

Industrial, Commercial  
and Residential

# Surge Protective Devices (SPDs)

GETTING THE RIGHT PROTECTION

COMPLIANT WITH  
NFPA 99 REQUIREMENTS  
FOR PATIENT CARE AREAS

POWER

PROTECTION

LOAD MONITOR  
EXCEEDED NFPA 99  
CURRENT LIMIT WHEN LIT



Insert plug blade  
to release cover

Press on edge of  
cover to close

**LEVITON**<sup>®</sup>

Surge Protective Device

CAT. NO.  
32120-DY3

UL 1449 VPR RATING:  
700Vpk L-N  
700Vpk N-G  
1000Vpk L-L  
1200Vpk L-G

FOR: 120/208V WYE OR  
208V OR 220V DELTA  
Frequency: 50/60 Hz  
Type 2, In: 3KA, SCCR: 100KA  
MCOV: L-N/N-G: 150V, L-L: 254V, L-G: 300V

LINE 1

LINE 2

LINE 3

PROTECTION STATUS

GREEN LIGHT OUT / FLASHING RED LIGHT  
AUDIBLE BEEP = CIRCUIT DAMAGE,  
REPLACE IMMEDIATELY

FAULT

Enclosure Type NEMA 3R

FOR WIRING SEE INSTALLATION INSTRUCTION

# Surge Protective Device Types in Brief



## Type 1 SPDs .....Page 2

Typically mounted on the line side of the main service entrance. Protect against external surges caused by lightning or utility capacitor bank switching. Type 1 devices can automatically be used in Type 2 applications, therefore often referred to as Type 1/Type 2.

## Type 2 SPDs .....Page 3

Generally service a branch circuit and protect against residual lightning energy, motor driven surges and other internally generated surges.

## Type 3 SPDs .....Pages 4-6

Often used at the protected equipment. Provide point-of-use protection.

## Type 4 SPDs .....Page 7

Component assemblies consisting of one or more Type 5 SPD components together with a disconnect (integral or external) or a means of complying with the limited current tests specified in UL 1449.

For additional product details, including technical specifications, warranty information, and literature, please visit [leviton.com/surge](http://leviton.com/surge).

## Surge Protector Limited Warranty

This warranty is for the benefit of the original consumer purchaser only.

### LIMITED 5 YEAR WARRANTY FOR ENTIRE SURGE LINE

#### THE BELOW SKUs HAVE A CONNECTED EQUIPMENT WARRANTY

Up to \$25,000	51120-1, 51110-SRG, S2000 Series, 5300
Up to \$10,000	S1000 Series
Up to \$5,000	5100 Series

## TYPE 1 SURGE PROTECTIVE DEVICES

### Surge Protective Circuit Breakers

- Sets of two 15 A or 20 A Single Pole Thermal Magnetic Branch Circuit Breakers
- Designed for easy in-panel installation and provides effective surge protection for the entire home
- An easy-to read LED indicator light displays power, protection status and remains lit, even if the breaker is off, or tripped



#### Ordering Guide: Surge Protective Circuit Breakers

Catalog Number	Description	Max Amp Rating	Voltage (AC) Configuration	Max Surge Current
LSPD1-T	(2) 1-Pole Thermal Magnetic Circuit Breakers	15 A	120 V / 240 V	25 kA
LSPD2-T	(2) 1-Pole Thermal Magnetic Circuit Breakers	20 A	120 V / 240 V	25 kA

# TYPE 2 SURGE PROTECTIVE DEVICES

## 51110-SRG Panel Mount

- Compatible with home automation systems
- 150 maximum continuous operating voltage (MOV) rating allows for tolerance to line voltage swells
- Outdoor NEMA 4x rated



## 51120-1 Panel Mount

- Real-time diagnostic visual indicator shows power and suppression status for each protected phase
- Standard J-Box enclosure with pre-punched standard knock-outs can be easily surface mounted in typical frame construction
- Features a low VPR to ensure protection of sensitive electronic devices including LCD TVs and computers
- NEMA 1 enclosure



