Surge Protective Devices (SPDs)

For Residential, Commercial and Industrial Applications

ORDERING GUIDE

There are different types of surge protective devices, categorized based on the service area they protect and where they are installed. **It's important to understand how they can be layered to ensure complete surge protection.**

Installed **before or at the main breaker panel**, protecting against external surges caused by instances such as lightning or utility capacitor bank switching. Type 1 devices can be used in Type 2 applications.

Providing the same protection as Type 1 but mounted to the load side of an electric service panel, these devices protect against residual lightning energy, motor driven surges and other internally generated surges. Type 2 devices can be tiered on branch circuits for additional protection.

Used at the protected equipment, such as computers, gaming systems and TVs, shielding from harmful transients and acting as the last line of defense.

THE LEVITON SPD PORTFOLIO

TYPE 1
TYPE 2
TYPE 3

LEVITON

BUILDING A LAYERED

APPROACH TO COMPLETE SURGE PROTECTION

2020 AND 2023 NATIONAL ELECTRICAL CODE® (NEC) UPDATES

230.67 Surge Protection

Article 230.67 of the 2020 National Electrical Code® (NEC) 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.

The 2023 NEC expands upon Article 230.67 in the 2020 NEC. Whereas the 2020 NEC required SPDs in "dwelling units", the 2023 NEC added dormitory units, guest rooms and guest suites of hotels and motels, as well as areas of nursing homes and limited-care facilities used exclusively as patient sleeping rooms to areas requiring an SPD.

NEC Article: 230.67 Surge Protection

A. SURGE-PROTECTIVE DEVICE

All services supplying the following occupancies shall be provided with a surge-protective device (SPD):

1. Dwelling units*
2. Dormitory units
3. Guest rooms and guest suites of hotels and motels
4. Areas of nursing homes and limited-care facilities used exclusively as patient sleeping rooms

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 at the service equipment as required in 230.67(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.

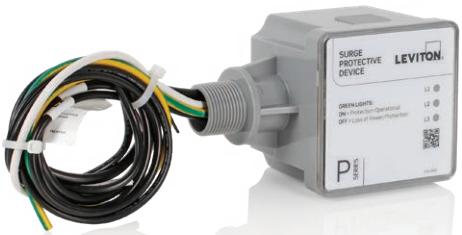
E. RATINGS – SPDs shall have a nominal discharge current rating (I_n) of not less than 10kA.

* 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.

TARGETED SOLUTIONS FOR COMPLIANCE

SURGE PROTECTIVE CIRCUIT BREAKERS

R Series



P Series

SURGE PROTECTIVE CIRCUIT BREAKERS

TYPE 1

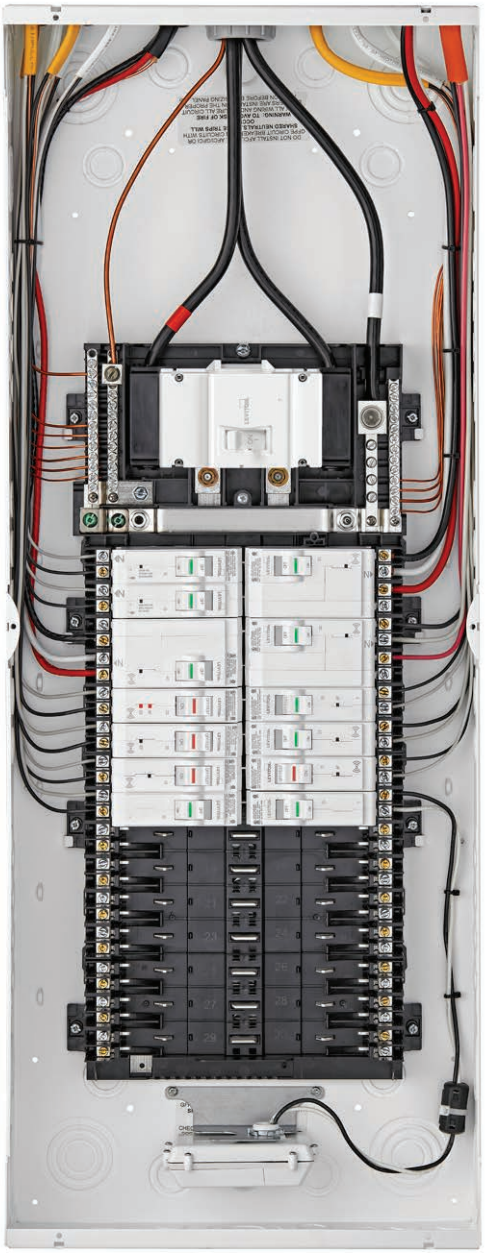
- Designed for easy in-panel installation, providing effective surge protection for the entire home
- An easy-to read LED indicator light displays power, protection status and remains lit, even if the breaker is off, or tripped
- ONLY for use with the Leviton Load Center

