Surge Protective Devices (SPDs)

Bourns® SPD Brochure

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Bourns® SPD Product Overview

Building on our expertise in circuit protection devices and technology, Bourns now offers four major families of Surge Protective Devices (SPDs). SPDs are standalone protection devices or modules that incorporate one or more circuit protection technologies.

The Bourns® SPD offering includes AC Surge Protective Devices, DC Surge Protective Devices, Signal and Data Line Surge Protective Devices and Coaxial Surge Protective Devices.

AC and DC Surge Protective Devices

AC and DC SPDs are designed to meet the surge protection needs of low voltage installations. Designed for mounting on DIN-Rails, these SPDs are easy to install in standardized panels and cabinets.

These products are modular in design and employ thermal disconnection devices, visual indicators and remote signalling capabilities which allow for total operation safety.

AC Surge Protective Devices

1210 Series

- UL1449 Type 4, Type 2 location DIN-Rail AC SPD
- 1-pole and multi-pole surge protectors
- Pluggable
- 100 kA rated

1250 Series

- UL1449 Type 4, Type 2 location DIN-Rail AC SPD
- 1-pole and multipole surge protectors
- Pluggable
- 50 kA rated

1260 Hybrid Series

- IEC/EN 61643-11 Class I+II / T1+T2 DIN-Rail AC SPD
- 1-pole and multipole surge protectors
- Pluggable
- 100 kA rated

1202 Series

- General purpose SPD available in hybrid (GDT + MOV)
- Thermally protected technology for enhanced safety
- 50 kA 8/20 µs rating
- Rated for indoor or outdoor use

1214/1224 Series

- Heavy-duty SPD
- 100 kA and 200 kA 8/20 µs ratings
- Rated for indoor or outdoor use

1220 Series

- UL1449 Type 4, Type 2 location TPMOV SPD
- 1-pole surge protectors
- PCB mounting with Advanced Thermal Disconnector (TD+)
- 22 - 75 kA rated

1250A Series

- UL1449 Type 4, Type 1 location DIN-Rail AC SPD
- 1-pole and multipole surge protectors
- Pluggable module with Advanced Thermal Disconnector (TD+)
- 50 kA rated

1270 Series

- IEC/EN 61643-11 Class I / T1 DIN-Rail AC SPD
- 1-pole and multi-pole surge protectors
- Pluggable module with Thermal Disconnector
- 80 kA rated

1280 Series

- IEC/EN 61643-11 Class II / T2 DIN-Rail AC SPD
- 1-pole and multi-pole surge protectors
- Pluggable module with Advanced Thermal Disconnector (TD+)
- 50 kA rated

1251/1252 Series

- Heavy duty hybrid SPD
- 50 kA 8/20 µs rating
- Rated for indoor or outdoor use

DC Power Surge Protective Devices

1320 Series

- UL1449 Type 4, Type 2 location DIN-Rail DC SPD
- SPD for 12 V, 24 V, 48 V, 75 V or 110 V DC powered equipment

1420 Series

- UL1449 Type 4, Type 2 location DIN-Rail DC SPD
- DIN-Rail SPD for photovoltaic systems
- Pluggable

1420A Series

- UL1449 Type 4, Type 1 location DIN-Rail DC SPD
- DIN-Rail SPD for photovoltaic systems up to 1500 V
- Pluggable module with Advanced Thermal Disconnector (TD+)

1430 Series

- IEC/EN 61643-31 Class I / T1 DIN-Rail DC SPD
- DIN Rail SPD for DC systems up to 1500 V
- Pluggable module with Thermal Disconnector
- 80 kA rated

1440 Series

- IEC/EN 61643-31 Class II / T2 DIN-Rail DC SPD
- DIN Rail SPD for DC systems up to 1500 V
- Pluggable module with Advanced Thermal Disconnector (TD+)
- 50 kA rated

Signal and Data Line Surge Protective Devices

Bourns® Signal and Data Line SPDs are designed to shield sensitive equipment connected to signal and data line interfaces from damage or disruption caused by transient surges.

These protectors are heavy-duty, multi-stage protectors that employ Bourns® GDT, Bourns® TBU® HSP and silicon technologies. These protectors are generally installed as close as possible to the sensitive equipment being protected.

