical								UL Electrical				Single Unit Weight
	Nominal AC Voltage (50/60Hz) (U_o/U_n)	Maximum Continuous Operating AC Voltage (U_c)	Nominal Discharge Current (8/20 µs) (I_n)	Maximum Discharge Current (8/20 µs) (I_{max})	Voltage Protection Level (U_p)	Short-Circuit AC Current Rating (I_{SCCR})	TOV Withstand 5 s (U_T)	TOV 120 min (U_T) / Mode	Maximum Continuous AC Operating Voltage (MCOV)	Voltage Protection Rating (VPR)	Nominal Discharge Current (8/20 µs) (I_n)	Short-Circuit Current Rating (SCCR)	
SPD2-150-M	120 V	150 V	20 kA	50 kA	1250 V	25 kA / 50 kA	229 V	229 V / Withstand	150 V	600 V	20 kA	200 kA	54 g (0.120 lb)
SPD2-300-M	240 V	300 V	20 kA	50 kA	1500 V	25 kA / 50 kA	337 V	442 V / Safe Fail	300 V	900 V	20 kA	150 kA	61 g (0.135 lb)
SPD2-350-M	277 V	350 V	20 kA	50 kA	1750 V	25 kA / 50 kA	403 V	529 V / Safe Fail	350 V	1000 V	20 kA	200 kA	66 g (0.146 lb)
SPD2-480-M	400 V	480 V	20 kA	50 kA	2300 V	25 kA / 50 kA	581 V	762 V / Safe Fail	480 V	1500 V	20 kA	200 kA	71 g (0.157 lb)
SPD2-550-M*	480 V	550 V	20 kA	50 kA	2500 V	25 kA / 50 kA	697 V	915 V / Safe Fail	550 V	2000 V	20 kA	200 kA	74 g (0.163 lb)
SPD2-750-M	600 V	750 V	20 kA	35 kA	3400 V	25 kA / 50 kA	871 V	1143 V / Safe Fail	750 V	2500 V	20 kA	200 kA	87 g (0.192 lb)

Specifications

Network Systems TN-S
Mode of Protection L-PE, N-PE
Nominal Discharge Current (8/20 µs) (I_n) 20 kA
Maximum Discharge Current (8/20 µs) (I_{max}) Up to 50 kA
Protective Elements High Energy MOV
Response Time (t_A) < 25 ns
Back-Up Fuse (max) 315 A/250 A Gg
Number of Ports 1

Mechanical & Environmental

Operating Temperature Range (T_a) -40 °C to +80 °C (-40 °F to +185 °F)
Permissible Operating Humidity (RH) 5% to 95%
Altitude (max) 4,000 m (13,123 ft)
Terminal Screw Torque) (M_{max}) 4.5 Nm (39.9 lbf-in)
Conductor Cross Section (max) 35 mm² (2 AWG) (Solid, Stranded)/ 25 mm² (4 AWG) (Flexible)
Mounting 35 mm DIN Rail, EN60715
Degree of Protection IP20 (built-in)
Housing Material Thermoplastic: Extinguishing Degree UL 94 V-0
Thermal Protection Yes
Operating State/Fault Indication Green Flag/No Green Flag
Remote Contact Switching Capacity AC: 250 V/1 A, 125 V/1 A; DC: 48 V/0.5 A, 24 V/0.5 A, 12 V/0.5 A
Remote Contact Conductor Cross Section (max) 1.5 mm² (16 AWG) (Solid)
Standards Passed* IEC 61643-11:2011
EN 61643-11:2012
UL 1449, 4th edition

Dimensions & Packaging

2TE Module and Base **H** 90.0 mm (3.54"); **W** 36.0 mm (1.42"); **D** 70.0 mm (2.76")
1TE Replacement Module **H** 45.0 mm (1.77"); **W** 18.0 mm (0.71"); **D** 57.2mm (2.25")

Package Dimensions

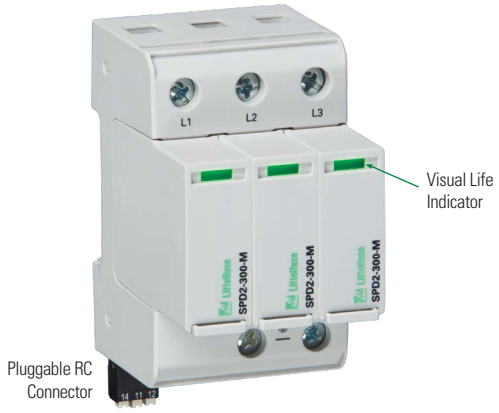
2TE Module and Base **H** 102.0 mm (4.01"); **W** 46.0 mm (1.81"); **D** 110.0 mm (4.33")
1TE Replacement Module **H** 102.0 mm (4.01"); **W** 28.0 mm (1.10"); **D** 110.0 mm (4.33")

*SPD2-550-2P0-R and SPD2-550-M are UL Listed only

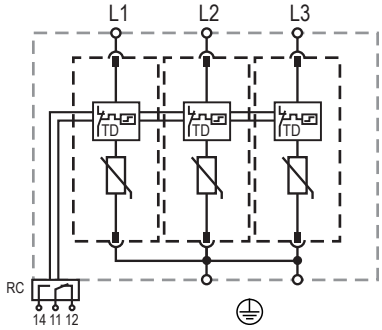
Warranty – Visit **www.littelfuse.com/warranty** for details.

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Class II/Type 2/Type 1 CA Pluggable Multi-Pole



Internal Configuration



Legend

L *Line*
N *Neutral*
⏚ *Protective Earth*
RC *Remote Contacts*
TD *Thermal Disconnection*

Description

Surge protection devices (SPDs) provide equipment protection from transient overvoltage events lasting micro-seconds. By limiting the overvoltage to the equipment during these events, costly damage and downtime can be mitigated.

The surge protection devices for the 3+0 configuration are available for 120 V to 600 V nominal voltage sub-distribution board applications.

Features & Benefits

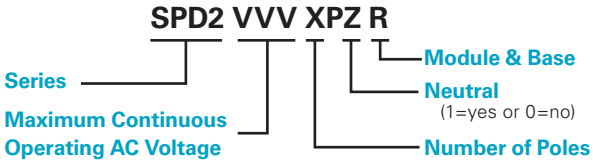
FEATURES	BENEFITS
Capability to clamp and withstand high-energy transients	Ensures low-residual voltage during high-energy surge events and higher nominal discharge current to prevent disruption, downtime, and degradation or damage to equipment
UL and VDE-IEC compliant in single part number	One component can be utilized globally, reducing inventory needs and simplifying allocation of parts
Interlocking tab mechanism	Secures module to withstand vibration
No additional overcurrent protection devices required in UL applications	Reduces the number of components and costs required for protection
Compact footprint	Increases panel design flexibility
Visual life indicator	Quick visual determines module replacement status to avoid loss of protection
Pluggable modules	Fast and simple to replace, minimizing maintenance and downtime. No tools required
Thermal protection	Eliminates catastrophic failure
IP20 protection rating	Finger-safe design increases worker protection

Module & Base Ordering Information

Ordering Number	IEC Electrical								UL Electrical				Single Unit Weight
	Nominal AC Voltage (50/60Hz) (U_o/U_n)	Maximum Continuous Operating AC Voltage (U_c)	Nominal Discharge Current (8/20 µs) (I_n)	Maximum Discharge Current (8/20 µs) (I_{max})	Voltage Protection Level (U_p)	Short-Circuit AC Current Rating (I_{SCCR})	TOV Withstand 5 s (U_T)	TOV 120 min (U_T) / Mode	Maximum Continuous AC Operating Voltage (MCOV)	Voltage Protection Rating (VPR)	Nominal Discharge Current (8/20 µs) (I_n)	Short-Circuit Current Rating (SCCR)	
SPD2-150-3P0-R	120 V	150 V	20 kA	50 kA	1250 V	25 kA / 50 kA	229 V	229 V / Withstand	150 V	600 V	20 kA	200 kA	355 g (0.783 lb)
SPD2-300-3P0-R	240 V	300 V	20 kA	50 kA	1500 V	25 kA / 50 kA	337 V	442 V / Safe Fail	300 V	900 V	20 kA	150 kA	376 g (0.829 lb)
SPD2-350-3P0-R	277 V	350 V	20 kA	50 kA	1750 V	25 kA / 50 kA	403 V	529 V / Safe Fail	350 V	1000 V	20 kA	200 kA	391 g (0.862 lb)
SPD2-480-3P0-R	400 V	480 V	20 kA	50 kA	2300 V	25 kA / 50 kA	581 V	762 V / Safe Fail	480 V	1500 V	20 kA	200 kA	406 g (0.896 lb)
SPD2-550-3P0-R*	480 V	550 V	20 kA	50 kA	2500 V	25 kA / 50 kA	697 V	915 V / Safe Fail	550 V	2000 V	20 kA	200 kA	414 g (0.913 lb)
SPD2-750-3P0-R	600 V	750 V	20 kA	35 kA	3400 V	25 kA / 50 kA	871 V	1143 V / Safe Fail	750 V	2500 V	20 kA	200 kA	454 g (1.001 lb)

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Module & Base Part Numbering System



Module Only Part Numbering System



Replacement Module Ordering Information

Ordering Number	IEC Electrical								UL Electrical				Single Unit Weight
	Nominal AC Voltage (50/60Hz) (U_o/U_n)	Maximum Continuous Operating AC Voltage (U_c)	Nominal Discharge Current (8/20 µs) (I_n)	Maximum Discharge Current (8/20 µs) (I_{max})	Voltage Protection Level (U_p)	Short-Circuit AC Current Rating (I_{SCCR})	TOV Withstand 5 s (U_T)	TOV 120 min (U_T) / Mode	Maximum Continuous AC Operating Voltage (MCOV)	Voltage Protection Rating (VPR)	Nominal Discharge Current (8/20 µs) (I_n)	Short-Circuit Current Rating (SCCR)	
SPD2-150-M	120 V	150 V	20 kA	50 kA	1250 V	25 kA / 50 kA	229 V	229 V / Withstand	150 V	600 V	20 kA	200 kA	54 g (0.120 lb)
SPD2-300-M	240 V	300 V	20 kA	50 kA	1500 V	25 kA / 50 kA	337 V	442 V / Safe Fail	300 V	900 V	20 kA	150 kA	61 g (0.135 lb)
SPD2-350-M	277 V	350 V	20 kA	50 kA	1750 V	25 kA / 50 kA	403 V	529 V / Safe Fail	350 V	1000 V	20 kA	200 kA	66 g (0.146 lb)
SPD2-480-M	400 V	480 V	20 kA	50 kA	2300 V	25 kA / 50 kA	581 V	762 V / Safe Fail	480 V	1500 V	20 kA	200 kA	71 g (0.157 lb)
SPD2-550-M*	480 V	550 V	20 kA	50 kA	2500 V	25 kA / 50 kA	697 V	915 V / Safe Fail	550 V	2000 V	20 kA	200 kA	74 g (0.163 lb)
SPD2-750-M	600 V	750 V	20 kA	35 kA	3400 V	25 kA / 50 kA	871 V	1143 V / Safe Fail	750 V	2500 V	20 kA	200 kA	87 g (0.192 lb)