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	15A	120V / 240V	25 kA
LSPD2-T	(2) 1-Pole Thermal Magnetic Circuit Breakers	20A	120V / 240V	25 kA

Take power to new heights with the award-winning Leviton Load Center – the most intelligent circuit breaker system.

Smart Hub sold separately



Approachable

- Modern design with intuitive functionality and appealing aesthetics
- LEDs communicate trip condition and type of fault (AF/GF) and remain illuminated even when tripped.

Safer

- As the first GFCI circuit breakers on the market that met the newest/May 2021 UL requirements[1], Leviton GFCIs set the bar for home safety.
- Leviton AFCI, GFCI and dual-function circuit breakers feature patented reset lockout technology, and will not reset if Ground or Arc Fault protection is compromised

Fastest Installation

- Allows for all wiring at rough-in, without any circuit breakers present[2]
- Only Fully Plug-On Breaker System (up to 60A)
- Circuit Breakers simply snap in for up to 25% faster install

1. The UL943 standard no longer exempts GFCI circuit breakers from detecting and warning when the trip solenoid and/or switching semiconductor fails in the "open" state, rendering the GFCI circuit breaker incapable of tripping in response to a fault condition, resulting in complete loss of GFCI protection. However, the effective date of this requirement is 8/11/24. Leviton GFCIs have always met the more stringent safety requirement.

2. For applications up to 60A when using copper wire; or 50A when using aluminum wire.

SURGE PROTECTIVE PANELS

	SERIES DESCRIPTIONS	R SERIES	P SERIES	B SERIES	M SERIES	X SERIES
		Compact in size and easy to install; ideal for residential homes and light-use split phase systems	Ideal for residential homes and light use commercial applications	Ideal for the branch panel in commercial and industrial applications and the main panel in light commercial applications	Ideal for point-of-entry or main service entrance installations	Advanced features including surge counters and performance monitoring, designed to provide the greatest level of protection where surge damage would lead to excessive loss or downtime on expensive machinery
SPECIFICATIONS	Type	**TYPE 1**	**TYPE 1**	**TYPE 2**	**TYPE 2**	**TYPE 2**
	Nominal Discharge Current Rating (I_n)	10kA	20kA	20kA	20kA	20kA
	Maximum Surge Current Rating Protection Per Mode/ Per Phase	18kA/36kA	25kA/50kA	65kA/130kA	130kA/260kA	200kA/400kA
	Short Circuit Current Rating (SCCR)	200kA	200kA	200kA	200kA	200kA
	Enclosure Rating	NEMA 4X	NEMA 4X	NEMA 4X	NEMA 4	NEMA 4
FEATURES	Protection Status LED	●	●	●	●	●
	Audible Alarm		●	●	●	●
	Form C Dry Contacts		●	●	●	●
	EMI/RFI Filtering (UL 1283)			●	●	●
	LCD Screen with Surge/TOV Counter: • Event History • Statistics • Voltages ...and more					●

Leviton Surge Panels

CODE COMPLIANCE:
Meets 2023 NEC and UL 1449 5th Edition Requirements

HIGH PERFORMANCE:
Leading Surge Protection Ratings

DURABLE:
Feature NEMA 4 and 4X Outdoor Ratings

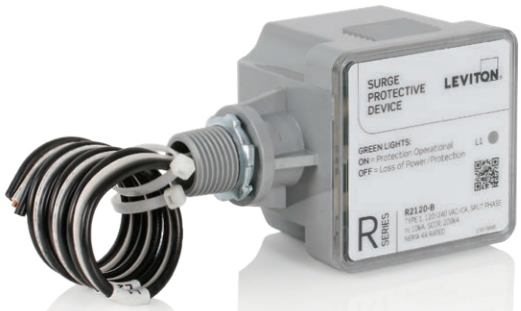
SURGE PROTECTIVE PANELS

TYPE 1

R SERIES PANELS

Compact in size and easy to install; ideal for residential homes and light-use split phase systems