1500/1530-1 Series

- SPD for exposed Gigabit Ethernet & PoE
- DIN-Rail or wall mount

1540 Series

- Outdoor SPD for Power over Ethernet (PoE)

1669 Series

- SPD for transmitter and instrumentation
- 24-28 V, 4-20 mA control loops

2510 Series

- UL497B listed DIN-Rail Data and Signal Line SPD
- SPD for 1-pair 5 V.,12 V, 24 V, 48 V, 110 V, RS-232, RS-422 & RS-485

1800 Series

- DIN-Rail SPD for RS-232, RS-422, RS-423, RS-485, 20 mA and 50 mA instrument loops

1840 Series

- DIN-Rail SPD RS-232, RS-422, RS-423, RS-486
- Utilizes TBU® HSP technology

1675 Series

- Rail Wayside hut signal circuits
- Railroad electronic equipment

2520 Series

- UL497B listed DIN-Rail Data and Signal Line SPD
- SPD for 2-pairs 5 V, 12 V, 24 V, 48 V, RS-232, RS-422 & RS-485

Coaxial Surge Protective Devices

Coaxial SPDs are designed to protect sensitive equipment connected to coaxial lines. Coaxial SPDs are used in applications such as computer networks, CATV, antennas, WiMax, GSM, GPS, microwave and cellular.

Bourns® coaxial SPDs are also available in weatherized enclosures for residential and commercial installations.

1965 Series

- SPD for RF applications from DC-1 GHz, 50 ohms

1977 Series

- SPD for RF applications from VDC- 4 GHz, 50 or 75 ohms

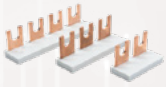
Accessories

Bourns® Model 4030-0x Surge Protector Test Set is a handheld, battery-operated tester designed to measure the clamping voltage and DC breakdown voltage of most SPDs. The Model 4030-0x is suitable for testing GDTs, carbon gaps, MOVs, Zener and avalanche diodes and thyristors as components and complete protectors.

Bourns® Model 1200 Series Bus Bar accessory provides a quick solution for combining the ground connection on two to four Model 1210 or 1250 Series single-pole SPD devices. The bus bar is installed at the bottom of the SPD, providing a bridge that connects the individual ground points. After installation of the bus bar, a single ground wire can then be used to complete the installation.

4030 Test Set

- Test det used to verify operation of the SPD installed in the field



Bus Bar

- Bus bar for 1210 and 1250 Series SPDs

Bourns® SPD Product Selector

AC Surge Protective Devices (SPDs)