Specifications

Network Systems TT, TN-S
Mode of Protection L-N, N-PE
Nominal Discharge Current (8/20 µs) (I_n) 20 kA
Maximum Discharge Current (8/20 µs) (I_{max}) Up to 50 kA
Protective Elements High Energy MOV
Response Time (L-N / N-PE t_A) < 25 ns
Back-Up Fuse (max) 315 A/250 A Gg
Number of Ports 1

Mechanical & Environmental

Operating Temperature Range (T_a) -40 °C to +80 °C (-40 °F to +185 °F)
Permissible Operating Humidity (RH) 5% to 95%
Altitude (max) 4,000 m (13,123 ft)
Terminal Screw Torque) (M_{max}) 4.5 Nm (39.9 lbf-in)
Conductor Cross Section (max) 35 mm² (2 AWG) (Solid, Stranded)/ 25 mm² (4 AWG) (Flexible)
Mounting 35 mm DIN Rail, EN60715
Degree of Protection IP20 (built-in)
Housing Material Thermoplastic: Extinguishing Degree UL 94 V-0
Thermal Protection Yes
Operating State/Fault Indication Green Flag/No Green Flag
Remote Contact Switching Capacity AC: 250 V/1 A, 125 V/1 A; DC: 48 V/0.5 A, 24 V/0.5 A, 12 V/0.5 A
Remote Contact Conductor Cross Section (max) 1.5 mm² (16 AWG) (Solid)
Standards Passed* IEC 61643-11:2011
EN 61643-11:2012
UL 1449, 4th edition

Product Dimensions

3TE Module and Base **H** 90.0 mm (3.54"); **W** 54.0 mm (2.13"); **D** 70.0 mm (2.76")
1TE Replacement Module **H** 45.0 mm (1.77"); **W** 18.0 mm (0.71"); **D** 57.2mm (2.25")

Package Dimensions

3TE Module and Base **H** 102.0 mm (4.01"); **W** 64.0 mm (2.52"); **D** 110.0 mm (4.33")
1TE Replacement Module **H** 102.0 mm (4.01"); **W** 28.0 mm (1.10"); **D** 110.0 mm (4.33")

*SPD2-550-3P0-R and SPD2-550-M are UL Listed only

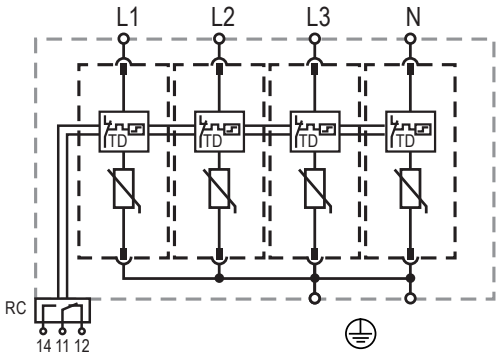
Warranty – Visit **www.littelfuse.com/warranty** for details.

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Class II/Type 2/Type 1 CA Pluggable Multi-Pole



Internal Configuration



Legend

L	*Line*	RC	*Remote Contacts*
N	*Neutral*	TD	*Thermal Disconnection*
⏚	*Protective Earth*		

Description

Surge protection devices (SPDs) provide equipment protection from transient overvoltage events lasting micro-seconds. By limiting the overvoltage to the equipment during these events, costly damage and downtime can be mitigated.

The surge protection devices for the 4+0 configuration are available for 120 V to 480 V nominal voltage sub-distribution board applications.

Features & Benefits

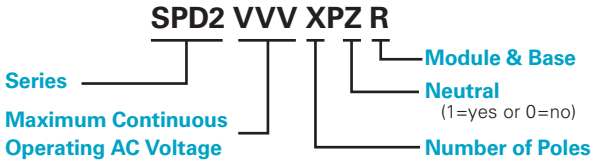
FEATURES	BENEFITS
Capability to clamp and withstand high-energy transients	Ensures low-residual voltage during high-energy surge events and higher nominal discharge current to prevent disruption, downtime, and degradation or damage to equipment
UL and VDE-IEC compliant in single part number	One component can be utilized globally, reducing inventory needs and simplifying allocation of parts
Interlocking tab mechanism	Secures module to withstand vibration
No additional overcurrent protection devices required in UL applications	Reduces the number of components and costs required for protection
Compact footprint	Increases panel design flexibility
Visual life indicator	Quick visual determines module replacement status to avoid loss of protection
Pluggable modules	Fast and simple to replace, minimizing maintenance and downtime. No tools required
Thermal protection	Eliminates catastrophic failure
IP20 protection rating	Finger-safe design increases worker protection

Module & Base Ordering Information

Ordering Number	IEC Electrical								UL Electrical				Single Unit Weight
	Nominal AC Voltage (50/60Hz) (U_c/U_n)	Maximum Continuous Operating AC Voltage (U_c)	Nominal Discharge Current (8/20 µs) (I_n)	Maximum Discharge Current (8/20 µs) (I_{max})	Voltage Protection Level (U_p)	Short-Circuit AC Current Rating (I_{SCCR})	TOV Withstand 5 s (U_T)	TOV 120 min (U_T) / Mode	Maximum Continuous AC Operating Voltage (MCOV)	Voltage Protection Rating (VPR)	Nominal Discharge Current (8/20 µs) (I_n)	Short-Circuit Current Rating (SCCR)	
SPD2-150-4P0-R	120 V	150 V	20 kA	50 kA	1250 V	25 kA / 50 kA	229 V	229 V / Withstand	150 V	600 V	20 kA	200 kA	477 g (1.052 lb)
SPD2-300-4P0-R	240 V	300 V	20 kA	50 kA	1500 V	25 kA / 50 kA	337 V	442 V / Safe Fail	300 V	900 V	20 kA	150 kA	505 g (1.114 lb)
SPD2-350-4P0-R	277 V	350 V	20 kA	50 kA	1750 V	25 kA / 50 kA	403 V	529 V / Safe Fail	350 V	1000 V	20 kA	200 kA	525 g (1.158 lb)
SPD2-480-4P0-R	400 V	480 V	20 kA	50 kA	2300 V	25 kA / 50 kA	581 V	762 V / Safe Fail	480 V	1500 V	20 kA	200 kA	545 g (1.202 lb)
SPD2-550-4P0-R*	480 V	550 V	20 kA	50 kA	2500 V	25 kA / 50 kA	697 V	915 V / Safe Fail	550 V	2000 V	20 kA	200 kA	557 g (1.228 lb)

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Module & Base Part Numbering System



Module Only Part Numbering System



Replacement Module Ordering Information

Ordering Number	IEC Electrical								UL Electrical				Single Unit Weight
	Nominal AC Voltage (50/60Hz) (U_d/U_n)	Maximum Continuous Operating AC Voltage (U_c)	Nominal Discharge Current (8/20 µs) (I_n)	Maximum Discharge Current (8/20 µs) (I_{max})	Voltage Protection Level (U_p)	Short-Circuit AC Current Rating (I_{SCCR})	TOV Withstand 5 s (U_T)	TOV 120 min (U_T) / Mode	Maximum Continuous AC Operating Voltage (MCOV)	Voltage Protection Rating (VPR)	Nominal Discharge Current (8/20 µs) (I_n)	Short-Circuit Current Rating (SCCR)	
SPD2-150-M	120 V	150 V	20 kA	50 kA	1250 V	25 kA / 50 kA	229 V	229 V / Withstand	150 V	600 V	20 kA	200 kA	54 g (0.120 lb)
SPD2-300-M	240 V	300 V	20 kA	50 kA	1500 V	25 kA / 50 kA	337 V	442 V / Safe Fail	300 V	900 V	20 kA	150 kA	61 g (0.135 lb)
SPD2-350-M	277 V	350 V	20 kA	50 kA	1750 V	25 kA / 50 kA	403 V	529 V / Safe Fail	350 V	1000 V	20 kA	200 kA	66 g (0.146 lb)
SPD2-480-M	400 V	480 V	20 kA	50 kA	2300 V	25 kA / 50 kA	581 V	762 V / Safe Fail	480 V	1500 V	20 kA	200 kA	71 g (0.157 lb)
SPD2-550-M*	480 V	550 V	20 kA	50 kA	2500 V	25 kA / 50 kA	697 V	915 V / Safe Fail	550 V	2000 V	20 kA	200 kA	74 g (0.163 lb)

Specifications

Network Systems TN-S
Mode of Protection L-PE, N-PE
Nominal Discharge Current (8/20 µs) (I_n) 20 kA
Maximum Discharge Current (8/20 µs) (I_{max}) Up to 50 kA
Protective Elements High Energy MOV
Response Time (t_A) < 25 ns
Back-Up Fuse (max) 315 A/250 A Gg
Number of Ports 1

Mechanical & Environmental

Operating Temperature Range (T_a) -40 °C to +80 °C (-40 °F to +185 °F)
Permissible Operating Humidity (RH) 5% to 95%
Altitude (max) 4,000 m (13,123 ft)
Terminal Screw Torque (M_{max}) 4.5 Nm (39.9 lbf-in)
Conductor Cross Section (max) 35 mm² (2 AWG) (Solid, Stranded)/ 25 mm² (4 AWG) (Flexible)
Mounting 35 mm DIN Rail, EN60715
Degree of Protection IP20 (built-in)
Housing Material Thermoplastic: Extinguishing Degree UL 94 V-0
Thermal Protection Yes
Operating State/Fault Indication Green Flag/No Green Flag
Remote Contact Switching Capacity AC: 250 V/1 A, 125 V/1 A; DC: 48 V/0.5 A, 24 V/0.5 A, 12 V/0.5 A
Remote Contact Conductor Cross Section (max) 1.5 mm² (16 AWG) (Solid)
Standards Passed* IEC 61643-11:2011
EN 61643-11:2012
UL 1449, 4th edition

Product Dimensions

4TE Module and Base **H** 90.0 mm (3.54"); **W** 72.0 mm (2.84"); **D** 70.0 mm (2.76")
1TE Replacement Module **H** 45.0 mm (1.77"); **W** 18.0 mm (0.71"); **D** 57.2mm (2.25")

Package Dimensions

4TE Module and Base **H** 102.0 mm (4.01"); **W** 82.0 mm (3.23"); **D** 110.0 mm (4.33")
1TE Replacement Module **H** 102.0 mm (4.01"); **W** 28.0 mm (1.10"); **D** 110.0 mm (4.33")

*SPD2-550-4P0-R and SPD2-550-M are UL Listed only

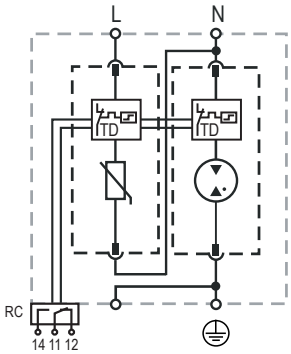
Warranty – Visit **www.littelfuse.com/warranty** for details.