## 32000 and 42000 Series Panel Mount

- 32000 Series features reduced noise filtering for optimum compatibility with home controls
- 42000 Series incorporates enhanced noise filtering and sine wave tracking for superior protection
- Three-phase models can be wired for either WYE or Delta AC systems
- NEMA Type 3R enclosure for indoor/outdoor applications



### Ordering Guide: 32000, 42000 Series, 51110-SRG and 51120-1 Panel Mount Devices

Catalog Number	Description	Voltage (V AC) Configuration	Max Surge Current, Per Mode (Per Phase)
32120-DY3	7-Mode Surge Protection	120/208 3Ø WYE, 4-wire + gnd; 208 3Ø Delta, 3-wire + gnd; 220 3Ø Delta, 3-wire + gnd	80 kA (80 kA)
32120-1	4-Mode Surge Protection	120/240 Single-phase, 2-wire + gnd	80 kA (80 kA)
32277-DY3	7-Mode Surge Protection	220/380 3Ø WYE, 4-wire + gnd; 277/480 3Ø WYE, 4-wire + gnd; 240 3Ø Delta, 3-wire + gnd; 480 3Ø Delta, 3-wire + gnd	80 kA (80 kA)
32412-DS3	7-Mode Surge Protection	120/240/120 3Ø Hi-leg Split Phase Delta, 4-wire + gnd	80 kA (80 kA)
42120-DY3	7-Mode Surge Protection	120/208 3Ø WYE, 4-wire + gnd; 208 3Ø Delta, 3-wire + gnd; 220 3Ø Delta, 3-wire + gnd	80 kA (80 kA)
42120-1	4-Mode Surge Protection	120/240 Single-phase, 2-wire + gnd	80 kA (80 kA)
42277-DY3	7-Mode Surge Protection	220/380 3Ø WYE, 4-wire + gnd; 277/480 3Ø WYE, 4-wire + gnd; 240 3Ø Delta, 3-wire + gnd; 480 3Ø Delta, 3-wire + gnd	80 kA (80 kA)
42412-DS3	7-Mode Surge Protection	120/240/120 3Ø Hi-leg Split Phase Delta, 4-wire + gnd	80 kA (80 kA)
51110-SRG	4-Mode Surge Protection	120/240 Single-phase, 2-wire + gnd	48 kA (96 kA)
51120-1	2-Mode Surge Protection	120/240 Single-phase, 2-wire + gnd	50 kA (50 kA)

### Additional Accessories

**Flush Mount Collar**  
For all 32000 and 42000 Series Panels  
42001-FMC



# TYPE 3 SURGE PROTECTIVE DEVICES

## Surge Protective Receptacles

- EMI/RFI Noise Filtering
- Audible alarm
- Back and side-wired design with durable metal mounting strap
- Point-of-use protection for up to 18,000 amps of surge current total