Photo	Series	Configuration	Type	Part Numbers	AC Network	I_{max}	Description
	1202 Series	NEMA 4x Enclosure	Type 1, UL 1449 5th edition	1202-120S 1202-240S 1202-120P-20 1202-240P-20	120 V Single Phase 120/240 V Split Phase 120 V Single Phase 120/240 V Split Phase	25kA 50kA	General purpose hybrid SPD designed or Thermally Protected MOV for indoor/outdoor usage. Suitable for use before main service disconnect.
	1251 Series	NEMA 4x Enclosure Wiring rear exit	Type 1, UL 1449 4th edition	1251-120S-N1 1251-208Y-N1 1251-240S-N1 1251-120S-N2 1251-208Y-N2 1251-240S-N2	120 V Single Phase 120/208 V 3-phase Wye 120/240 V Split Phase 120 V Single Phase 120/208 V 3-phase Wye 120/240 V Split Phase	100 kA	Heavy-duty hybrid SPD designed for indoor/outdoor usage. Suitable for use before main service disconnect.
	1252 Series	NEMA 4x Enclosure Wiring rear exit	Type 2, UL 1449 4th edition	1252-120S-N1 1252-208Y-N1 1252-240S-N1 1252-120S-N2 1252-208Y-N2 1252-240S-N2	120 V-Single Phase 120/208 V 3-phase Wye 120/240 V Split Phase 120 V Single Phase 120/208 V 3-phase Wye 120/240 V Split Phase	50 kA	Heavy-duty hybrid SPD with filtering designed for indoor/ outdoor usage. Suitable for use after main service disconnect.
	1214 Series	NEMA 4x Enclosure Wiring rear exit	Type 1, UL 1449 4th edition	1214-240S 1214-208Y 1214-277Y 1214-480D	120/240 V Split Phase 120/208 V 3-phase Wye 277/480 V 3-phase Wye 480 V Delta	100 kA	Heavy-duty SPD designed for indoor/outdoor use. Suitable for use before main service disconnect.
	1224 Series	NEMA 4x Enclosure Wiring rear exit	Type 1, UL 1449 4th edition	1224-240S 1224-208Y 1224-277Y 1224-480D	120/240 V Split Phase 120/208 V 3-phase Wye 277/480 V 3-phase Wye 480 V Delta	100 kA	Heavy-duty SPD designed for indoor/outdoor usage. Suitable for use before main service disconnect.
	1210 Series	1-Pole	Type 4, Type 2 location UL 1449 4th edition	1210-1S-120 1210-1S-230 1210-1S-400 1210-1S-600	120/240 V, 120/208 V - Single Phase 220/380 V, 240/415 V - Single Phase 220/380 V, 277/480 V, 347/600V - Single Phase 480 V/600 V - Single Phase	100 kA	Heavy-duty SPD designed to be installed at the beginning of the installation, in the main switchboard, or close to sensitive terminals, on installations without LPS (Lightning Protection System).
		2-Pole		1210-2S-120 1210-2S-230 1210-2S-400 1210-2S-600	120/240 V, 120/208 V - Single Phase 220/380 V, 240/415 V - Single Phase 220/380 V, 277/480 V, 347/600 V - Single Phase 480 V/600 V - Single Phase		
		3-Pole		1210-3S-120 1210-3S-230 1210-3S-400 1210-3S-600	120/240 V, 120/208 V - 3-Phase 220/380 V, 240/415 V - 3-Phase 220/380 V, 277/480 V, 347/600 V - 3-Phase 480 V/600 V - 3-Phase		
		4-Pole		1210-4S-120 1210-4S-230 1210-4S-400 1210-4S-600	120/240 V, 120/208 V - 3-Phase + N 220/380 V, 240/415 V - 3-Phase + N 220/380 V, 277/480 V, 347/600 V - 3-Phase + N 480 V/600 V - 3-Phase + N		

AC Surge Protective Devices (SPDs)

Photo	Series	Configuration	Type	Part Numbers	AC Network	I_{max}	Description
	1220 Series	SMD Module Type 1	Type 4,Type 2 location UL 1449 4th edition	1220-10-I2-120M1 1220-10-I2-277M1 1220-10-I2-400M1 1220-10-I1-480M1 1220-10-I1-600M1	120/240 V, 120/208 V - Single Phase 240/415 V, 277/480 V - Single Phase 277/480 V, 347/600 V - Single Phase 347/600 V - Single Phase, 480V (Delta) 600 V (Delta)	25 kA 22 kA	Surge suppressor with thermal protection designed to open in the event of overheating due to an abnormal overvoltage or Temporary Overvoltage (TOV) event and will interrupt any abnormal current that may be encountered. Intergrated with high energy MOV and Advanced Thermal Disconnector (TD+) technology.
		SMD Module Type 2		1220-20-I4-120M2 1220-20-I4-277M2 1220-20-I4-400M2 1220-20-I4-480M2	120/240 V, 120/208 V - Single Phase 240/415 V, 277/480 V - Single Phase 277/480 V, 347/600 V - Single Phase 347/600 V - Single Phase, 480V (Delta)	50 kA	
		SMD Module Type 3		1220-20-I4-120M3 1220-20-I4-230M3 1220-20-I4-277M3 1220-20-I4-400M3 1220-20-I4-480M3 1220-20-I3-600M3	120/240 V, 120/208 V - Single Phase 220/380 V, 230/400 V - Single Phase 240/415 V, 277/480 V - Single Phase 277/480 V, 347/600 V - Single Phase 347/600 V - Single Phase, 480V (Delta) 600 V (Delta)	50 kA 40 kA	
		SMD Module Type 4		1220-20-I5-120M4 1220-20-I5-230M4 1220-20-I5-277M4	120/240 V, 120/208 V - Single Phase 220/380 V, 230/400 V - Single Phase 240/415 V, 277/480 V - Single Phase	75 kA	
	1250 Series	1-Pole	Type 4, Type 2 location UL 1449 4th edition	1250-1S-120 1250-1S-230 1250-1S-400 1250-1S-480	120/240 V, 120/208 V - Single Phase 220/380 V, 240/415 V - Single Phase 220/380 V, 277/480 V, 347/600 V - Single Phase 347/600 V - Single Phase	50 kA	General duty SPD designed to be installed at the beginning of the installation, in the main switchboard, or close to sensitive terminals, on installations without LPS (Lightning Protection System).
		2-Pole		1250-2S-120 1250-2S-230 1250-2S-400 1250-2S-480	120/240 V, 120/208 V - Single Phase 220/380 V, 240/415 V - Single Phase 220/380 V, 277/480 V, 347/600 V - Single Phase 347/600 V - Single Phase		
		3-Pole		1250-3S-120 1250-3S-230 1250-3S-400 1250-3S-480	120/240 V, 120/208 V - 3-Phase 220/380 V, 240/415 V - 3-Phase 220/380 V, 277/480 V, 347/600 V - 3-Phase 480 V - Delta		
		4-Pole		1250-4S-120 1250-4S-230 1250-4S-400 1250-4S-480	120/240 V, 120/208 V - 3-Phase + N 220/380 V, 240/415 V - 3-Phase + N 220/380 V, 277/480 V, 347/600 V - 3-Phase + N 480 V - Delta		