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Class II/Type 2/Type 1 CA Pluggable Multi-Pole



Internal Configuration



Legend

L *Line*
N *Neutral*
⏚ *Protective Earth*
RC *Remote Contacts*
TD *Thermal Disconnection*

Description

Surge protection devices (SPDs) provide equipment protection from overvoltage events lasting micro-seconds. By limiting the overvoltage to the equipment during these events, costly equipment damage and downtime can be mitigated.

The surge protection devices for the 1+1 configuration are available for 60 V to 277 V nominal voltage sub-distribution board applications.

Features & Benefits

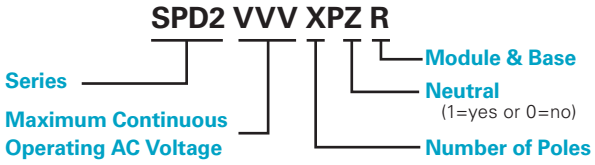
FEATURES	BENEFITS
Capability to clamp and withstand high-energy transients	Ensures low-residual voltage during high-energy surge events and higher nominal discharge current to prevent disruption, downtime, and degradation or damage to equipment
UL and VDE-IEC compliant in single part number	One component can be utilized globally, reducing inventory needs and simplifying allocation of parts
Interlocking tab mechanism	Secures module to withstand vibration
No additional overcurrent protection devices required in UL applications	Reduces the number of components and costs required for protection
Compact footprint	Increases panel design flexibility
Visual life indicator	Quick visual determines module replacement status to avoid loss of protection
Pluggable modules	Fast and simple to replace, minimizing maintenance and downtime. No tools required
Thermal protection	Eliminates catastrophic failure
IP20 protection rating	Finger-safe design increases worker protection

Module & Base Ordering Information

Ordering Number	IEC Electrical										UL Electrical				Single Unit Weight
	Nominal AC Voltage (50/60Hz) (U_d/U_n)	Maximum Continuous Operating AC Voltage (L-N / N-PE U_c)	Nominal Discharge Current (8/20 µs) (L-N / N-PE I_n)	Maximum Discharge Current (8/20 µs) (L-N / N-PE I_{max})	Voltage Protection Level (L-N / N-PE U_p)	Follow Current Interrupt Rating (N-PE I_{fi})	Short-Circuit AC Current Rating (L-N I_{SCCR})	TOV Withstand 5 s (L-N U_T)	TOV 120 min (L-N U_T) / Mode	TOV Withstand 200 ms (N-PE U_T)	Maximum Continuous AC Operating Voltage (L-N / N-PE MCOV)	Voltage Protection Rating (L-N / N-PE VPR)	Nominal Discharge Current (8/20 µs) (L-N / N-PE I_n)	Short-Circuit Current Rating (L-N SCCR)	
SPD2-075-1P1-R	60 V	75 V / 305 V	20 kA / 40 kA	50 kA / 65 kA	800 V / 1500 V	100 A_{RMS}	25 kA / 50 kA	114 V	114 V / Withstand	1200 V	75 V / 305 V	330 V / 1000 V	20 kA / 20 kA	100 kA	124 g (0.274 lb)
SPD2-150-1P1-R	120 V	150 V / 305 V	20 kA / 40 kA	50 kA / 65 kA	1250 V / 1500 V	100 A_{RMS}	25 kA / 50 kA	229 V	229 V / Withstand	1200 V	150 V / 305 V	600 V / 1000 V	20 kA / 20 kA	200 kA	128 g (0.283 lb)
SPD2-300-1P1-R	240 V	300 V / 305 V	20 kA / 40 kA	50 kA / 65 kA	1500 V / 1500 V	100 A_{RMS}	25 kA / 50 kA	337 V	442 V / Safe Fail	1200 V	300 V / 305 V	900 V / 1000 V	20 kA / 20 kA	150 kA	135 g (0.298 lb)
SPD2-350-1P1-R	277 V	350 V / 305 V	20 kA / 40 kA	50 kA / 65 kA	1750 V / 1500 V	100 A_{RMS}	25 kA / 50 kA	403 V	529 V / Safe Fail	1200 V	350 V / 305 V	1000 V / 1000 V	20 kA / 20 kA	200 kA	140 g (0.309 lb)

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Module & Base Part Numbering System



Module Only Part Numbering System



Replacement Module Ordering Information

Ordering Number	IEC Electrical										UL Electrical				Single Unit Weight
	Nominal AC Voltage (50/60Hz) (U_c/U_n)	Maximum Continuous Operating AC Voltage (L-N / N-PE U_c)	Nominal Discharge Current (8/20 µs) (L-N / N-PE I_n)	Maximum Discharge Current (8/20 µs) (L-N / N-PE I_{max})	Voltage Protection Level (L-N / N-PE U_p)	Follow Current Interrupt Rating (N-PE I_{fi})	Short-Circuit AC Current Rating (L-N I_{SCCR})	TOV Withstand 5 s (L-N U_T)	TOV 120 min (L-N U_T) / Mode	TOV Withstand 200 ms (N-PE U_t)	Maximum Continuous AC Operating Voltage (L-N / N-PE MCOV)	Voltage Protection Rating (L-N / N-PE VPR)	Nominal Discharge Current (8/20 µs) (L-N / N-PE I_n)	Short-Circuit Current Rating (L-N SCCR)	
SPD2-040-M	0 V	40 V / 305 V	20 kA / 40 kA	50 kA / 65 kA	1500 V (N-PE)	100 A_{RMS}	25 kA / 50 kA	N/A	N/A	1200 V	305 V (N-PE)	1000 V (N-PE)	20 kA / 20 kA	N/A	42 g (0.093 lb)
SPD2-075-M	60 V	75 V / 305 V	20 kA / 40 kA	50 kA / 65 kA	800 V / 1500 V	100 A_{RMS}	25 kA / 50 kA	114 V	114 V / Withstand	1200 V	75 V / 305 V	330 V / 1000 V	20 kA / 20 kA	100 kA	50 g (0.111 lb)
SPD2-150-M	120 V	150 V / 305 V	20 kA / 40 kA	50 kA / 65 kA	1250 V / 1500 V	100 A_{RMS}	25 kA / 50 kA	229 V	229 V / Withstand	1200 V	150 V / 305 V	600 V / 1000 V	20 kA / 20 kA	200 kA	54 g (0.120 lb)
SPD2-300-M	240 V	300 V / 305 V	20 kA / 40 kA	50 kA / 65 kA	1500 V / 1500 V	100 A_{RMS}	25 kA / 50 kA	337 V	442 V / Safe Fail	1200 V	300 V / 305 V	900 V / 1000 V	20 kA / 20 kA	150 kA	61 g (0.135 lb)
SPD2-350-M	277 V	350 V / 305 V	20 kA / 40 kA	50 kA / 65 kA	1750 V / 1500 V	100 A_{RMS}	25 kA / 50 kA	403 V	529 V / Safe Fail	1200 V	350 V / 305 V	1000 V / 1000 V	20 kA / 20 kA	200 kA	68 g (0.146 lb)

Specifications

Network Systems TT, TN-S
Mode of Protection L-N, N-PE
Nominal Discharge Current (8/20 µs) (L-N / N-PE I_n) 20 kA/40 kA
Maximum Discharge Current (8/20 µs) (L-N / N-PE I_{max}) 50 kA/65 kA
Protective Elements High Energy MOV and GDT
Response Time (L-N / N-PE t_A) < 25 ns
Back-Up Fuse (max) 315 A/250 A Gg
Number of Ports 1

Mechanical & Environmental

Operating Temperature Range (T_a) -40 °C to +80 °C (-40 °F to +185 °F)
Permissible Operating Humidity (RH) 5% to 95%
Altitude (max) 4,000 m (13,123 ft)
Terminal Screw Torque) (M_{max}) 4.5 Nm (39.9 lbf-in)
Conductor Cross Section (max) 35 mm² (2 AWG) (Solid, Stranded)/ 25 mm² (4 AWG) (Flexible)
Mounting 35 mm DIN Rail, EN60715
Degree of Protection IP20 (built-in)
Housing Material Thermoplastic: Extinguishing Degree UL 94 V-0
Thermal Protection Yes
Operating State/Fault Indication Green Flag/No Green Flag
Remote Contact Switching Capacity AC: 250 V/1 A, 125 V/1 A; DC: 48 V/0.5 A, 24 V/0.5 A, 12 V/0.5 A
Remote Contact Conductor Cross Section (max) 1.5 mm² (16 AWG) (Solid)
Standards Passed IEC 61643-11:2011
EN 61643-11:2012
UL 1449, 4th edition

Product Dimensions

2TE Module and Base **H** 90.0 mm (3.54"); **W** 36.0 mm (1.42"); **D** 70.0 mm (2.76")
1TE Replacement Module **H** 45.0 mm (1.77"); **W** 18.0 mm (0.71"); **D** 57.2mm (2.25")

Package Dimensions

2TE Module and Base **H** 102.0 mm (4.01"); **W** 46.0 mm (1.81"); **D** 110.0 mm (4.33")
1TE Replacement Module **H** 102.0 mm (4.01"); **W** 28.0 mm (1.10"); **D** 110.0 mm (4.33")

Warranty – Visit **www.littelfuse.com/warranty** for details.

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Class II/Type 2/Type 1 CA Pluggable Multi-Pole

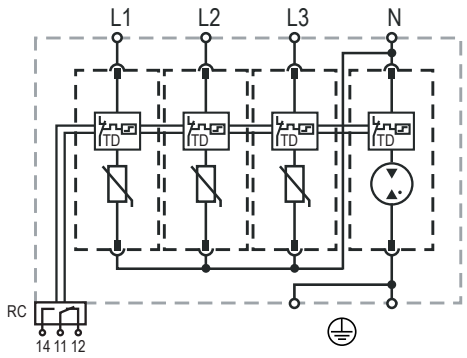


Description

Surge protection devices (SPDs) provide equipment protection from transient overvoltage events lasting micro-seconds. By limiting the overvoltage to the equipment during these events, costly damage and downtime can be mitigated.