### Ordering Guide: Surge Protective Receptacles

Commercial Specification Grade											
Decora® Tamper-Resistant Surge Protective Receptacles											
Amp.	Outlet Configuration	Color									Features
		Brown	Ivory	White	Gray	Red	Blue	Black	Orange	Lt. Almond	
15 A	Duplex	T5280	T5280-I	T5280-W	T5280-GY	—	T5280-B	T5280-E	—	T5280-T	■
20 A	Duplex	T5380	T5380-I	T5380-W	T5380-GY	—	T5380-B	T5380-E	—	—	■
15 A	Duplex	—	T7280-I	T7280-W	—	—	T7280-B	T7280-E	—	T7280-T	■
20 A	Duplex	—	T7380-I	T7380-W	—	—	T7380-B	T7380-E	—	—	■
15 A	Duplex	—	T8280-I	T8280-W	—	T8280-R	T8280-B	—	—	T8280-T	■       ●
20 A	Duplex	—	T8380-I	T8380-W	T8380-GY	T8380-R	T8380-B	—	—	—	■       ●
Decora® Surge Protective Receptacles											
15 A	Duplex	5280	5280-I	5280-W	5280-GY	—	5280-B	—	—	5280-T	■
20 A	Duplex	5380	5380-I	5380-W	5380-GY	—	5380-B	—	—	—	■
15 A	Duplex	5280-IG	5280-IGI	5280-IGW	—	—	5280-IGB	—	5280-IGO	—	▼ ■
20 A	Duplex	5380-IG	5380-IGI	5380-IGW	5380-IGG	—	5380-IGB	—	5380-IGO	—	▼ ■
15 A	Duplex	—	7280-I	7280-W	—	—	7280-B	—	—	7280-T	■
20 A	Duplex	—	7380-I	7380-W	—	—	7380-B	—	—	—	■
4-in-1 Surge Protective Receptacles											
15 A	Four-In-One	—	5480-I	5480-W	5480-GY	5480-R	5480-BU	—	—	—	■
20 A	Four-In-One	—	5490-I	5490-W	5490-GY	—	5490-BU	—	—	—	■
15 A	Four-In-One	—	—	—	—	—	—	—	5480-IG	—	▼ ■
20 A	Four-In-One	—	5490-IGI	—	—	—	5490-IGB	—	5490-IG	—	▼ ■
Hospital Grade											
Decora® Surge Protective Receptacles											
Amp.	Outlet Configuration	Color									Features
		Brown	Ivory	White	Gray	Red	Blue	Black	Orange	Lt. Almond	
15 A	Duplex	8280	8280-I	8280-W	—	8280-R	8280-B	—	—	8280-T	■       ●
20 A	Single	—	—	—	—	—	—	—	—	—	■       ●
15 A	Duplex	—	8280-IGI	8280-IGW	—	—	8280-IGB	—	8280-IGO	—	▼ ■       ●
20 A	Duplex	—	8380-IGI	8380-IGW	8380-IGG	—	8380-IGB	—	8380-IGO	—	▼ ■       ●
4-in-1 Surge Protective Receptacles											
15 A	Four-In-One	—	8480-I	8480-W	—	8480-R	—	—	—	—	■ ●
20 A	Four-In-One	—	8490-I	8490-W	—	8490-R	—	—	—	—	■ ●
15 A	Four-In-One	—	8480-IGI	8480-IGW	—	—	8480-IGB	—	—	—	▼ ■ ●
20 A	Four-In-One	—	8490-IGI	—	—	—	8490-IGB	—	8490-IG	—	▼ ■ ●

Key:	▼ Isolated Ground (IG)	■ Indicator Light
	Audible Alarm	● Hospital Grade



## TYPE 3 SURGE PROTECTIVE DEVICES

### S1000 and S2000 Series Surge Protective Strips

- Internal circuit breaker
- Audible alarm
- Multi-line protection (L-N, L-G, N-G)



### 5100 and 5300 Series Surge Protective Strips

- Commercial Grade strips have a thermoplastic housing while Industrial Grade strips feature metal housings
- Industrial Grade strips include Tamper-Resistant or Hospital Grade receptacle components
- Multi-line protection (L-N, L-G, N-G)
- Onboard resettable circuit breaker



#### Ordering Guide: S1000 and S2000 Series Surge Protective Strips

Catalog Number	Maximum Input Current	Joules	Data Protection	Enclosure	Number of Outlets	Cord Length
S1000-PS	15 Amp	1010J	—	ABS Plastic	6	6 Feet
S1000-S15	15 Amp	1010J	—	ABS Plastic	6	15 Feet
S1000-PTC	15 Amp	1010J	RJ-11, Coax	ABS Plastic	6	6 Feet
S2000-PS	15 Amp	2020J	—	ABS Plastic	9	6 Feet
S2000-S15	15 Amp	2020J	—	ABS Plastic	9	15 Feet
S2000-PTC	15 Amp	2020J	RJ-45, Coax	ABS Plastic	9	6 Feet