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AC Surge Protective Devices (SPDs)

Photo	Series	Configuration	Type	Part Numbers	AC Network	I_{max}	Description
	1250A Series	1-Pole	Type 4,Type 1 location UL 1449 4th edition	1250A-1S-120 1250A-1S-230 1250A-1S-277 1250A-1S-400 1250A-1S-480 1250A-1S-600	120/240 V, 120/208 V - Single Phase 220/380 V, 230/400 V - Single Phase 240/415 V, 277/480 V - Single Phase 277/480 V, 347/600 V - Single Phase 347/600 V - Single Phase, 480V (Delta) 600 V (Delta)	50 kA 40 kA	General duty SPD designed to be installed at the beginning of the installation, in the main switchboard, or close to sensitive terminals, on installations without LPS (Lightning Protection System). Intergrated with high energy MOV and Advanced Thermal Disconnector (TD+) technology.
		2-Pole		1250A-2S-120 1250A-2S-230 1250A-2S-277 1250A-2S-400 1250A-2S-480 1250A-2S-600	120/240 V, 120/208 V - Single Phase 220/380 V, 230/400 V - Single Phase 240/415 V, 277/480 V - Single Phase 277/480 V, 347/600 V - Single Phase 347/600 V - Single Phase, 480V (Delta) 600 V (Delta)	50 kA 40 kA	
		3-Pole		1250A-3S-120 1250A-3S-230 1250A-3S-277 1250A-3S-400 1250A-3S-480 1250A-3S-600	120/240 V, 120/208 V - 3 Phase 220/380 V, 230/400 V - 3 Phase 240/415 V, 277/480 V - 3 Phase 277/480 V, 347/600 V - 3 Phase 347/600 V - 3 Phase, 480V (Delta) 600 V (Delta)	50 kA 40 kA	
		4-Pole		1250A-4S-120 1250A-4S-230 1250A-4S-277 1250A-4S-400 1250A-4S-480 1250A-4S-600	120/240 V, 120/208 V - 3 Phase+N 220/380 V, 230/400 V - 3 Phase+N 240/415 V, 277/480 V - 3 Phase+N 277/480 V, 347/600 V - 3 Phase+N 347/600 V - 3 Phase+N, 480V (Delta) 600 V (Delta)	50 kA 40 kA	
	1260 Series	1-Pole	IEC/EN 61643-11 Class I+II / T1+T2	1260-1SMG-120 1260-1SMG-127 1260-1SMG-230 1260-1SMG-277 1260-1SMG-400 1260-1SMG-480 1260-1SMG-690	120/240 V, 120/208 V - Single Phase 120/208 V, 127/220 V - Single Phase 220/380 V, 230/400 V - Single Phase 240/415 V, 277/480 V - Single Phase 277/480 V, 347/600 V - Single Phase 347/600 V - Single Phase, 480V (Delta) 690 V (Delta)	100 kA	AC Hybrid Surge Protective Device (SPD) designed to protect high-risk electrical service entrance and branch panels. Based on its advanced hybrid architecture (MOV + GDT technology), this series can provide better reliability and safety protection due to no leakage or follow current..
		2-Pole		1260-2SMG-120 1260-2SMG-127 1260-2SMG-230 1260-2SMG-277 1260-2SMG-400 1260-2SMG-480 1260-2SMG-690	120/240 V, 120/208 V - Single Phase 120/208 V, 127/220 V - Single Phase 220/380 V, 230/400 V - Single Phase 240/415 V, 277/480 V - Single Phase 277/480 V, 347/600 V - Single Phase 347/600 V - Single Phase, 480V (Delta) 690 V (Delta)		
		3-Pole		1260-3SMG-120 1260-3SMG-127 1260-3SMG-230 1260-3SMG-277 1260-3SMG-400 1260-3SMG-480 1260-3SMG-690	120/240 V, 120/208 V - 3 Phase 120/208 V, 127/220 V - 3 Phase 220/380 V, 230/400 V - 3 Phase 240/415 V, 277/480 V - 3 Phase 277/480 V, 347/600 V - 3 Phase 347/600 V - 3 Phase, 480V (Delta) 690 V (Delta)		
		4-Pole		1260-4SMG-120 1260-4SMG-127 1260-4SMG-230 1260-4SMG-277 1260-4SMG-400 1260-4SMG-480 1260-4SMG-690	120/240 V, 120/208 V - 3 Phase+N 120/208 V, 127/220 V - 3 Phase+N 220/380 V, 230/400 V - 3 Phase+N 240/415 V, 277/480 V - 3 Phase+N 277/480 V, 347/600 V - 3 Phase+N 347/600 V - 3 Phase+N, 480V (Delta) 690 V (Delta)		