The surge protection devices for the 3+1 configuration are available for 240 V to 277 V nominal voltage sub-distribution board applications.

Internal Configuration



Legend

L *Line*
N *Neutral*
⏚ *Protective Earth*
RC *Remote Contacts*
TD *Thermal Disconnection*

Features & Benefits

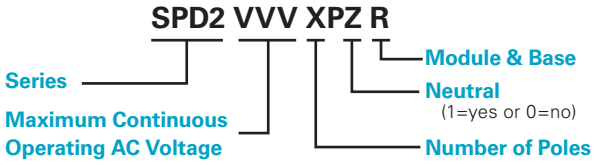
FEATURES	BENEFITS
Capability to clamp and withstand high-energy transients	Ensures low-residual voltage during high-energy surge events and higher nominal discharge current to prevent disruption, downtime, and degradation or damage to equipment
UL and VDE-IEC compliant in single part number	One component can be utilized globally, reducing inventory needs and simplifying allocation of parts
Interlocking tab mechanism	Secures module to withstand vibration
No additional overcurrent protection devices required in UL applications	Reduces the number of components and costs required for protection
Compact footprint	Increases panel design flexibility
Visual life indicator	Quick visual determines module replacement status to avoid loss of protection
Pluggable modules	Fast and simple to replace, minimizing maintenance and downtime. No tools required
Thermal protection	Eliminates catastrophic failure
IP20 protection rating	Finger-safe design increases worker protection

Module & Base Ordering Information

Ordering Number	IEC Electrical										UL Electrical				Single Unit Weight
	Nominal AC Voltage (50/60Hz) (U_G/U_N)	Maximum Continuous Operating AC Voltage (L-N / N-PE U_C)	Nominal Discharge Current (8/20 µs) (L-N / N-PE I_n)	Maximum Discharge Current (8/20 µs) (L-N / N-PE I_{max})	Voltage Protection Level (L-N / N-PE U_p)	Follow Current Interrupt Rating (N-PE I_{fi})	Short-Circuit AC Current Rating (L-N I_{SCCR})	TOV Withstand 5 s (L-N U_T)	TOV 120 min (L-N U_T) / Mode	TOV Withstand 200 ms (N-PE U_T)	Maximum Continuous AC Operating Voltage (L-N / N-PE MCOV)	Voltage Protection Rating (L-N / N-PE VPR)	Nominal Discharge Current (8/20 µs) (L-N / N-PE I_n)	Short-Circuit Current Rating (L-N SCCR)	
SPD2-300-3P1-R	240 V	300 V/ 305 V	20 kA/ 40 kA	50 kA/ 65 kA	1500 V/ 1500 V	100 A_{RMS}	25 kA/ 50 kA	337 V	442 V/ Safe Fail	1200 V	300 V/ 305 V	900 V/ 1000 V	20 kA/ 20 kA	150 kA	486 g (1.072 lb)
SPD2-350-3P1-R	277 V	350 V/ 305 V	20 kA/ 40 kA	50 kA/ 65 kA	1750 V/ 1500 V	100 A_{RMS}	25 kA/ 50 kA	403 V	529 V/ Safe Fail	1200 V	350 V/ 305 V	1000 V/ 1000 V	20 kA/ 20 kA	200 kA	501 g (1.105 lb)

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Module & Base Part Numbering System



Module Only Part Numbering System



Replacement Module Ordering Information

Ordering Number	IEC Electrical										UL Electrical				Single Unit Weight
	Nominal AC Voltage (50/60Hz) (U_c/U_n)	Maximum Continuous Operating AC Voltage (L-N / N-PE U_c)	Nominal Discharge Current (8/20 µs) (L-N / N-PE I_n)	Maximum Discharge Current (8/20 µs) (L-N / N-PE I_{max})	Voltage Protection Level (L-N / N-PE U_p)	Follow Current Interrupt Rating (N-PE I_{fi})	Short-Circuit AC Current Rating (L-N I_{SCCR})	TOV Withstand 5 s (L-N U_T)	TOV 120 min (L-N U_T) / Mode	TOV Withstand 200 ms (N-PE U_T)	Maximum Continuous AC Operating Voltage (L-N / N-PE MCOV)	Voltage Protection Rating (L-N / N-PE VPR)	Nominal Discharge Current (8/20 µs) (L-N / N-PE I_n)	Short-Circuit Current Rating (L-N SCCR)	
SPD2-040-M	0 V	40 V / 305 V	20 kA / 40 kA	50 kA / 65 kA	1500 V (N-PE)	100 A_{RMS}	25 kA / 50 kA	N/A	N/A	1200 V	305 V (N-PE)	1000 V (N-PE)	20 kA / 20 kA	N/A	42 g (0.093 lb)
SPD2-300-M	240 V	300 V / 305 V	20 kA / 40 kA	50 kA / 65 kA	1500 V / 1500 V	100 A_{RMS}	25 kA / 50 kA	337 V	442 V / Safe Fail	1200 V	300 V / 305 V	900 V / 1000 V	20 kA / 20 kA	150 kA	61 g (0.135 lb)
SPD2-350-M	277 V	350 V / 305 V	20 kA / 40 kA	50 kA / 65 kA	1750 V / 1500 V	100 A_{RMS}	25 kA / 50 kA	403 V	529 V / Safe Fail	1200 V	350 V / 305 V	1000 V / 1000 V	20 kA / 20 kA	200 kA	66 g (0.146 lb)

Specifications

Network Systems TT, TN-S
Mode of Protection L-N, N-PE
Nominal Discharge Current (8/20 µs) (L-N / N-PE I_n) 20 kA/40 kA
Maximum Discharge Current (8/20 µs) (L-N / N-PE I_n) 50 kA/65 kA
Protective Elements High Energy MOV and GDT
Response Time (L-N / N-PE t_A) < 25 ns
Back-Up Fuse (max) 315 A/250 A Gg
Number of Ports 1

Mechanical & Environmental

Operating Temperature Range (T_a) -40 °C to +80 °C (-40 °F to +185 °F)
Permissible Operating Humidity (RH) 5% to 95%
Altitude (max) 4,000 m (13,123 ft)
Terminal Screw Torque) (M_{max}) 4.5 Nm (39.9 lbf-in)
Conductor Cross Section (max) 35 mm² (2 AWG) (Solid, Stranded)/ 25 mm² (4 AWG) (Flexible)
Mounting 35 mm DIN Rail, EN60715
Degree of Protection IP20 (built-in)
Housing Material Thermoplastic: Extinguishing Degree UL 94 V-0
Thermal Protection Yes
Operating State/Fault Indication Green Flag/No Green Flag
Remote Contact Switching Capacity AC: 250 V/1 A, 125 V/1 A; DC: 48 V/0.5 A, 24 V/0.5 A, 12 V/0.5 A
Remote Con Conductor Cross Section (max) 1.5 mm² (16 AWG) (Solid)
Standards Passed IEC 61643-11:2011
EN 61643-11:2012
UL 1449, 4th edition

Product Dimensions

4TE Module and Base **H** 90.0 mm (3.54"); W 72.0 mm (2.84"); **D** 70.0 mm (2.76")
1TE Replacement Module **H** 45.0 mm (1.77"); **W** 18.0 mm (0.71"); **D** 57.2 mm (2.25")

Package Dimensions

4TE Module and Base **H** 102.0 mm (4.01"); **W** 82.0 mm (3.23"); **D** 110.0 mm (4.33")
1TE Replacement Module **H** 102.0 mm (4.01"); **W** 28.0 mm (1.10"); **D** 110.0 mm (4.33")

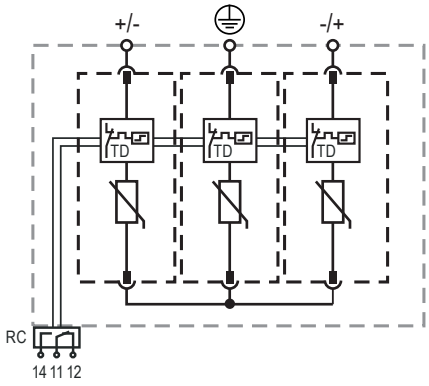
Warranty – Visit **www.littelfuse.com/warranty** for details.

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Class 2 (IEC)/Type 2 (EN)/Type 1CA (UL) Pluggable Multi-Pole for PV Systems



Internal Configuration



Legend

⏚ *Protective Earth*
RC *Optional Remote Contact*
TD *Thermal Disconnection*

Description

Surge protective devices (SPDs) provide equipment protection from transient overvoltage events lasting micro-seconds. By limiting the overvoltage to the equipment during these events, costly damage and downtime can be mitigated.

The surge protective devices for solar string box and inverter applications are available in 1100 and 1500 V dc in the 3+0 configuration.

Features & Benefits

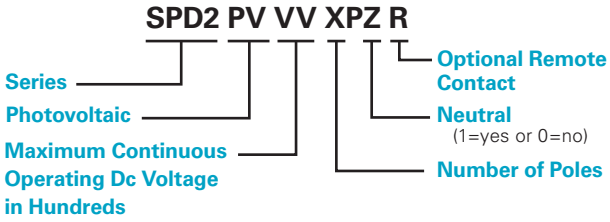
FEATURES	BENEFITS
Capability to clamp and withstand high-energy transients	Ensures low-residual voltage during high-energy surge events and higher nominal discharge current to prevent disruption, downtime, and degradation or damage to equipment
No additional overcurrent protection devices required in UL applications	Reduces the number of components and costs required for protection
Compact footprint	Increases panel design flexibility
Visual life indicator	Quick visual determines module replacement status to avoid loss of protection
Pluggable modules	Fast and simple to replace, minimizing maintenance and downtime. No tools required
Thermal protection	Eliminates catastrophic failure
IP20 protection rating	Finger-safe design increases worker protection

Module & Base Ordering Information

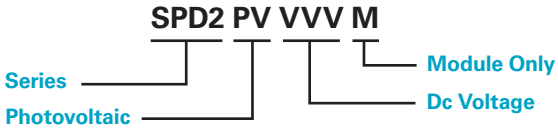
Ordering Number	IEC Electrical						UL Electrical				Single Unit Weight
	Maximum Continuous Operating Dc Voltage (U_{CPV})	Nominal Discharge Current (8/20 µs) (I_n)	Maximum Discharge Current (8/20 µs) (I_{max})	Total Discharge Current (I_{Total})	Voltage Protection Level (U_p)	Short-Circuit Current Rating (I_{SCPV})	Maximum Permitted Dc Voltage (I_{pvdc})	Voltage Protection Rating (VPR)	Nominal Discharge Current (8/20 µs) (I_n)	Short-Circuit Current Rating (SCCR)	
SPD2-PV11-3P0 SPD2-PV11-3P0-R	1100 V	20 kA	40 kA	50 kA	4200 V	9 kA	1100 V	3000 V	20 kA	50 kA	333 g (0.734 lb)
SPD2-PV15-3P0 SPD2-PV15-3P0-R	1500 V	15 kA	40 kA	40 kA	4800 V	9 kA	1500 V	4000 V	20 kA	65 kA	363 g (0.800 lb)

