



# Residential Surge Protection

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# Surge Protection

Homeowners typically have a lot of money invested in expensive electronics and appliances (computers, washers, dryers, stoves, refrigerators, HVAC, etc). Most of these appliances and electronics are left unprotected from surges, which can cost homeowners thousands of dollars to replace if they were to be damaged.

## What are they?

Surges, or “transient voltages,” occur when there is a temporary voltage spike that travels throughout your entire electrical, phone, network and/or cable system. These can be either externally generated (from weather or utilities) or internally generated from devices inside the home, which is the most common type of surge. Up to 100 of these surges can occur per month!



**20%** of surges are externally generated



**80%** of surges are internally generated

## Why should I care?

Some power surges have enough strength to severely damage, if not destroy, home electronics and appliances. Surges happen regularly, though you may not be aware of their occurrence, wearing down and shortening the life of electronics.

## How do surge protection devices work?

When a surge protective device senses an transient voltage spike, it uses internal components called Metal Oxide Varistors (MOVs) that act like magnets for the excess voltage, and sends it to the load center’s ground wire, before it can reach your home’s connected electronics.

# Choosing the right SPD

What is the “Best” surge protection?

## We recommend the following criteria in choosing your SPD:

- **Surge Current Capacity:** This tells you what strength of power surge this unit can handle, the higher the better. For example, the HEPD80 has a Surge Current Capacity of **80kA**. Higher rating generally means you will get a longer life expectancy.
- **Voltage Protection Rating:** This is the measurement of what voltage the SPD allows past it, thus in theory the lower the better. Example: the HEPD80 has **1000V L-L** (Line to Line), **600V L-N** (Line to Neutral), **700V L-G** (Line to Ground) and **1000V N-G** (Neutral to Ground).
- **Warranty:** For complete peace of mind, take into consideration the duration (years) and warranty (dollars).
- **NEMA Rating:** Before you look at product ratings, take note of where your load center is located. If it is inside, any NEMA rating should be fine. If it is outdoors, NEMA 3R or higher is suitable.

## Surge Capacity Rating Scale





## The Joule rating should not be a method for specifying or comparing SPD's

Due to the ambiguity of this SPD/joule conundrum, **there is no recognized standard for SPD joule ratings**. Joule ratings do not correlate with the performance or let-through voltage of the SPD. Because a joule is defined with time (Watt-second), there may be various numerations based on time. These may include joules based on small leakage currents over years, joules based on time specifications of industry accepted wave shapes, or joules based on time before SPD failure.

- A Joule is a unit of energy defined as a Watt-second.
- Joules could appear to be an satisfactory unit-of-measure for SPD's, however, industry associations, such as the National Electrical Manufacturers Association or the Institute of Electrical and Electronic Engineers do not recommend using joules as the only method of selecting a SPD.
- While consumer class SPD's use Joule ratings for marketing purposes, this is a problematical way to compare suppressors. There are fundamental deficiencies using Joule ratings for SPD's.

# Surgebreakers

**Whole House Protection:** 22.5kA surge current capacity



## QO2175SB & HOM2175SB

Installation Flexibility	Requires 2 spaces in the Square D QO or HOM load center
LED Indicator Lights	Lets you know when SPD is actively protecting your home
Peace of Mind	<b>3 Years, \$10,000</b> connected equipment coverage warranty
Type 2 SPD	



# Surge Protective Device

**Whole House Protection:** 25kA surge current capacity



HEPD25	
Installation Flexibility	NEMA 4X rated for indoor/outdoor installations. Use on any brand of load center. Connect to circuit breaker or directly to the bus
LED Indicator Lights	Lets you know when SPD is actively protecting your home
Peace of Mind	<b>3 years, \$30,000</b> connected equipment coverage warranty
Also available: Flush Mount Kit HEPD25MKF	
Type 1 SPD	



Good

# Plug-on Neutral SPDs

**Whole House Protection:** 50kA surge current capacity



Better

## QO250PSPD & HOM250PSPD

Installation Flexibility	Requires 2 spaces in the Square D QO or HOMELINE Plug-on Neutral load center or CSED. No wiring required.
LED Indicator Lights	Lets you know when SPD is actively protecting your home
Peace of Mind	5 years, \$50,000 connected equipment coverage warranty
Type 1 SPD	



# HEPD50

**Whole House Protection:** 50kA surge current capacity



HEPD50	
Installation Flexibility	NEMA 4X rated for indoor/outdoor installations. Use on any brand of load center. Connect to circuit breaker or directly to the bus
LED Indicator Lights	Lets you know when SPD is actively protecting your home
Peace of Mind	<b>3 years, \$50,000</b> connected equipment coverage warranty
Also available: Flush Mount Kit HEPD58MKF	
Type 1 SPD	



Better



# HEPD80

**Whole House Protection:** 80kA surge current capacity



Best

HEPD80	
Installation Flexibility	NEMA 4X rated for indoor/outdoor installations. Use on any brand of load center. Connect to circuit breaker or directly to the bus
LED Indicator Lights	Lets you know when SPD is actively protecting your home
Peace of Mind	5 years, \$75,000 connected equipment coverage warranty
Also available: Flush Mount Kit HEPD58MKF	
Type 1 SPD	





## Customer Support and Special Order Information

- Questions about which product your customer needs?
- Have the Square D Catalog # available and ready to place order?
- General retail account needs?
- Special order follow-up inquiries?

### **Call Customer Care Center (CCC)**

888-SQUARED (778-2733)

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