AC Surge Protective Devices (SPDs)

Photo	Series	Configuration	Type	Part Numbers	AC Network	I_{max}	Description
	1270 Series	1-Pole	IEC/EN 61643-11 Class I / T1	1270-1S-120 1270-1S-127 1270-1S-230 1270-1S-277 1270-1S-400 1270-1S-480 1270-1S-690	120/240 V, 120/208 V - Single Phase 120/208 V, 127/220 V - Single Phase 220/380 V, 230/400 V - Single Phase 240/415 V, 277/480 V - Single Phase 277/480 V, 347/600 V - Single Phase 347/600 V - Single Phase, 480V (Delta) 690 V (Delta)	80 kA 65 kA	IEC Class I AC SPD is intended to be installed at the front end of the installation, in the main switchboard, close to sensitive terminals or in installations with LPS (lightning rods).
		2-Pole		1270-2S-120 1270-2S-127 1270-2S-230 1270-2S-277 1270-2S-400 1270-2S-480 1270-2S-690	120/240 V, 120/208 V - Single Phase 120/208 V, 127/220 V - Single Phase 220/380 V, 230/400 V - Single Phase 240/415 V, 277/480 V - Single Phase 277/480 V, 347/600 V - Single Phase 347/600 V - Single Phase, 480V (Delta) 690 V (Delta)	80 kA 65 kA	
		3-Pole		1270-3S-120 1270-3S-127 1270-3S-230 1270-3S-277 1270-3S-400 1270-3S-480 1270-3S-690	120/240 V, 120/208 V - 3 Phase 120/208 V, 127/220 V - 3 Phase 220/380 V, 230/400 V - 3 Phase 240/415 V, 277/480 V - 3 Phase 277/480 V, 347/600 V - 3 Phase 347/600 V - 3 Phase, 480V (Delta) 690 V (Delta)	80 kA 65 kA	
		4-Pole		1270-4S-120 1270-4S-127 1270-4S-230 1270-4S-277 1270-4S-400 1270-4S-480 1270-4S-690	120/240 V, 120/208 V - 3 Phase+N 120/208 V, 127/220 V - 3 Phase+N 220/380 V, 230/400 V - 3 Phase+N 240/415 V, 277/480 V - 3 Phase+N 277/480 V, 347/600 V - 3 Phase+N 347/600 V - 3 Phase+N, 480V (Delta) 690 V (Delta)	80 kA 65 kA	
	1280 Series	1-Pole	IEC/EN 61643-11 ClassII / T2	1280-1S-120 1280-1S-127 1280-1S-230 1280-1S-277 1280-1S-400 1280-1S-480 1280-1S-690	120/240 V, 120/208 V - Single Phase 120/208 V, 127/220 V - Single Phase 220/380 V, 230/400 V - Single Phase 240/415 V, 277/480 V - Single Phase 277/480 V, 347/600 V - Single Phase 347/600 V - Single Phase, 480V (Delta) 690 V (Delta)	50 kA	IEC Class II AC SPD is intended to be installed at the front end of the installation, in the main switchboard, close to sensitive terminals or in installations without LPS (lightning rods). Intergrated with high energy MOV and advanced Thermal Disconnector (TD+) Technology.
		2-Pole		1280-2S-120 1280-2S-127 1280-2S-230 1280-2S-277 1280-2S-400 1280-2S-480 1280-2S-690	120/240 V, 120/208 V - Single Phase 120/208 V, 127/220 V - Single Phase 220/380 V, 230/400 V - Single Phase 240/415 V, 277/480 V - Single Phase 277/480 V, 347/600 V - Single Phase 347/600 V - Single Phase, 480V (Delta) 690 V (Delta)		
		3-Pole		1280-3S-120 1280-3S-127 1280-3S-230 1280-3S-277 1280-3S-400 1280-3S-480 1280-3S-690	120/240 V, 120/208 V - 3 Phase 120/208 V, 127/220 V - 3 Phase 220/380 V, 230/400 V - 3 Phase 240/415 V, 277/480 V - 3 Phase 277/480 V, 347/600 V - 3 Phase 347/600 V - 3 Phase, 480V (Delta) 690 V (Delta)		
		4-Pole		1280-4S-120 1280-4S-127 1280-4S-230 1280-4S-277 1280-4S-400 1280-4S-480 1280-4S-690	120/240 V, 120/208 V - 3 Phase+N 120/208 V, 127/220 V - 3 Phase+N 220/380 V, 230/400 V - 3 Phase+N 240/415 V, 277/480 V - 3 Phase+N 277/480 V, 347/600 V - 3 Phase+N 347/600 V - 3 Phase+N, 480V (Delta) 690 V (Delta)		