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Module & Base Part Numbering System



Module Only Part Numbering System



Replacement Module Ordering Information

Ordering Number	IEC Electrical						UL Electrical				Single Unit Weight
	Maximum Continuous Operating Dc Voltage (U_{CPV})	Nominal Discharge Current (8/20 µs) (I_n)	Maximum Discharge Current (8/20 µs) (I_{max})	Total Discharge Current (I_{Total})	Voltage Protection Level (U_p)	Short-Circuit Current Rating (I_{SCPV})	Maximum Permitted Dc Voltage (I_{pvdc})	Voltage Protection Rating (VPR)	Nominal Discharge Current (8/20 µs) (I_n)	Short-Circuit Current Rating (SCCR)	
SPD2-PV550-M	1100 V	20 kA	40 kA	50 kA	4200 V	9 kA	1100 V	3000 V	20 kA	50 kA	61 g (0.134 lb)
SPD2-PV750-M	1500 V	15 kA	40 kA	40 kA	4800 V	9 kA	1500 V	4000 V	20 kA	65 kA	71 g (0.157 lb)

Specifications

Mode of Protection (+) - PE, (-) - PE, (+) - (-)
Nominal Discharge Current (8/20 µs) (I_n) 20 kA
Maximum Discharge Current (8/20 µs) (I_{max}) Up to 40 kA
Protective Elements High Energy MOV
Response Time (t_A) < 25 ns
Number of Ports 1

Mechanical & Environmental

Operating Temperature Range (T_a) -40 °C to +80 °C (-40 °F to +185 °F)
Permissible Operating Humidity (RH) 5% to 95%
Altitude (max) 4,000 m (13,123 ft)
Terminal Screw Torque) (M_{max}) 4.5 Nm (39.9 lbf-in)
Conductor Cross Section (max) 35 mm² (2 AWG) (Solid, Stranded)/ 25 mm² (4 AWG) (Flexible)
Mounting 35 mm DIN Rail, EN60715
Degree of Protection IP20 (built-in)
Housing Material Thermoplastic: Extinguishing Degree UL 94 V-0
Thermal Protection Yes
Operating State/Fault Indication Green Flag/No Green Flag
Remote Contact Switching Capacity Ac: 250 V/1 A, 125 V/1 A; Dc: 48 V/0.5 A, 24 V/0.5 A, 12 V/0.5 A
Remote Contact Conductor Cross Section (max) 1.5 mm² (16 AWG) (Solid)
Standards Passed EN 50539-11:2013+A1:2014
UL 1449 4th Edition; E320116

Product Dimensions

3TE Module and Base **H** 90.7 mm (3.57"); **W** 53.8 mm (2.11"); **D** 66.1 mm (2.60")
1TE Replacement Module **H** 45.0 mm (1.77"); **W** 18.0 mm (0.71"); **D** 57.2 mm (2.25")

Package Dimensions

3TE Module and Base **H** 102.0 mm (4.01"); **W** 64.0 mm (2.52"); **D** 110.0 mm (4.33")
1TE Replacement Module **H** 102.0 mm (4.01"); **W** 28.0 mm (1.10"); **D** 110.0 mm (4.33")

Warranty – Visit **www.littelfuse.com/warranty** for details.

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Surge Protective Devices

SPD2 SERIES CROSS-REFERENCE GUIDE

This cross-reference tool includes the most popular Type 2 surge protection devices. It is meant to serve as a guide for quick identification and product selection. Please check all applicable specifications prior to making a product substitution or selection.

Littelfuse Part Number	**Surge Device Type**	**Nominal AC or DC Voltage**	**Number of Poles**	**Neutral**	**ABB** Part Number	**Bourns** Part Number	**Citel** Part Number	**DEHN** Part Number	**Phoenix Contact** Part Number	**Raycap** Part Number
SPD2-075-1P0-R	2	75 V ac	1	No	OVR T2 15-75 P TS	—	—	DEHNguard S 48 FM	VAL-MS 60/FM	ProTec T2-75-1+0-R
SPD2-075-1P1-R	2	75 V ac	1	Yes	—	—	DS240S-75VDC	—	VAL-VS-48/40/1+1-FM	ProTec T2-75-1+1-R
SPD2-150-1P0-R	2	150 V ac	1	No	OVR T2 40-150 P TS U	1250-1S-120	DS41S-120	DEHNguard SU 1P 120 R	VAL-US-120/40/1+0-FM	ProTec T2-150-1+0-R
SPD2-150-2P0-R	2	150 V ac	2	No	OVR T2 1N 40-150 P TS U	1250-2S-120	DS42S-120	DEHNguard MU SP 240 3W+G R	VAL-US-120/40/2+0-FM	ProTec T2-150-2+0-R
SPD2-150-3P0-R	2	150 V ac	3	No	OVR T2 2N 40-150 P TS U	1250-3S-120	DS43S-120	DEHNguard MU 3PY 208 3W+G R	VAL-SEC-T2-3C-175-FM	ProTec T2-150-3+0-R
SPD2-150-4P0-R	2	150 V ac	4	No	OVR T2 3N 40-150 P TS U	1250-4S-120	DS44S-120	DEHNguard MU 3PY 208 4W+G R	VAL-US-120/40/3+1-FM	ProTec T2-150-4+0-R
SPD2-150-1P1-R	2	150 V ac	1	Yes	—	—	DS42S-120/G	—	VAL-SEC-T2-1S-175-FM	ProTec T2-150-1+1-R
SPD2-300-1P0-R	2	300 V ac	1	No	OVR T2 40-275 P TS QS	1250-1S-230	DS41S-230	DEHNguard SU 1P 240 R	VAL-US-277/40/1+0-FM	ProTec T2-300-1+0-R
SPD2-300-2P0-R	2	300 V ac	2	No	OVR T2 1N 40-275 P TS QS	1250-2S-230	DS42S-230	DEHNguard MU SP 480 3W+G R	VAL-MS 230/2+0-FM	ProTec T2-300-2+0-R
SPD2-300-3P0-R	2	300 V ac	3	No	OVR T2 3L 40-275 P TS QS	1250-3S-230	DS43S-230	DEHNguard M TNC 275 FM	VAL-CP-3C-350	ProTec T2-300-3+0-R
SPD2-300-4P0-R	2	300 V ac	4	No	OVR T2 4L 40-275 P TS QS	1250-4S-230	DS44S-230	DEHNguard M TNS 275 FM	VAL-US-277/40/4+0-FM	ProTec T2-300-4+0-R
SPD2-300-1P1-R	2	300 V ac	1	Yes	OVR T2 1N 40-275 P TS QS	—	DS42S-230/G	DEHNguard MU 3PY 480 4W+G R	VAL-MS 230/1+1-FM	ProTec T2-300-1+1-R
SPD2-300-3P1-R	2	300 V ac	3	Yes	OVR T2 3N 40-275 P TS QS	—	DS44S-230/G	DEHNguard M TT 275 FM	VAL-MS 230/3+1-FM	ProTec T2-300-3+1-R
SPD2-350-1P0-R	2	350 V ac	1	No	OVR T2 40-320 P TS U	1250-1S-400	DS41S-400	DEHNguard SU 1P 347 R	—	ProTec T2-350-1+0-R
SPD2-350-2P0-R	2	350 V ac	2	No	OVR T2 1N 40-320 P TS U	1250-2S-400	DS42S-400	—	VAL-SEC-T2-2C-350-FM	ProTec T2-350-2+0-R
SPD2-350-3P0-R	2	350 V ac	3	No	OVR T2 3L 40-320 P TS U	1250-3S-400	DS43S-400	DEHNguard MU 3PY 480 3W+G R	VAL-SEC-T2-3C-350-FM	ProTec T2-350-3+0-R
SPD2-350-4P0-R	2	350 V ac	4	No	OVR T2 3N 40-320 P TS U	1250-4S-400	DS44S-400	DEHNguard M TNS 385 FM	—	ProTec T2-350-4+0-R
SPD2-350-1P1-R	2	350 V ac	1	Yes	OVR T2 1N 40-350 P TS QS	—	—	DEHNguard M TT 2P 385 FM	VAL-SEC-T2-1S-350-FM	ProTec T2-350-1+1-R
SPD2-350-3P1-R	2	350 V ac	3	Yes	—	—	—	DEHNguard M TT 385 FM	VAL-SEC-T2-3S-350-FM	ProTec T2-350-3+1-R
SPD2-480-1P0-R	2	480 V ac	1	No	OVR T2 40-440 P TS U	1250-1S-480	DS41S-400	DEHNguard S 440 FM	VAL-US-347/30/1+0-FM	ProTec T2-480-1+0-R
SPD2-480-2P0-R	2	480 V ac	2	No	OVR T2 1N 40-440 P TS U	1250-2S-480	DS42S-400	—	VAL-US-347/30/1+1V-FM	ProTec T2-480-2+0-R
SPD2-480-3P0-R	2	480 V ac	3	No	OVR T2 3L 40-440 P TS U	1250-3S-480	DS43S-400	DEHNguard MU 3PY 600 3W+G R	VAL-US-347/30/3+0-FM	ProTec T2-480-3+0-R
SPD2-480-4P0-R	2	480 V ac	4	No	OVR T2 3N 40-440 P TS U	1250-4S-480	DS44S-400	DEHNguard MU 3PY 600 4W+G R	—	ProTec T2-480-4+0-R
SPD2-550-1P0-R	2	550 V ac	1	No	OVR T2 40-550 P TS U	—	DS41S-600	DEHNguard S 600 FM	VAL-US-480D/30/1+0-FM	ProTec T2-550-1+0-R
SPD2-550-2P0-R	2	550 V ac	2	No	OVR 1N 40-550 P TS U	—	—	—	VAL-US-480D/30/2+0-FM	ProTec T2-550-2+0-R
SPD2-550-3P0-R	2	550 V ac	3	No	OVR T2 3L 40-550 P TS U	—	—	DEHNguard MU 3PD 480 3W+G R	VAL-US-480D/30/3+0-FM	ProTec T2-550-3+0-R
SPD2-550-4P0-R	2	550 V ac	4	No	OVR T2 3N 40-550 P TS U	—	—	—	VAL-US-480HLD/30/3+1-FM	ProTec T2-550-4+0-R
SPD2-750-1P0-R	2	750 V ac	1	No	OVR T2 40-600 P TS QS	—	—	DEHNguard S WE 600 FM	—	ProTec T2-750-1+0-R
SPD2-750-2P0-R	2	750 V ac	2	No	—	—	—	—	—	ProTec T2-750-2+0-R
SPD2-750-3P0-R	2	750 V ac	3	No	OVR T2 3L 40-600 P TS QS	—	DS43S-690WD	DEHNguard M WE 600 FM	VAL-MS 750/30/3+0 FM	ProTec T2-750-3+0-R
SPD2-PV11-3P0-R	2	1100 V dc	3	No	OVR PV 40-800 P TS U	1420-PV-1000	DS50VGPVS-1000	DEHNguard M YPV 1200 FM	VAL-MS 1000 DC-PV/2+V-FM	ProTec T2-1100PV-3+0-R
SPD2-PV15-3P0-R	2	1500 V dc	3	No	OVR PV 40-1500H P TS U	—	DV50VGPVS-1500	DEHNguard M YPV 1500 FM	VAL-MB-T2 1500 DC-PV/2+V-FM	ProTec T2-1500PV-3+0-R

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Surge Protective Devices

SPDN SERIES OVERVIEW

Surge protective devices (SPDs) provide equipment protection from transient overvoltage events lasting micro-seconds. By limiting the overvoltage to the equipment during these events, costly damage and downtime can be mitigated.

