SURGE A PATH TO PROTECTION

SPD2 Series

SPD2 Series

Littelfuse SPD2 Series 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[1]—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

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

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

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 Recognized 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
SPD type and voltage-coded plug-in module	Prevents specific SPD/voltage module from being plugged into wrong base. Eliminates risk of improper protection
Compact footprint	Increases panel design flexibility
Visual life indicator	Quick visual determines module replacement status to avoid loss of protection
Pluggable module	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

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

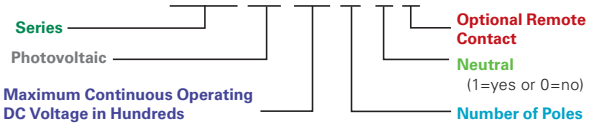
Littelfuse®
Expertise Applied | Answers Delivered

IEC Module & Base Ordering Information

Module & Base Part Numbering Systems

SPD2 VVV XPZ R

SPD2 PV VV XPZ R



SPD2 Series (XP+0) Ordering Number	IEC Electrical Specifications							
	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
SPD2-075-1P0-R	60 V	75 V	20 kA	50 kA	800 V	25 kA / 50 kA	114 V	114 V / Withstand
SPD2-150-1P0-R	120 V	150 V	20 kA	50 kA	1250 V	25 kA / 50 kA	229 V	229 V / Withstand
SPD2-300-1P0-R	240 V	300 V	20 kA	50 kA	1500 V	25 kA / 50 kA	337 V	442 V / Safe Fail
SPD2-350-1P0-R	277 V	350 V	20 kA	50 kA	1750 V	25 kA / 50 kA	403 V	529 V / Safe Fail
SPD2-480-1P0-R	400 V	480 V	20 kA	50 kA	2300 V	25 kA / 50 kA	581 V	762 V / Safe Fail
SPD2-550-1P0-R*	480 V	550 V	20 kA	50 kA	2500 V	25 kA / 50 kA	697 V	915 V / Safe Fail
SPD2-750-1P0-R	600 V	750 V	20 kA	35 kA	3400 V	25 kA / 50 kA	871 V	1143 V / Safe Fail
SPD2-150-2P0-R	120 V	150 V	20 kA	50 kA	1250 V	25 kA / 50 kA	229 V	229 V / Withstand
SPD2-300-2P0-R	240 V	300 V	20 kA	50 kA	1500 V	25 kA / 50 kA	337 V	442 V / Safe Fail
SPD2-350-2P0-R	277 V	350 V	20 kA	50 kA	1750 V	25 kA / 50 kA	403 V	529 V / Safe Fail
SPD2-480-2P0-R	400 V	480 V	20 kA	50 kA	2300 V	25 kA / 50 kA	581 V	762 V / Safe Fail
SPD2-550-2P0-R*	480 V	550 V	20 kA	50 kA	2500 V	25 kA / 50 kA	697 V	915 V / Safe Fail
SPD2-750-2P0-R	600 V	750 V	20 kA	35 kA	3400 V	25 kA / 50 kA	871 V	1143 V / Safe Fail
SPD2-150-3P0-R	120 V	150 V	20 kA	50 kA	1250 V	25 kA / 50 kA	229 V	229 V / Withstand
SPD2-300-3P0-R	240 V	300 V	20 kA	50 kA	1500 V	25 kA / 50 kA	337 V	442 V / Safe Fail
SPD2-350-3P0-R	277 V	350 V	20 kA	50 kA	1750 V	25 kA / 50 kA	403 V	529 V / Safe Fail
SPD2-480-3P0-R	400 V	480 V	20 kA	50 kA	2300 V	25 kA / 50 kA	581 V	762 V / Safe Fail
SPD2-550-3P0-R*	480 V	550 V	20 kA	50 kA	2500 V	25 kA / 50 kA	697 V	915 V / Safe Fail
SPD2-750-3P0-R	600 V	750 V	20 kA	35 kA	3400 V	25 kA / 50 kA	871 V	1143 V / Safe Fail
SPD2-150-4P0-R	120 V	150 V	20 kA	50 kA	1250 V	25 kA / 50 kA	229 V	229 V / Withstand
SPD2-300-4P0-R	240 V	300 V	20 kA	50 kA	1500 V	25 kA / 50 kA	337 V	442 V / Safe Fail
SPD2-350-4P0-R	277 V	350 V	20 kA	50 kA	1750 V	25 kA / 50 kA	403 V	529 V / Safe Fail
SPD2-480-4P0-R	400 V	480 V	20 kA	50 kA	2300 V	25 kA / 50 kA	581 V	762 V / Safe Fail
SPD2-550-4P0-R*	480 V	550 V	20 kA	50 kA	2500 V	25 kA / 50 kA	697 V	915 V / Safe Fail