- 10kA Nominal Discharge Current Rating (I_n)
- Maximum Surge Current Rating
  18kA per Mode, 36kA per Phase
- 200kA Short Circuit Current Rating (SCCR)
- NEMA 4X Enclosure

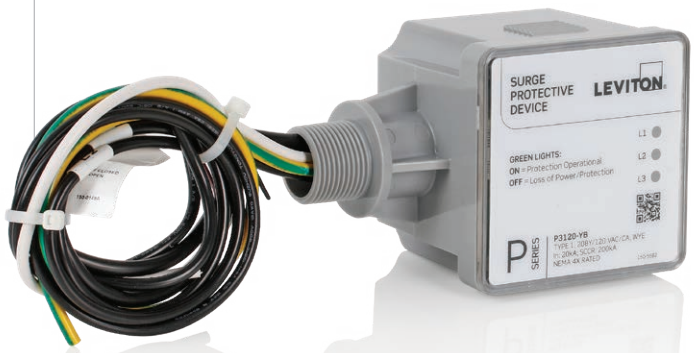


FEATURING Protection Status LED

P SERIES PANELS

Ideal for residential homes and light use commercial applications

- 20kA Nominal Discharge Current Rating (I_n)
- Maximum Surge Current Rating
  25kA per Mode, 50kA per Phase
- 200kA Short Circuit Current Rating (SCCR)
- NEMA 4X Enclosure
- Three phase options available



FEATURING Protection Status LED | Audible Alarm

Ordering Guide: R & P Series Surge Protective Panels

Series	Cat No.	Voltage	Phase	Maximum Continuous Operating Voltage (MCOV)	Voltage Protection Rating (VPR) Performance Data
R	R2120-B	120/240 VAC/CA	Split Phase	180V/360V*	L-N: 700V, L-L: 1200V
P	P2120-B	120/240 VAC/CA	Split Phase	180V/360V*	L-N: 700V, L-G: 1200V, N-G: 600V, L-L: 1200V
P	P3120-YB	208Y/120 VAC/CA	Three Phase WYE	150V/300V*	L-N: 600V, L-G: 600V, N-G: 600V, L-L: 1000V
P	P3277-YB	480Y/277 VAC/CA	Three Phase WYE	350V/700V*	L-N: 1200V, L-G: 2500V, N-G: 1000V, L-L: 2000V

*Second voltage refers to L-L rating

Ordering Guide: Accessories for Flush Mount Applications

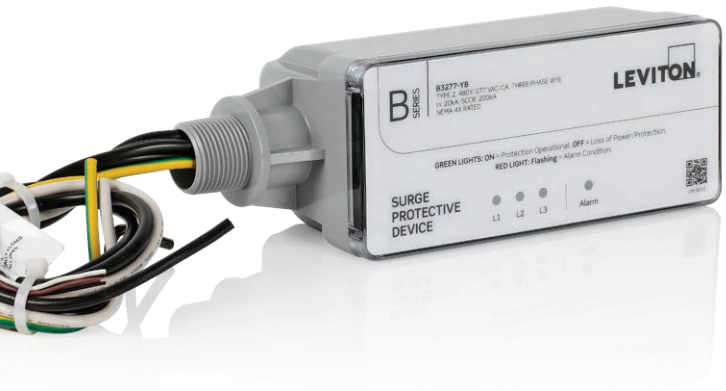
Series	Cat No.	Description
R	RSURG-FLG	R Series Flush Mount Flange - Polycarbonate
P	PSURG-FLG	P Series Flush Mount Flange - Polycarbonate

TYPE 2 SURGE PROTECTIVE PANELS

B SERIES PANELS

Ideal for the branch panel in commercial and industrial applications and the main panel in light commercial applications

- 20kA Nominal Discharge Current Rating (I_n)
- Maximum Surge Current Rating
  65kA per Mode, 130kA per Phase
- 200kA Short Circuit Current Rating (SCCR)
- NEMA 4X Enclosure