The NEMA-style SPDN series for external panel mount is available for 120 V to 480 V nominal voltage sub-distribution board applications. They are ideal for:

- **Construction**
- **Food and Beverage**
- **Light Industrial**
- **HVAC/R**
- **Oil and Gas**
- **Water/Wastewater**



FEATURES	BENEFITS
More direct modes of protection in a smaller package	Increases protection and design flexibility
UL 1283 EMI/RFI filtering – 50 dB from 10 kHz to 100 MHz (SPDN-A only)	Helps mitigate effects on power supplies by decreasing zero crossing during ringing transients to prevent interference on performance or unsafe conditions
Capability to clamp and withstand high-energy transients	Ensures low-residual voltage during high-energy surge events and higher nominal discharge current to prevent disruption, downtime, and degradation or damage to equipment
Stacked Metal Oxide Varistor (MOV) design	Provides more high-transient voltage protection in a compact, multi-layered structure
Installs on the line or load side of the circuit breaker (SPDN-B, C, D) Installs on the load side of the circuit breaker (SPDN-A only)	Simplifies maintenance—without impacting the other parts of the electrical system—by turning breaker off during upkeep
Thermally protected MOV	Eliminates catastrophic failure
Externally LED indicator	Quickly identifies service requirements to avoid loss of protection
Compact footprint	Offers easy retrofit in existing applications where space is limited

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UL Type 2



Description

Surge protective devices (SPDs) provide equipment protection from transient overvoltage events lasting micro-seconds. By limiting the overvoltage to the equipment during these events, costly damage and downtime can be mitigated.

The NEMA-style SPDN series for external panel mount is available for 120 V to 480 V nominal voltage sub-distribution board applications.

Features & Benefits

FEATURES	BENEFITS
More direct modes of protection (L-N, L-G, N-G) in a smaller package	Increases protection and design flexibility
UL 1283 EMI/RFI filtering – 50 dB from 10 kHz to 100 MHz	Helps mitigate effects on power supplies by decreasing zero crossings during ringing transients to prevent interference on performance or unsafe conditions
Capability to clamp and withstand high-energy transients	Ensures low-residual voltage during high-energy surge events and higher nominal discharge current to prevent disruption, downtime, and degradation or damage to equipment
Stacked Metal Oxide Varistor (MOV) design	Provides more high-transient voltage protection in a compact, multi-layered structure
Installs on the load side of the circuit breaker	Simplifies maintenance—without impacting the other parts of the electrical system—by turning breaker off during upkeep
Thermally protected MOV	Eliminates catastrophic failure
External LED Indicator	Quickly identifies service requirements to avoid loss of protection
Compact Footprint	Offers easy retrofit in existing applications where space is limited

Applications

- Construction
- Food and Beverage
- HVAC/R
- Light Industrial
- Oil and Gas
- Water/Wastewater

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Specifications

Maximum Surge Current Rating	Up to 130 kA per Phase
I-nominal Rating	20 kA
UL1449 Short Circuit Current Rating	200 kA
Direct Modes of Protection	L-N, L-G, N-G
UL Type	Type 2
Phase Loss Monitoring	Standard
Audible Alarm	Standard
Protective Elements	Stacked High Energy MOV
Response Time (L-N / N-PE tA)	< 25 ns
Mechanical & Environmental	
Operating Temperature Range (Ta)	-40 °C to +85 °C (-40 °F to +185 °F)
Operating Frequency	50–60 Hz
Typical Connection	18" #12 AWG (pre-wired pig tails) 30 A breaker
Permissible Operating Humidity (RH)	0 % to 95 % non-condensing
Altitude (max)	4,000 m (13,123 ft)
Degree of Protection	IP20 (built-in)
Housing Material	Polycarbonate NEMA 4X – Lid screwed and gasketed
Thermal Protection	Yes
Operating State/Fault Indication	1 Green LED (for each phase), 1 Red LED (Fault Indication)
Remote Contact Switching Capacity	Ac: 240 V/2 A, 125 V/1 A
Ground Reference Monitoring	N-G Voltage > 20 V Detected
Product Dimensions	**H** 2.75"; **W** 7.95"; **D** 3.06"
Product Weight	1.38 lb
Package Dimensions	4-3/8 x 3-1/2 x 9-1/2"
Package Weight	1.8 lb

Certification & Compliance

cULus	UL 1449, 5th Edition E320116
RoHS	RoHS 2 Directive 2011/65/EU; Directive (EU) 2015/863
REACH	Regulation (EC) No 1907/2006

Part Numbering System

SPDN-A VVV-PC

Series

Nominal System Voltage

Phase Configuration

1P = Single Phase **2S** = Split Phase
3Y = 3 Phase WYE **3D** = 3 Phase Delta

Ordering Information

ORDERING NUMBER	NOMINAL SYSTEM VOLTAGE	PHASE CONFIGURATION	MAXIMUM CONTINUOUS AC OPERATING VOLTAGE (MCOV)	VOLTAGE PROTECTION RATING (VPR)			
				L-N	L-G	N-G	L-L
SPDN-A120-1P	120	Single Phase	180	700	700	700	
SPDN-A120-2S	120/240	Split Phase	180	700	700	700	1200
SPDN-A120-3Y	208/120	3 Phase WYE	150	700	700	600	1200
SPDN-A240-1P	240	Single Phase	350	1200	1200	1200	
SPDN-A240-3D	240	3 Phase Delta	275		1000		1200
SPDN-A277-3Y	480/277	3 Phase WYE	350	1200	1200	1200	2500
SPDN-A480-3D	480	3 Phase Delta	550		1800		1800

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Surge Protective Devices

SPDN-B SERIES

UL Type 1



Description

Surge protective devices (SPDs) provide equipment protection from transient overvoltage events lasting micro-seconds. By limiting the overvoltage to the equipment during these events, costly damage and downtime can be mitigated.

The NEMA-style SPDN series for external panel mount is available for 120 V to 480 V nominal voltage sub-distribution board applications.

Features & Benefits

FEATURES	BENEFITS
More direct modes of protection (L-N, L-G, N-G) in a smaller package	Increases protection and design flexibility
Capability to clamp and withstand high-energy transients	Ensures low-residual voltage during high-energy surge events and higher nominal discharge current to prevent disruption, downtime, and degradation or damage to equipment
Stacked Metal Oxide Varistor (MOV) design	Provides more high-transient voltage protection in a compact, multi-layered structure
Installs on the line or load side of the circuit breaker	Simplifies maintenance—without impacting the other parts of the electrical system—by turning breaker off during upkeep
Thermally protected MOV	Eliminates catastrophic failure
External LED indicator	Quickly identifies service requirements to avoid loss of protection
Compact footprint	Offers easy retrofit in existing applications where space is limited

Applications

- Construction
- Food and Beverage
- HVAC/R
- Light Industrial
- Oil and Gas
- Water/Wastewater

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Specifications

Maximum Surge Current Rating	Up to 130 kA per phase
I-nominal Rating	20 kA
UL1449 Short Circuit Current Rating	200 kA
Direct Modes of Protection	L-N, L-G, N-G
UL Type	Type 1
Audible Alarm	Standard
Protective Elements	Stacked High Energy MOV
Response Time (L-N / N-PE tA)	< 25 ns
Mechanical & Environmental	
Operating Temperature Range (Ta)	-35 °C to +85 °C (-31 °F to +185 °F)
Operating Frequency	50–60 Hz
Typical Connection	18" #12 AWG (pre-wired pig tails)
Permissible Operating Humidity (RH)	0 % to 95 % non-condensing
Altitude (max)	4,000 m (13,123 ft)
Degree of Protection	IP20 (built-in)
Housing Material	Polycarbonate NEMA 4X – Lid ultrasonically sealed
Thermal Protection	Yes
Operating State/Fault Indication	1 Green LED (for each phase)
Remote Contact Switching Capacity	Ac: 240 V/2 A, 125 V/1 A
Product Dimensions	**H** 3.25"; **W** 5.02"; **D** 2.93"
Product Weight	1.0 lb
Package Dimensions	4-3/8 x 3-1/2 x 9-1/2"
Package Weight	1.3 lb

Certification & Compliance

cULus	UL 1449, 5th Edition; E320116
RoHS	RoHS 2 Directive 2011/65/EU; Directive (EU) 2015/863
REACH	Regulation (EC) No 1907/2006

Part Numbering System

SPDN-B VVV-PC

Series

Nominal System Voltage

Phase Configuration

1P = Single Phase **2S** = Split Phase
3Y = 3 Phase WYE **3D** = 3 Phase Delta

Ordering Information

ORDERING NUMBER	NOMINAL SYSTEM VOLTAGE	PHASE CONFIGURATION	MAXIMUM CONTINUOUS AC OPERATING VOLTAGE (MCOV)	VOLTAGE PROTECTION RATING (VPR)			
				L-N	L-G	N-G	L-L
SPDN-B120-1P	120	Single Phase	180	700	700	600	
SPDN-B120-2S	120/240	Split Phase	180	700	700	600	1200
SPDN-B120-3Y	208/120	3 Phase WYE	150	600	700	500	1000
SPDN-B240-1P	240	Single Phase	350	1200	1000	1000	
SPDN-B240-3D	240	3 Phase Delta	275		1000		1200
SPDN-B277-3Y	480/277	3 Phase WYE	350	1200	1000	1000	2000
SPDN-B480-3D	480	3 Phase Delta	550		1800		1800

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UL Type 1



Description

Surge protective devices (SPDs) provide equipment protection from transient overvoltage events lasting microseconds. By limiting the overvoltage to the equipment during these events, costly damage and downtime can be mitigated.