*Products are UL Listed only

SPD2 Series (XP+1) Ordering Number	IEC Electrical Specifications									
	Nominal AC Voltage (50/60 Hz) (U_o/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_n)	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)
SPD2-075-1P1-R	60 V	75 V / 305 V	20 kA / 40 kA	50 kA / 65 kA	800 V / 1500 V	100 Arms	25 kA / 50 kA	114 V	114 V / Withstand	1200 V
SPD2-150-1P1-R	120 V	150 V / 305 V	20 kA / 40 kA	50 kA / 65 kA	1250 V / 1500 V	100 Arms	25 kA / 50 kA	229 V	229 V / Withstand	1200 V
SPD2-300-1P1-R	240 V	300 V / 305 V	20 kA / 40 kA	50 kA / 65 kA	1500 V / 1500 V	100 Arms	25 kA / 50 kA	337 V	442 V / Safe Fail	1200 V
SPD2-350-1P1-R	277 V	350 V / 305 V	20 kA / 40 kA	50 kA / 65 kA	1750 V / 1500 V	100 Arms	25 kA / 50 kA	403 V	529 V / Safe Fail	1200 V
SPD2-300-3P1-R	240 V	300 V / 305 V	20 kA / 40 kA	50 kA / 65 kA	1500 V / 1500 V	100 Arms	25 kA / 50 kA	337 V	442 V / Safe Fail	1200 V
SPD2-350-3P1-R	277 V	350 V / 305 V	20 kA / 40 kA	50 kA / 65 kA	1750 V / 1500 V	100 Arms	25 kA / 50 kA	403 V	529 V / Safe Fail	1200 V

SPD2 PV Series Ordering Number	IEC Electrical Specifications					
	Maximum Continuous Operatins 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 (Up)	Short-Circuit Current Rating (I_{SCPV})
SPD2-PV11-3P0-R	1100 V	20 kA	40 kA	50 kA	4200 V	9 kA
SPD2-PV15-3P0-R	1500 V	15 kA	40 kA	40 kA	4800 V	9 kA

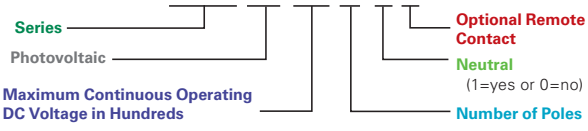
For IEC product weight, refer to corresponding product number on UL chart.