M SERIES PANELS

Ideal for point-of-entry or main service entrance installations

- 20kA Nominal Discharge Current Rating (I_n)
- Maximum Surge Current Rating
  130kA per Mode, 260kA per Phase
- 200kA Short Circuit Current Rating (SCCR)
- NEMA 4 Enclosure

FEATURING Protection Status LED | Audible Alarm | EMI/RFI Filtering (UL 1283)

Ordering Guide: B & M Series Surge Protective Panels

Series	Cat No.	Voltage	Phase	Maximum Continuous Operating Voltage (MCOV)	Voltage Protection Rating (VPR) Performance Data
B	B1120-B	120 VAC/CA	Single Phase	180V	L-N: 700V, L-G: 700V, N-G: 700V
B	B2120-B	120/240 VAC/CA	Split Phase	180V/360V*	L-N: 700V, L-G: 700V, N-G: 700V, L-L: 1200V
B	B3120-YB	208Y/120 VAC/CA	Three Phase WYE	150V/300V*	L-N: 700V, L-G: 700V, N-G: 600V, L-L: 1200V
B	B3240-DB	240 VAC/CA	Three Phase Delta	275V	L-G: 1000V, L-L: 1200V
B	B3240-HB	120/240 VAC/CA	Hi-Leg Delta	180/275V*	L-N: 800V, L-G: 700V, N-G: 700V, L-L: 1500V
B	B3277-YB	480Y/277 VAC/CA	Three Phase WYE	350V/700V*	L-N: 1200V, L-G: 1200V, N-G: 1200V, L-L: 2500V
B	B3347-YB	347/600 VAC/CA	Three Phase WYE	440V/880V*	L-N: 1500V, L-G: 1500V, N-G: 1500V, L-L: 3000V
B	B3480-DB	480 VAC/CA	Three Phase Delta	550V	L-G: 1800V, L-L: 1800V
M	M2120-B	120/240 VAC/CA	Split Phase	180V/360V*	L-N: 700V, L-G: 800V, N-G: 600V, L-L: 1200V
M	M3120-YB	208Y/120 VAC/CA	Three Phase WYE	150V/300V*	L-N: 600V, L-G: 700V, N-G: 600V, L-L: 1000V
M	M3240-DB	240 VAC/CA	Three Phase Delta	275V	L-G: 900V, L-L: 1800V
M	M3277-YB	480Y/277 VAC/CA	Three Phase WYE	350V	L-N: 1200V, L-G: 1200V, N-G: 1000V, L-L: 2000V
M	M3347-YB	347/600 VAC/CA	Three Phase WYE	440V/880V*	L-N: 1500V, L-G: 1500V, N-G: 1500V, L-L: 2500V
M	M3480-DB	480 VAC/CA	Three Phase Delta	550V	L-G: 1800V, L-L: 1800V
M	M3600-DB	600 VAC/CA	Three Phase Delta	680V	L-G: 2000V, L-L: 2000V

*Second voltage refers to L-L rating

Ordering Guide: Accessories for Flush Mount Applications

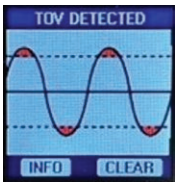
Series	Cat No.	Description
B	BSURG-FLG	B Series Flush Mount Flange - Aluminum
M	MSURG-FLG	M Series Flush Mount Flange - Aluminum

TYPE 2

X SERIES PANELS

High levels of protection and advanced features including surge counters and performance monitoring, designed to provide the greatest level of protection where surge damage would lead to excessive loss or downtime on expensive machinery

- 20kA Nominal Discharge Current Rating (I_n)
- Maximum Surge Current Rating 200kA per Mode, 400kA per Phase
- 200kA Short Circuit Current Rating (SCCR)
- NEMA 4 Enclosure



LCD Screen with Surge/TOV Counter:

- Event history
- Statistics
- Voltages

...and more

FEATURING Protection Status LED | Audible Alarm | EMI/RFI Filtering (UL 1283)