The NEMA-style SPDN series for external panel mount is available for 120 V to 480 V nominal voltage sub-distribution board applications.

Features & Benefits

FEATURES	BENEFITS
More direct modes of protection (L-N, N-G) in a smaller package	Increases protection and design flexibility
Capability to clamp and withstand high-energy transients	Ensures low-residual voltage during high-energy surge events and higher nominal discharge current to prevent disruption, downtime, and degradation or damage to equipment
Stacked Metal Oxide Varistor (MOV) design	Provides more high-transient voltage protection in a compact, multi-layered structure
Installs on the line or load side of the circuit breaker	Simplifies maintenance—without impacting the other parts of the electrical system—by turning breaker off during upkeep
Thermally protected MOV	Eliminates catastrophic failure
External LED indicator	Quickly identifies service requirements to avoid loss of protection
Compact footprint	Offers easy retrofit in existing applications where space is limited

Applications

- Construction
- Food and Beverage
- HVAC/R
- Light Industrial
- Oil and Gas
- Water/Wastewater

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Specifications

Maximum Surge Current Rating	Up to 50 kA per phase
I-nominal Rating	20 kA
UL1449 Short Circuit Current Rating	200 kA
Direct Modes of Protection	L-N, N-G
UL Type	Type 1
Audible Alarm	Standard
Protective Elements	Stacked High Energy MOV
Response Time (L-N / N-PE tA)	< 25 ns
Mechanical & Environmental	
Operating Temperature Range (Ta)	-35 °C to +85 °C (-31 °F to +185 °F)
Operating Frequency	50–60 Hz
Typical Connection	18" #12 AWG (pre-wired pig tails)
Permissible Operating Humidity (RH)	0 % to 95 % non-condensing
Altitude (max)	4,000 m (13,123 ft)
Degree of Protection	IP20 (built-in)
Housing Material	Polycarbonate NEMA 4X – Lid ultrasonically sealed
Thermal Protection	Yes
Operating State/Fault Indication	1 Green LED (for each phase)
Remote Contact Switching Capacity	Ac: 240 V/2 A, 125 V/1 A
Product Dimensions	**H** 3.25"; **W** 5.02"; **D** 2.93"
Product Weight	1.0 lb
Package Dimensions	4-3/8 x 3-1/2 x 9-1/2"
Package Weight	1.3 lb

Certification & Compliance

cULus	UL 1449, 5th Edition; E320116
RoHS	RoHS 2 Directive 2011/65/EU; Directive (EU) 2015/863
REACH	Regulation (EC) No 1907/2006

Part Numbering System

SPDN-C VVV-PC

Series

Nominal System Voltage

Phase Configuration

1P = Single Phase **2S** = Split Phase
3Y = 3 Phase WYE **3D** = 3 Phase Delta

Ordering Information

ORDERING NUMBER	NOMINAL SYSTEM VOLTAGE	PHASE CONFIGURATION	MAXIMUM CONTINUOUS AC OPERATING VOLTAGE (MCOV)	VOLTAGE PROTECTION RATING (VPR)			
				L-N	L-G	N-G	L-L
SPDN-C120-1P	120	Single Phase	180	700	1200	600	
SPDN-C120-2S	120/240	Split Phase	180	700	1200	600	1200
SPDN-C120-3Y	208/120	3 Phase WYE	150	600	1000	600	1000
SPDN-C240-1P	240	Single Phase	350	1200	2500	1000	
SPDN-C240-3D	240	3 Phase Delta	275		1200		1200
SPDN-C277-3Y	480/277	3 Phase WYE	350	1200	2500	1000	2000
SPDN-C480-3D	480	3 Phase Delta	550		1800		1800

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UL Type 1





Description

Surge protective devices (SPDs) provide equipment protection from transient overvoltage events lasting micro-seconds. By limiting the overvoltage to the equipment during these events, costly damage and downtime can be mitigated.

The NEMA-style SPDN series for external panel mount is available for 120 V to 480 V nominal voltage sub-distribution board applications.

Features & Benefits

FEATURES	BENEFITS
More direct modes of protection (L-N, N-G) in a smaller package	Increases protection and design flexibility
Capability to clamp and withstand high-energy transients	Ensures low-residual voltage during high-energy surge events and higher nominal discharge current to prevent disruption, downtime, and degradation or damage to equipment
Stacked Metal Oxide Varistor (MOV) design	Provides more high-transient voltage protection in a compact, multi-layered structure
Installs on the line or load side of the circuit breaker	Simplifies maintenance—without impacting the other parts of the electrical system—by turning breaker off during upkeep
Thermally protected MOV	Eliminates catastrophic failure
External LED indicator	Quickly identifies service requirements to avoid loss of protection
Compact footprint	Offers easy retrofit in existing applications where space is limited

Applications

- Construction
- Food and Beverage
- HVAC/R
- Light Industrial
- Oil and Gas
- Water/Wastewater

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Specifications

Maximum Surge Current Rating	Up to 50 kA per phase
I-nominal Rating	20 kA
UL1449 Short Circuit Current Rating	200 kA
Direct Modes of Protection	L-N, N-G
UL Type	Type 1
Protective Elements	Stacked High Energy MOV
Response Time (L-N / N-PE tA)	< 25 ns
Mechanical & Environmental	
Operating Temperature Range (Ta)	-35 °C to +85 °C (-31 °F to +185 °F)
Operating Frequency	50–60 Hz
Typical Connection	18" #12 AWG (pre-wired pig tails)
Permissible Operating Humidity (RH)	0 % to 95 % non-condensing
Altitude (max)	4,000 m (13,123 ft)
Degree of Protection	IP20 (built-in)
Housing Material	Polycarbonate NEMA 4X – Lid ultrasonically sealed
Thermal Protection	Yes
Operating State/Fault Indication	1 Green LED (for each phase)
Product Dimensions	**H** 2.75"; **W** 4.25"; **D** 2.41"
Product Weight	0.5 lb
Package Dimensions	4-3/8" x 3-1/2" x 9-1/2"
Package Weight	0.7 lb

Certification & Compliance

cULus	UL 1449, 5th Edition; E320116
RoHS	RoHS 2 Directive 2011/65/EU; Directive (EU) 2015/863
REACH	Regulation (EC) No 1907/2006

Part Numbering System

SPDN-D VVV-PC

Series

Nominal System Voltage

Phase Configuration
1P = Single Phase **2S** = Split Phase
3Y = 3 Phase WYE

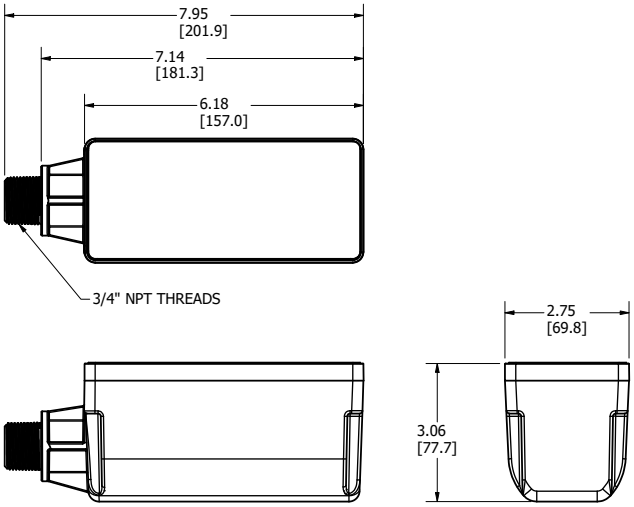
Ordering Information

ORDERING NUMBER	NOMINAL SYSTEM VOLTAGE	PHASE CONFIGURATION	MAXIMUM CONTINUOUS AC OPERATING VOLTAGE (MCOV)	VOLTAGE PROTECTION RATING (VPR)			
				L-N	L-G	N-G	L-L
SPDN-D120-1P	120	Single Phase	180	700	1200	600	
SPDN-D120-2S	120/240	Split Phase	180	700	1200	600	1200
SPDN-D120-3Y	208/120	3 Phase WYE	150	600	1000	600	1000
SPDN-D240-1P	240	Single Phase	350	1200	2000	1200	
SPDN-D240-2S	240/480	Split Phase	350	1200	2000	1200	2000
SPDN-D277-3Y	480/277	3 Phase WYE	350	1200	2000	1200	2000

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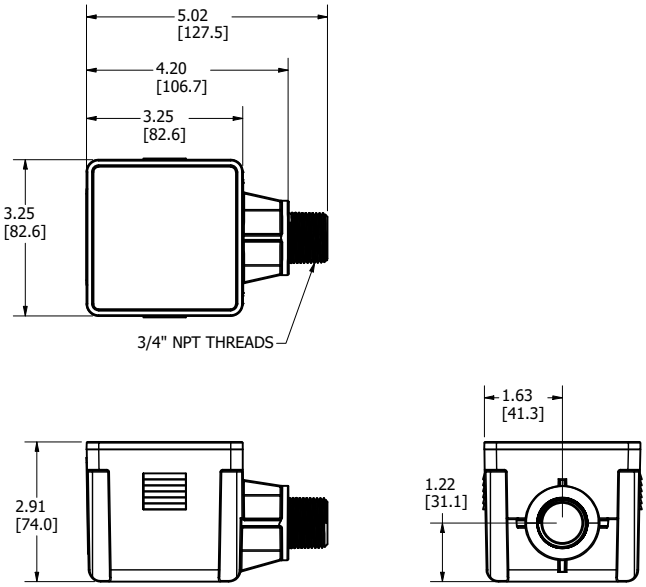
SPDN-A SERIES

Dimensions Inches [mm]



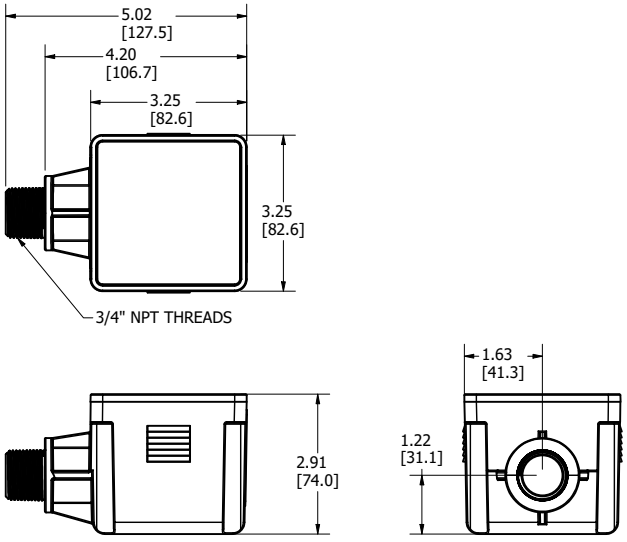
SPDN-B SERIES

Dimensions Inches [mm]