UL Module & Base Ordering Information

Module & Base Part Numbering Systems

SPD2 VVV XPZ R

SPD2 PV VV XPZ R



SPD2 Series (XP+0) Ordering Number	UL Electrial Specifications				Single Unit Weight
	Maximum Continuous AC Operating Voltage (MCOV)	Voltage Protection Rating (VPR)	Nominal Discharge (8/20 µs) (In)	Short-Circuit Current Rating (SCCR)	
SPD2-075-1P0-R	75 V	330 V	20 kA	100 kA	124 g (0.274 lb)
SPD2-150-1P0-R	150 V	600 V	20 kA	200 kA	128 g (0.283 lb)
SPD2-300-1P0-R	300 V	900 V	20 kA	150 kA	135 g (0.298 lb)
SPD2-350-1P0-R	350 V	1000 V	20 kA	200 kA	140 g (0.309 lb)
SPD2-480-1P0-R	480 V	1500 V	20 kA	200 kA	145 g (0.320 lb)
SPD2-550-1P0-R*	550 V	2000 V	20 kA	200 kA	148 g (0.326 lb)
SPD2-750-1P0-R	750 V	2500 V	20 kA	200 kA	161 g (0.355 lb)
SPD2-150-2P0-R	150 V	600 V	20 kA	200 kA	252 g (0.556 lb)
SPD2-300-2P0-R	300 V	900 V	20 kA	150 kA	266 g (0.587 lb)
SPD2-350-2P0-R	350 V	1000 V	20 kA	200 kA	276 g (0.609 lb)
SPD2-480-2P0-R	480 V	1500 V	20 kA	200 kA	286 g (0.631 lb)
SPD2-550-2P0-R*	550 V	2000 V	20 kA	200 kA	290 g (0.639 lb)
SPD2-750-2P0-R	750 V	2500 V	20 kA	200 kA	318 g (0.702 lb)
SPD2-150-3P0-R	150 V	600 V	20 kA	200 kA	355 g (0.783 lb)
SPD2-300-3P0-R	300 V	900 V	20 kA	150 kA	376 g (0.829 lb)
SPD2-350-3P0-R	350 V	1000 V	20 kA	200 kA	391 g (0.862 lb)
SPD2-480-3P0-R	480 V	1500 V	20 kA	200 kA	406 g (0.896 lb)
SPD2-550-3P0-R*	550 V	2000 V	20 kA	200 kA	414 g (0.913 lb)
SPD2-750-3P0-R	750 V	2500 V	20 kA	200 kA	454 g (1.001 lb)
SPD2-150-4P0-R	150 V	600 V	20 kA	200 kA	477 g (1.052 lb)
SPD2-300-4P0-R	300 V	900 V	20 kA	150 kA	505 g (1.114 lb)
SPD2-350-4P0-R	350 V	1000 V	20 kA	200 kA	525 g (1.158 lb)
SPD2-480-4P0-R	480 V	1500 V	20 kA	200 kA	545 g (1.202 lb)
SPD2-550-4P0-R*	550 V	2000 V	20 kA	200 kA	557 g (1.228 lb)