Bourns® SPD Product Selector

DC Surge Protective Devices (SPDs)

Photo	Series	Configuration	Type	Part Numbers	DC Power System	I_{max}	Description
	1320 Series	1-Pole DIN-Rail	Type 4 construction, Type 2 application per UL 1449 3rd Edition: Low Voltage SPD Test Class II per EN61643-11 and IEC 61643-11	1320-S-12 1320-S-24 1320-S-48 1320-S-75 1320-S-110	48 VDC 75 VDC 110 VDC 12 V 24 V	20-40 kA	SPD designed to protect DC power systems from damage due to lightning and power surges.
	1420 Series	1-Pole DIN-Rail	Type 4 construction, Type 2 application per UL 1449 3rd Edition: Low Voltage SPD Test Class II per EN61643-11 and IEC 61643-11	1420-PV-1000	1000 VDC	40 kA	DC powered SPD designed to protect photovoltaic systems operating up to 1200 VDC.
	1420A Series	1-Pole Single Protection 2-Pole V Configuration 2-Pole Y Configuration	Type 4,Type 1 location UL 1449 4th edition	1420A-PV-48-P 1420A-PV-48-D 1420A-PV-600-D 1420A-PV-600-Y 1420A-PV-1000-Y 1420A-PV-1200-Y 1420A-PV-1500-Y	48 VDC 48 VDC 600 VDC 600 VDC 1000 VDC 1200 VDC 1500 VDC	50 kA	DC powered SPD designed to protect photovoltaic systems operating from 48 VDC to 1500 VDC. Can be configured for both common mode and differential mode protection. Intergrated with high energy MOV and Advanced Thermal Disconnector (TD+) technology.

DC Surge Protective Devices (SPDs)