#### Ordering Guide: 51000 and 53000 Series Surge Protective Strips

Catalog Number	Application	Maximum Input Current	Joules	Alarm	Enclosure	On/Off Switch	Cord Length
5100-PS	Commercial	15 Amp	720	—	ABS Plastic	Yes	6 Feet
5100-S15	Commercial	15 Amp	720	—	ABS Plastic	Yes	15 Feet
5300-PS	Commercial	15 Amp	1520	—	ABS Plastic	Yes	6 Feet
5300-S15	Commercial	15 Amp	1520	—	ABS Plastic	Yes	15 Feet
5100-IPS	Industrial	15 Amp	1330	Audible at Protection Loss	Steel	Yes	6 Feet
5100-IS2	Industrial	20 Amp	900	Audible at Protection Loss	Steel	Yes	6 Feet
5300-IPS	Industrial	15 Amp	1330	Audible at Protection Loss	Steel	Yes	6 Feet
5300-H15	Hospital	15 Amp	952	—	Steel	No	15 Feet
5300-HTS	Hospital	15 Amp	952	—	Steel	No	6 Feet
5300-HT2	Hospital	20 Amp	952	—	Steel	No	6 Feet

# TYPE 3 SURGE PROTECTIVE DEVICES

## Medical Grade Power Strips

- Conforms to UL 1363A, UL 60601-1, UL 60950-1, and UL 1449
- Devices with Inform™ technology feature a line-of-sight, real-time LED indication when the NFPA 99 current limit (75%) has been reached
- All outlets and plug are hospital grade, ensuring dependable performance
- Heavy duty steel construction withstands the rigors of demanding environments
- Built-in overload protection shuts off the strip in case of excess power draw, and can be returned to service with the simple push of a button
- Easily accommodates surface mounting; IV pole mounting with the use of mounting bracket (5300M-BKT)
- Locking safety covers are splash-resistant and protect from incidental contact with unused outlets



**OVERCURRENT INDICATION**  
 **LOAD MONITOR**  
 EXCEEDED NFPA 99  
 CURRENT LIMIT WHEN LIT



 Surge Protective with Load Monitoring Inform Technology

Surge Protective

### Ordering Guide: Medical Grade Power Strips

Stock Configurations	Current Rating	AC Power Cord Length	2 Outlet	4 Outlet	6 Outlet
Medical Grade Power Strips	15 A (12 A max continuous load)	7 Feet	5302M-1N7	5304M-1N7	5306M-1N7
		15 Feet	5302M-1N5	5304M-1N5	5306M-1N5
	20 A (16 A max continuous load)	7 Feet	5302M-2N7	5304M-2N7	5306M-2N7
		15 Feet	5302M-2N5	5304M-2N5	5306M-2N5
Surge Protective Medical Grade Power Strips	15 A (12 A max continuous load)	7 Feet	5302M-1S7	5304M-1S7	5306M-1S7
		15 Feet	5302M-1S5	5304M-1S5	5306M-1S5
	20 A (16 A max continuous load)	7 Feet	5302M-2S7	5304M-2S7	5306M-2S7
		15 Feet	5302M-2S5	5304M-2S5	5306M-2S5
 Medical Grade Power Strips with Load Monitoring Inform™ Technology	15 A (12 A max continuous load)	7 Feet	—	53C4M-1N7	53C6M-1N7
		15 Feet	—	53C4M-1N5	53C6M-1N5
	20 A (16 A max continuous load)	7 Feet	—	53C4M-2N7	53C6M-2N7
		15 Feet	—	53C4M-2N5	53C6M-2N5
 Surge Protective Medical Grade Power Strips with Load Monitoring Inform™ Technology	15 A (12 A max continuous load)	7 Feet	—	53C4M-1S7	53C6M-1S7
		15 Feet	—	53C4M-1S5	53C6M-1S5
	20 A (16 A max continuous load)	7 Feet	—	53C4M-2S7	53C6M-2S7
		15 Feet	—	53C4M-2S5	53C6M-2S5

All strips available with flying leads - contact your Leviton sales representative for details.