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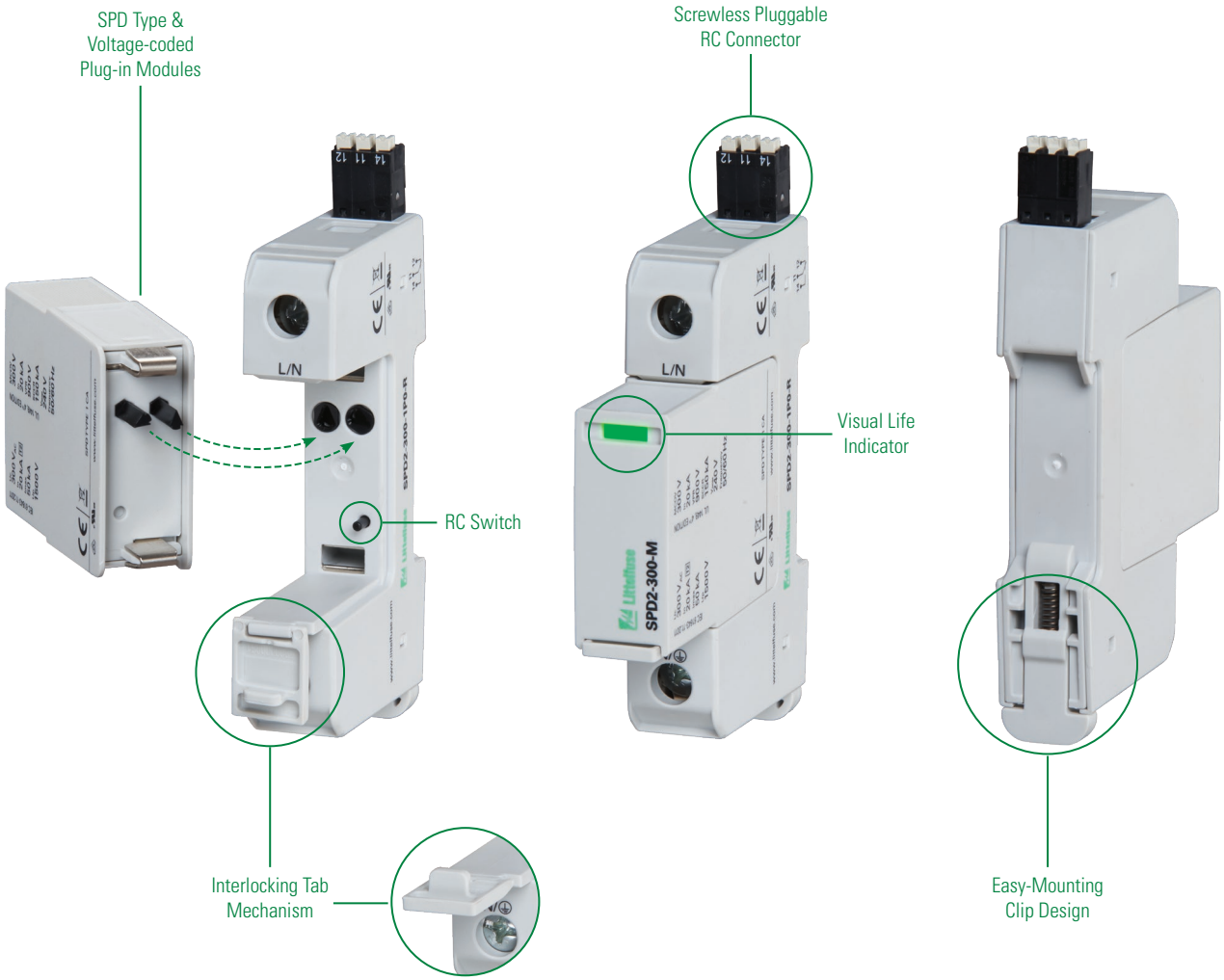
SPD2 Series (XP+1) Ordering Number	UL Electrial Specifications				Single Unit Weight
	Maximum Continuous AC Operating Voltage (L-N/N-PE MCOV)	Voltage Protection Rating (L-N / N-PE VPR)	Nominal Discharge Current (8/20 µs) (L-N / N-PE I_n)	Short-Circuit Current Rating (L-N SCCR)	
SPD2-075-1P1-R	75 V / 305 V	330 V / 1000 V	20 kA / 20 kA	100 kA	124 g (0.274 lb)
SPD2-150-1P1-R	150 V / 305 V	600 V / 1000 V	20 kA / 20 kA	200 kA	128 g (0.283 lb)
SPD2-300-1P1-R	300 V / 305 V	900 V / 1000 V	20 kA / 20 kA	150 kA	135 g (0.298 lb)
SPD2-350-1P1-R	350 V / 305 V	1000 V / 1000 V	20 kA / 20 kA	200 kA	140 g (0.309 lb)
SPD2-300-3P1-R	300 V / 305 V	900 V / 1000 V	20 kA / 20 kA	150 kA	486 g (1.072 lb)
SPD2-350-3P1-R	350 V / 305 V	1000 V / 1000 V	20 kA / 20 kA	200 kA	501 g (1.105 lb)

SPD2 PV Series Ordering Number	UL Electrial Specifications				Single Unit Weight
	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-R	1100 V	3000 V	20 kA	50 kA	333 g (0.734 lb)
SPD2-PV15-3P0-R	1500 V	4000 V	20 kA	65 kA	363 g (0.800 lb)

SPD2 Series



Competitive Comparison

Littelfuse	ABB	Bourns	Citel	DEHN	Phoenix Contact	Raycap
SPD2	OVR T2 80-...s P TS QS OVR T2 40-...s P TS QS	1250 1420	DS40 DS40VG DS70R	DEHNguard M DEHNguard S	VALVETRAB-SEC-T2	ProTec T2

Warranty: 2 years

For more information, visit Littelfuse.com/SPD