Photo	Series	Configuration	Type	Part Numbers	DC Network	I_{max}	Description
	1430 Series	1-Pole Single Protection	IEC/EN 61643-31 Class I / T1	1430-PV-48-P 1430-PV-60-P 1430-PV-100-P 1430-PV-150-P 1430-PV-200-P 1430-PV-300-P 1430-PV-400-P 1430-PV-500-P 1430-PV-600-P 1430-PV-750-P	48 VDC 60 VDC 100 VDC 150 VDC 200 VDC 300 VDC 400 VDC 500 VDC 600 VDC 750 VDC	80 kA 65 kA	IEC Class I DC powered SPD designed to protect photovoltaic systems operating from 48 VDC to 1500 VDC. Can be configured for both common mode and differential mode protection.
		2-Pole V Configuration		1430-PV-48-D 1430-PV-60-D 1430-PV-100-D 1430-PV-150-D 1430-PV-200-D 1430-PV-300-D 1430-PV-400-D 1430-PV-500-D 1430-PV-600-D	48 VDC 60 VDC 100 VDC 150 VDC 200 VDC 300 VDC 400 VDC 500 VDC 600 VDC	80 kA	
		2-Pole Y Configuration		1430-PV-100-Y 1430-PV-200-Y 1430-PV-300-Y 1430-PV-400-Y 1430-PV-600-Y 1430-PV-800-Y 1430-PV-1000-Y 1430-PV-1200-Y 1430-PV-1500-Y	100 VDC 200 VDC 300 VDC 400 VDC 600 VDC 800 VDC 1000 VDC 1200 VDC 1500 VDC	80 kA 65 kA	
	1440 Series	1-Pole Single Protection	IEC/EN 61643-31 Class II / T2	1440-PV-48-P 1440-PV-60-P 1440-PV-100-P 1440-PV-150-P 1440-PV-200-P 1440-PV-300-P 1440-PV-400-P 1440-PV-500-P 1440-PV-600-P 1440-PV-750-P	48 VDC 60 VDC 100 VDC 150 VDC 200 VDC 300 VDC 400 VDC 500 VDC 600 VDC 750 VDC	50 kA	IEC Class II DC powered SPD designed to protect photovoltaic systems operating from 48 VDC to 1500 VDC. Can be configured for both common mode and differential mode protection. Intergrated with high energy MOV and advanced Thermal Disconnector (TD+) Technology.
		2-Pole V Configuration		1440-PV-48-D 1440-PV-60-D 1440-PV-100-D 1440-PV-150-D 1440-PV-200-D 1440-PV-300-D 1440-PV-400-D 1440-PV-500-D 1440-PV-600-D	48 VDC 60 VDC 100 VDC 150 VDC 200 VDC 300 VDC 400 VDC 500 VDC 600 VDC		
		2-Pole Y Configuration		1440-PV-100-Y 1440-PV-200-Y 1440-PV-300-Y 1440-PV-400-Y 1440-PV-600-Y 1440-PV-800-Y 1440-PV-1000-Y 1440-PV-1200-Y 1440-PV-1500-Y	100 VDC 200 VDC 300 VDC 400 VDC 600 VDC 800 VDC 1000 VDC 1200 VDC 1500 VDC		

Bourns® SPD Product Selector

Signal and Data Line Surge Protective Devices

Photo	Base Model	Application	Interface Operating Characteristics			Max. DC Current	Typical Capacitance		Series Resistance
			Peak Signal Voltage L/L (Volts)	Peak Signal Voltage L/G (Volts)	Max. Data Rate (MHz)	(mA)	L/G (pF)	L/L (pF)	Each Line - Input to Output (Ohms)
	1169-01	4-20 mA	28	28	4	150	1800	1800	22
	1669-02	4-20 mA	28	28	4	150	1800	1800	22
	1669-05	4-20 mA	28	28	4	150	1800	1800	22
	1669-06	4-20 mA	28	28	4	150	1800	1800	22
	1810-10-xx		20	10	10	220	2200	1200	10
	1811-10-xx		20	10	50	350	45	45	10
	1820-10-xx	RS-422	10	10	4	220	3300	3300	10
	1821-10-xx		10	10	50	350	65	65	10
	1810-15-xx	RS-232	30	15	8	180	1500	750	15
	1811-15-xx		30	15	45	300	45	45	15
	1820-15-xx	RS-485	15	15	3	180	2300	2300	15
	1821-15-xx		15	15	45	300	65	65	15
	1810-28-xx		56	28	9	150	1100	600	22
	1811-28-xx		56	28	40	250	45	45	22
	1820-28-xx	4-20 mA	28	28	4	150	1800	1800	22
	1821-28-xx		28	28	40	250	65	65	22
	1810-50-xx		100	50	10	100	500	300	51
	1820-50-xx		50	50	4	100	800	800	51
	1840-05-Ax 1840-12-Ax	RS-232, RS-485	6 13	6 13	30	220	35	45	12
	1500-1x-x Isolated - no ground	Ethernet	7	7	1 Gbit/s	200	n/a	10	12
	1500-2x-x	Ethernet	7	7	1 Gbit/s	200	n/a	10	12
	1530-1	PoE	35 watts @ 57 V		1000 Mbit/s	600	n/a	10	6
	1540	PoE	35 watts @ 57 V		1000 Mbit/s	600	n/a	10	6