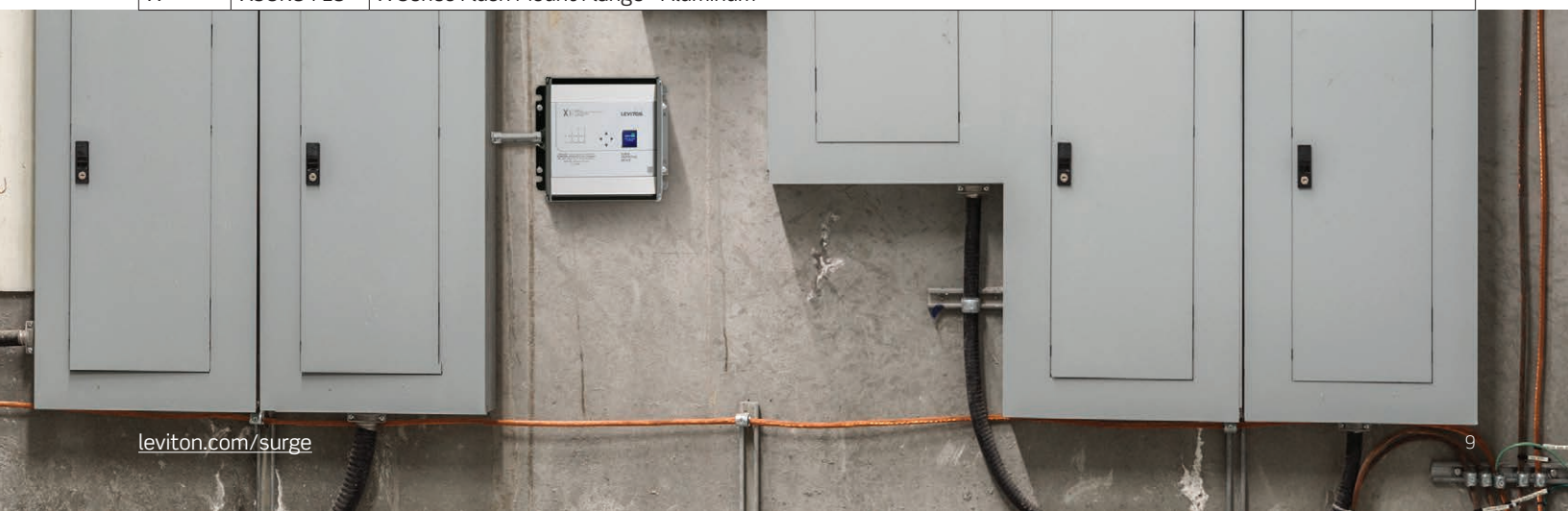
Ordering Guide: X Series Surge Protective Panels

Series	Cat No.	Voltage	Phase	Maximum Continuous Operating Voltage (MCOV)	Voltage Protection Rating (VPR) Performance Data
X	X2120-C	120/240 VAC/CA	Split Phase	175V/300V*	L-N: 600V, L-G: 700V, N-G: 600V, L-L: 900V
X	X3120-YC	208Y/120 VAC/CA	Three Phase WYE	150V/300V*	L-N: 600V, L-G: 600V, N-G: 600V, L-L: 1000V
X	X3277-YC	480Y277 VAC/CA	Three Phase WYE	320V/700V*	L-N: 1200V, L-G: 1200V, N-G: 1200V, L-L: 2000V

*Second voltage refers to L-L rating

Ordering Guide: Accessories for Flush Mount Applications

Series	Cat No.	Description
X	XSURG-FLG	X Series Flush Mount Flange - Aluminum



SURGE PROTECTIVE RECEPTACLES

- EMI/RFI Noise Filtering
- Optional features include audible alarm, tamper-resistant, 4-in-1, isolated ground, and hospital grade
- Point-of-use protection for up to 18,000 amps of surge current total

*4-in-1 Offers NEC Code Compliance, allowing you to increase the number of receptacles in your facility without having to pull new wires.

Ordering Guide: Surge Protective Receptacles

COMMERCIAL SPECIFICATION GRADE

Decora® Tamper-Resistant Surge Protective Receptacles

Amp.	Outlet Config.	Color									Features
		Brown	Ivory	White	Gray	Red	Blue	Black	Orange	Lt. Almond	
15	Duplex	T5280	T5280-I	T5280-W	T5280-GY	—	T5280-B	T5280-E	—	T5280-T	■
20A	Duplex	T5380	T5380-I	T5380-W	T5380-GY	—	T5380-B	T5380-E	—	—	■
15A	Duplex	—	T7280-I	T7280-W	—	—	T7280-B	T7280-E	—	T7280-T	■ ||||||
20A	Duplex	—	T7380-I	T7380-W	—	—	T7380-B	T7380-E	—	—	■ ||||||