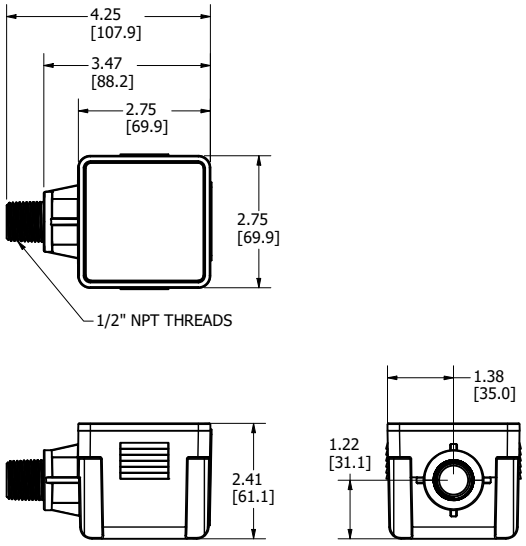
SPDN-C SERIES

Dimensions Inches [mm]



SPDN-D SERIES

Dimensions Inches [mm]



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SPDN-A and SPDN-B Series

Series/Model	Littelfuse SPDN-A	Littelfuse SPDN-B	Schneider/ASCO 425	Eaton SPC	Mersen STXP	Southern Tier 450	Ilsco/SSI XE
Surge Current Ratings (per mode)	65 kA	65 kA	50 kA	100 kA	50 kA	25 kA	100 kA
SPD Technology	Pill Stack	Pill Stack	TPMOV	TPMOV	TPMOV	PTMOV	TPMOV
Nominal Discharge Current (8/20)	20 kA	20 kA	20 kA	20 kA	20 kA	20 kA	20 kA
UL 1449 SPD Type	Type 1 or 2	Type 1	Type 1	Type 1 or 2	Type 1	Type 2	Type 1 or Type 2
MCOV (120 V model)	150 V	150 V	150 V	150 V	150 V	150 V	150 V
VPR (L-N 120 V model)	700 V	700 V	700 V	700 V	700 V	700 V	700 V
Modes of Protection	All	All	All	All	All	All	All
SCCR	200 kA	200 kA	200 kA	200 kA	200 kA	200 kA	200 kA
Connection Type	Wired	Wired	Wired	Wired	Wired	Wired	Wired
Encloser Type (standard)	NEMA 4X	NEMA 4X	NEMA 4X	NEMA 4X	NEMA 4X	NEMA 4X	NEMA 4X
Indicator Lights	1 per phase	1 per phase	1 per phase	1 per phase	2 LEDs per phase	Single	1 per phase
Audible Alarm	Yes	Yes	Yes	Optional	Yes	No	Optional
Form C Dry Contacts	Yes	Yes	Yes	Optional	Yes	Yes	Optional
EMI/RFI Filtering	Optional	No	No	Optional	No	Yes	Optional
Ground Reference Monitoring	N-G Voltage > 20 V Detected	No	No	No	No	No	No

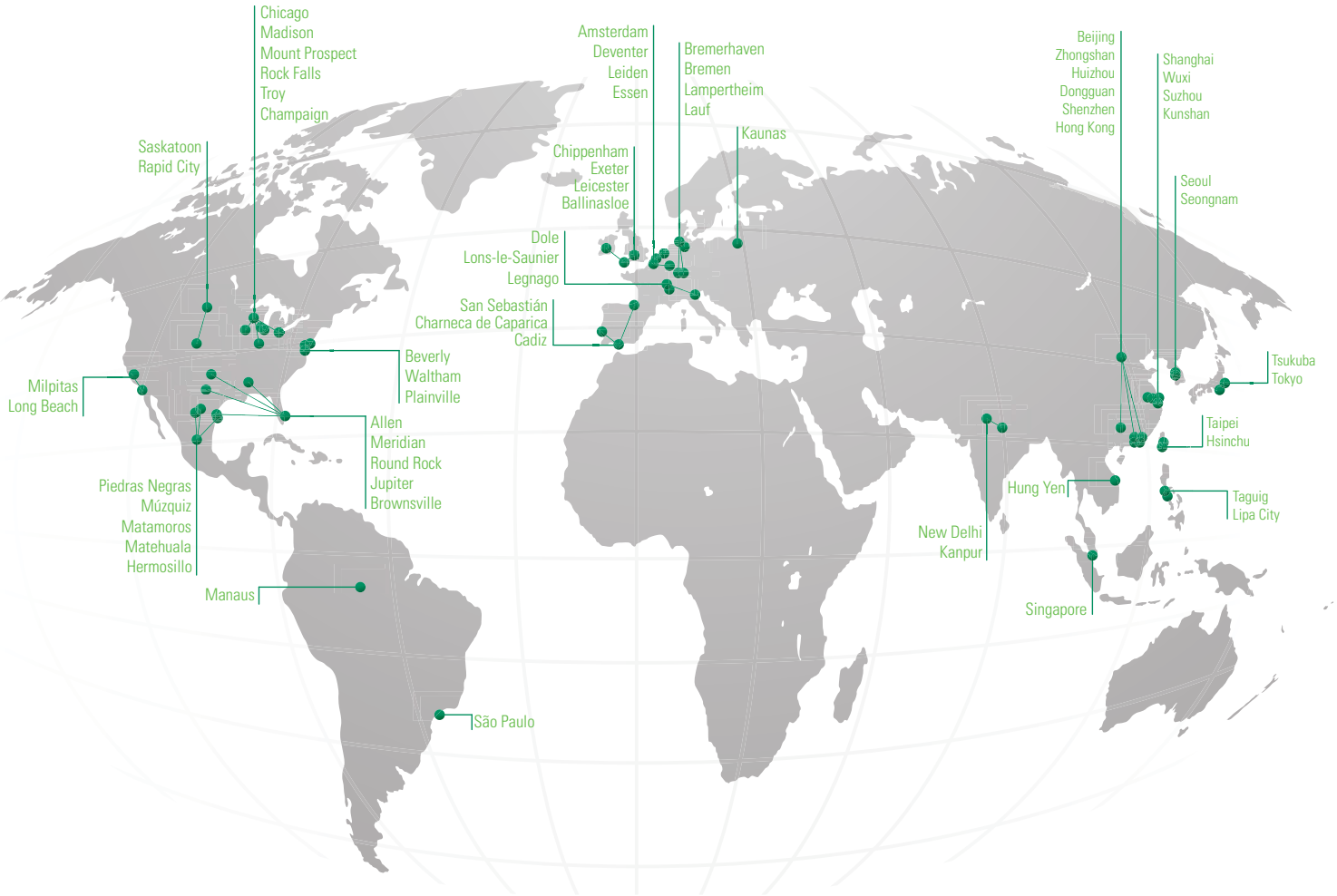


SPDN-C and SPDN-D Series

Series/Model	Littelfuse SPDN-C	Littelfuse SPDN-D	Schneider/ASCO 420	Mersen STXR	Ilsco/SSI SE	Citel M50
Surge Current Ratings (per mode)	50 kA	50 kA	50 kA	50 kA	100 kA	50 kA
SPD Technology	Pill Stack	Pill Stack	TPMOV	TPMOV	TPMOV	TMOV + GSG
Nominal Discharge Current (8/20)	20 kA	20 kA	20 kA	20 kA	20 kA	20 kA
UL 1449 SPD Type	Type 1	Type 1	Type 1	Type 1	Type 1 or Type 2	Type 1 or Type 2
MCOV (120 V model)	150 V	150 V	150 V	150 V	150 V	150 V
VPR (L-N 120 V model)	600 V	600 V	600 V	700 V	700 V	700 V
Modes of Protection	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced
SCCR	200 kA	200 kA	200 kA	200 kA	200 kA	200 kA
Connection Type	Wired	Wired	Wired	Wired	Wired	Wired
Encloser Type (standard)	NEMA 4X	NEMA 4X	NEMA 4X	NEMA 4X	NEMA 4X	NEMA 6
Indicator Lights	1 per phase	1 per phase	Single	Single	Single	1 per phase
Audible Alarm	Yes	No	Yes	Optional	Optional	Yes
Form C Dry Contacts	Yes	No	Yes	Optional	Optional	No
EMI/RFI Filtering	No	No	No	No	Optional	Optional

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LOCAL RESOURCES FOR A **GLOBAL** MARKET



Your Partner for Dependable Protection, Safety & Control

The Industrial division of Littelfuse delivers vital products to address customer needs for protection, safe control and distribution of electrical power in industrial applications.

In addition to our surge protective devices, our product portfolio includes a comprehensive line of fuses, fuse holders, protection relays, temperature sensors, and timers to minimize electrical safety hazards, limit equipment damage, improve productivity, and safeguard personnel from injury due to electrical faults.



Fuses, Blocks, Holders & Panels

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- Fuse Blocks & Holders
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- POWR-*SPEED*® Fuses
- Solar Fuses
- UL Class Fuses
- 10 x 38 mm Fuses
- Battery Protection Fuses

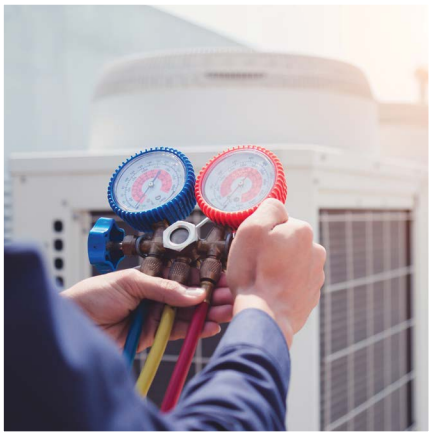


Protection Relays, Controls & Sensors

- Arc-Flash Protection Relays
- Feeder Protection
- Ground-Check Relays
- Ground-Fault Protection Relays
- Industrial Shock Block® GFCI
- Motor & Pump Protection
- Resistance Grounding/ Monitoring
- Single-Function Relays
- Timers & Flashers
- Temperature Sensors

For a comprehensive list of products, visit **Littelfuse.com**









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Littelfuse products are certified to many standards around the world. To check certifications on specific components, please refer to the specific product datasheet on Littelfuse.com.

Warranty – Visit www.littelfuse.com/warranty for details.

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