Coaxial Surge Protective Devices

Photo	Base Model	Application	Characteristic Impedence	Frequency Range	Insertion Loss	Connectors
	1965-xx-Axx	UHF, VHF transmitters, 2-way base stations, transceivers	50 Ω	DC-1 GHz	<0.2 dB	N, BNC, UHF
	1977-xx-xxx	Antenna, broadband, microwave, GPS, cellular, CATV	50 Ω - N-type connector 75 Ω - F-type connector	DC-4 GHz	<0.1 dB	N,F

Signal and Data Line Surge Protective Devices

Photo	Base Model	Application	Interface Operating Characteristics			Max. DC Current	Typical Capacitance		Series Resistance
			Peak Signal Voltage L/L (Volts)	Peak Signal Voltage L/G (Volts)	Max. Data Rate (MHz)	(mA)	L/G (pF)	L/L (pF)	Each Line - Input to Output (Ohms)
	2510-2L1-05	RS-232 RS-422 RS-485	30	30	100	1000	n/a	n/a	0.68
	2510-2L1-12		45	45	100	1000	n/a	n/a	0.68
	2510-2L1-24		55	55	100	1000	n/a	n/a	0.68
	2510-2L1-48		100	100	100	1000	n/a	n/a	0.68
	2510-2L1-110		300	300	100	1000	n/a	n/a	0.68
	2510-2L2-05		30	500	100	1000	n/a	n/a	0.68
	2510-2L2-12		45	500	100	1000	n/a	n/a	0.68
	2510-2L2-24		55	500	100	1000	n/a	n/a	0.68
	2510-2L2-48		100	500	100	1000	n/a	n/a	0.68
	2510-2L2-110		300	500	100	1000	n/a	n/a	0.68
	2510-2L3-05		30	500	100	1000	n/a	n/a	0.68
	2510-2L3-12		45	500	100	1000	n/a	n/a	0.68
	2510-2L3-24		55	500	100	1000	n/a	n/a	0.68
	2510-2L3-48		100	500	100	1000	n/a	n/a	0.68
	2510-2L3-110		300	500	100	1000	n/a	n/a	0.68
	2510-2L4-05		30	500	100	1000	n/a	n/a	0.68
	2510-2L4-12		45	500	100	1000	n/a	n/a	0.68
	2510-2L4-24		55	500	100	1000	n/a	n/a	0.68
	2510-2L4-48		100	500	100	1000	n/a	n/a	0.68
	2510-2L4-110		300	500	100	1000	n/a	n/a	0.68
	2510-2L5-12		25	750	2	1000	n/a	n/a	1.36
	2510-2L5-24		50	750	2	1000	n/a	n/a	1.36
	2510-2L5-48		100	750	2	1000	n/a	n/a	1.36
	2510-2L5-110		260	750	2	1000	n/a	n/a	1.36
	2510-2L6-05		30	500	100	2000	n/a	n/a	0
	2510-2L6-12		45	500	100	2000	n/a	n/a	0
	2510-2L6-24		55	500	100	2000	n/a	n/a	0
	2510-2L6-48		100	500	100	2000	n/a	n/a	0
	2520-4L1-05	RS-232 RS-422 RS-485	30	30	100	1000	n/a	n/a	0.68
	2520-4L1-12		45	45	100	1000	n/a	n/a	0.68
	2520-4L1-24		55	55	100	1000	n/a	n/a	0.68
	2520-4L1-48		100	100	100	1000	n/a	n/a	0.68
	2520-4L2-05		30	500	100	1000	n/a	n/a	0.68
	2520-4L2-12		45	500	100	1000	n/a	n/a	0.68
	2520-4L2-24		55	500	100	1000	n/a	n/a	0.68
	2520-4L2-48		100	500	100	1000	n/a	n/a	0.68
	2520-4L3-05		30	500	100	2000	n/a	n/a	0
	2520-4L3-12		45	500	100	2000	n/a	n/a	0
	2520-4L3-24		55	500	100	2000	n/a	n/a	0
	2520-4L3-48		100	500	100	2000	n/a	n/a	0

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