Decora® Surge Protective Receptacles

15A	Duplex	5280	5280-I	5280-W	5280-GY	—	5280-B	—	—	5280-T	■
20A	Duplex	5380	5380-I	5380-W	5380-GY	—	5380-B	—	—	—	■
15A	Duplex	5280-IG	5280-IGI	5280-IGW	—	—	5280-IGB	—	5280-IGO	—	▼ ■
20A	Duplex	5380-IG	5380-IGI	5380-IGW	5380-IGG	—	5380-IGB	—	5380-IGO	—	▼ ■
15A	Duplex	—	7280-I	7280-W	—	—	7280-B	—	—	7280-T	■ ||||||
20A	Duplex	—	7380-I	7380-W	—	—	7380-B	—	—	—	■ ||||||

4-in-1 Surge Protective Receptacles

15A	Four-In-One	—	5480-I	5480-W	5480-GY	5480-R	5480-BU	—	—	—	■
20A	Four-In-One	—	5490-I	5490-W	5490-GY	—	5490-BU	—	—	—	■
15A	Four-In-One	—	—	—	—	—	—	—	5480-IG	—	▼ ■
20A	Four-In-One	—	5490-IGI	—	—	—	5490-IGB	—	5490-IG	—	▼ ■

HOSPITAL GRADE

Decora® Surge Protective Receptacles

Amp.	Outlet Config.	Color									Features
		Brown	Ivory	White	Gray	Red	Blue	Black	Orange	Lt. Almond	
15A	Duplex	8280	8280-I	8280-W	—	8280-R	8280-B	—	—	8280-T	■ |||||| ●
20A	Duplex	8380	8380-I	8380-W	8380-GY	8380-R	8380-B	—	—	—	■ |||||| ●
15A	Duplex	—	8280-IGI	8280-IGW	—	—	8280-IGB	—	8280-IGO	—	▼ ■ |||||| ●
20A	Duplex	—	8380-IGI	8380-IGW	8380-IGG	—	8380-IGB	—	8380-IGO	—	▼ ■ |||||| ●

Decora® Tamper-Resistant Surge Protective Receptacles

15A	Duplex	—	T8280-I	T8280-W	—	T8280-R	T8280-B	—	—	T8280-T	■ |||||| ●
20A	Duplex	—	T8380-I	T8380-W	T8380-GY	T8380-R	T8380-B	—	—	—	■ |||||| ●

4-in-1 Surge Protective Receptacles

15A	Four-In-One	—	8480-I	8480-W	—	8480-R	—	—	—	—	■ ●
20A	Four-In-One	—	8490-I	8490-W	—	8490-R	—	—	—	—	■ ●
15A	Four-In-One	—	8480-IGI	8480-IGW	—	—	8480-IGB	—	—	—	▼ ■ ●
20A	Four-In-One	—	8490-IGI	—	—	—	8490-IGB	—	8490-IG	—	▼ ■ ●

***NEC Article® 517.19(B)(2) –** Critical Care (Category 1) Spaces - Receptacle Requirements

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

TYPE 3

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)

Surge Protective with Load Monitoring Inform Technology

LEARN MORE

OVERCURRENT INDICATION

LOAD MONITOR
EXCEEDED NFPA 99
CURRENT LIMIT WHEN LIT

Ordering Guide: Surge Medical Grade Power Strips

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

Non-surge protective medical grade power strips are also available. Please visit leviton.com/medstrips for more information.