#### Additional Accessories

**Replacement Outlet Covers**  
 Each will cover two outlets  
 5300M-CVR



**Mounting Bracket**  
 Includes top and bottom mounting mechanisms  
 5300M-BKT



# TYPE 4 SURGE PROTECTIVE DEVICES

## DIN Rail Mount Receptacles

- Provide MOV-based normal mode and common mode L-N, L-G, N-G surge protection
- LED indicator and audible alarm
- Outlet continues to provide power to connected load in the event of a loss of protection

### Ordering Guide: DIN Rail Receptacles

Catalog Number	Description
3880-DIN	15 Amp, 125 Volt, Hospital Grade Surge Protective Duplex Receptacle, DIN Rail Mount, with Indicator Light and Audible Alarm



# 2020 National Electrical Code® (NEC) Updates 230.67 Surge Protection

Article 230.67 of the 2020 National Electrical Code® (NEC) now requires all services supplying dwelling units to be provided with a surge protective device (SPD), as an integral part of equipment or located immediately adjacent. The SPD must be a Type 1 or Type 2 SPD. This requirement applies to residential service equipment being replaced as well.



## NEC Article: 230.67 Surge Protection

(A) *Surge-Protective Device. All services supplying dwelling units shall be provided with a surge-protective device (SPD).*

(B) *Location. The SPD shall be an integral part of the service equipment or shall be located immediately adjacent thereto.*

*Exception: The SPD shall not be required to be located in the service equipment as required in (B) if located at each next level distribution equipment downstream toward the load.*

(C) *Type. The SPD shall be a Type 1 or Type 2 SPD.*

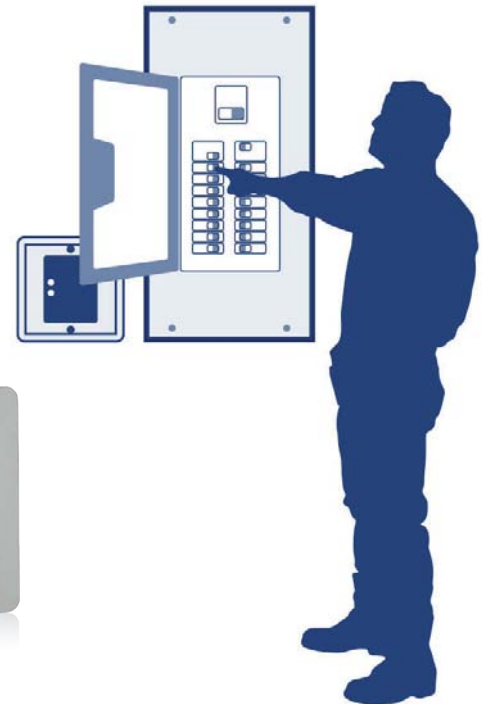
(D) *Replacement. Where service equipment is replaced, all of the requirements of this section shall apply.*



\* As per the NEC, a dwelling unit is a single unit, providing complete and independent living facilities for one or more persons, including permanent provisions for living, sleeping, cooking, and sanitation.

**Type 1 SPDs:** Intended for installation between the secondary side of the service transformer and the line side of the service equipment, as well as the load side. Protect against external surges caused by lightning or utility capacitor bank switching. Type 1 devices can automatically be used in Type 2 applications.

**Type 2 SPDs:** Intended for installation on the load side of the service equipment. Generally service a branch circuit and protect against residual lightning energy, motor driven surges and other internally generated surges.



## COMPLY WITH 2020 NEC ARTICLE 230.67



**SURGE PROTECTIVE  
CIRCUIT BREAKERS**



**51110-SRG**



**51120-1**

Visit our Website at:  
[www.leviton.com/surge](http://www.leviton.com/surge)  
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