Additional Accessories

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

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

SURGE PROTECTIVE STRIPS

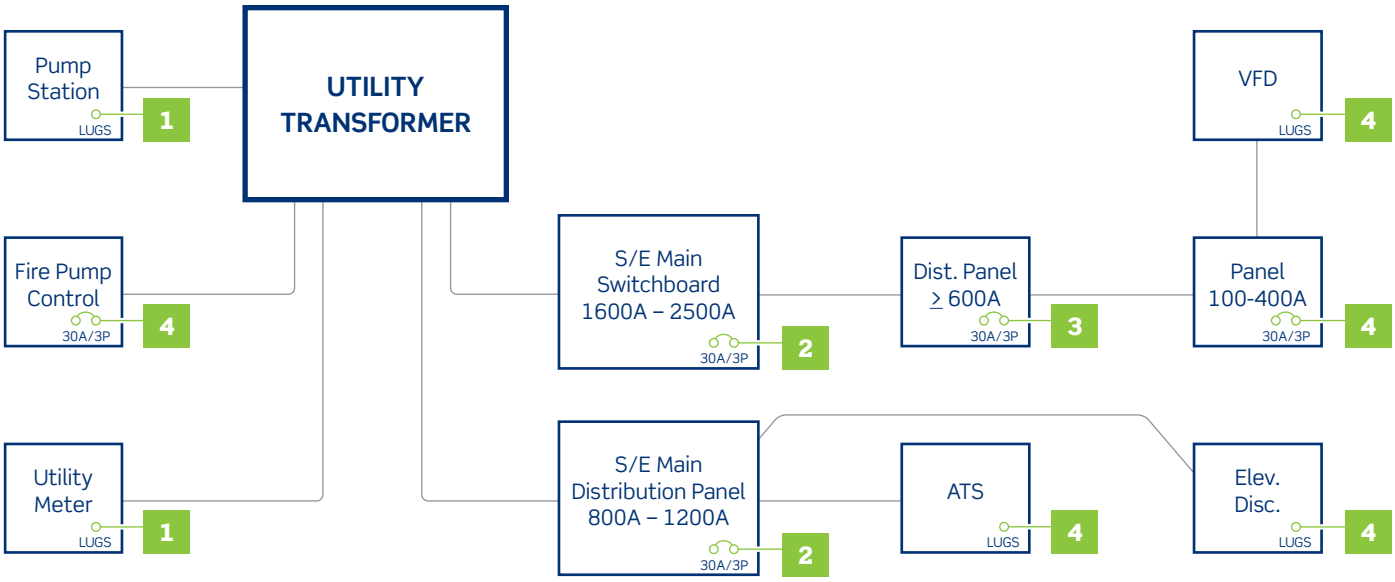
- Feature metal housing, ON/OFF switch, and tamper-resistant outlets
- Includes audible alarm at protection loss
- 6 Foot Cord Length
- Multi-line protection (L-N, L-G, N-G)
- Onboard resettable circuit breaker

Industrial Grade

Ordering Guide: Surge Protective Strips

Catalog Number	Application	Maximum Input Current	Joules
5100-IPS	Industrial	15 Amp	1330
5100-IS2		20 Amp	900

RISER DIAGRAM



RECOMMENDED SPD

1 **P Series** - Type 1, Maximum Surge Current Rating 50kA Per Phase, NEMA 4X Enclosure

2 **M Series or X Series**
M Series - Type 2, Maximum Surge Current Rating 260kA Per Phase, NEMA 4 Enclosure, Filtering
X Series - Type 2, Maximum Surge Current Rating 400kA Per Phase, NEMA 4 Enclosure, Filtering, LCD with Surge/TOV Counter

3 **B Series or M Series**
B Series - Type 2, Maximum Surge Current Rating 130kA Per Phase, NEMA 4X Enclosure, Filtering
M Series - Type 2, Maximum Surge Current Rating 260kA Per Phase, NEMA 4 Enclosure, Filtering

4 **B Series** - Type 2, Maximum Surge Current Rating 130kA Per Phase, NEMA 4X Enclosure, Filtering

All 5 Series meet UL1449 5th edition and feature 200kA Short Circuit Current Ratings (SCCR)

STAY UP-TO-DATE ON CODE REQUIREMENTS

In addition to Article 230.67 (page 4), there are several other places surge protective devices are referenced in the National Electrical Code, with references to the 2023 NEC below:

- 409.70 – Industrial Control Panels
- 551.72(E) – RV Park Distribution Systems (allowed, but not mandatory)
- 620.51(E) – Elevators, Dumbwaiters, Escalators, Moving Walks, Platform Lifts, and Stairway Chairlifts
- 645.18 – Critical Operations Data Systems
- 694.7(D) – Wind Electric Systems
- 695.15 – Fire Pumps
- 700.8 Emergency System Switchgear, Switchboards, and Panelboards
- 708.20(D) – Critical Operations Power Systems
- 760.33 – Fire Alarm Control Panels

THE LATEST CODE REQUIREMENTS

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