

# SURGE PROTECTIVE DEVICES

## Protecting Your Electronics ⚡ Protecting Your Home

The 2020 *National Electrical Code* now requires *Surge Protective Devices* in new or renovated homes. Learn how these devices protect your home and your electronics.

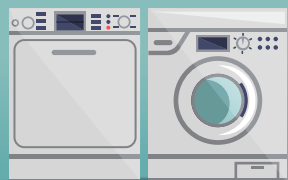
### What is a Surge?

A power surge is a brief **overvoltage event** that can **damage** electrical devices and is a **common cause** for failure of electrical equipment.

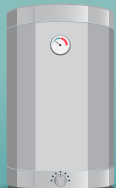
### SURGES CAN DAMAGE AND REDUCE THE LIFESPAN OF:



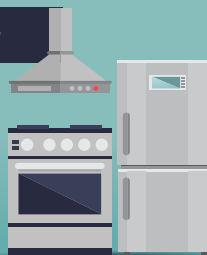
HEATING & AIR  
CONDITIONING SYSTEMS



WASHERS & DRYERS



WATER HEATERS



RANGES &  
REFRIGERATORS



LIGHTING



ENTERTAINMENT  
SYSTEMS

**\$15,000**  
DAMAGED EQUIPMENT

According to the *National Electrical Manufacturers Association*, the average home has \$15,000 worth of equipment that can be damaged by surge.

### Common Causes of Surge:

IT IS ESTIMATED THAT **80% OF SURGES** ARE CAUSED BY INTERNAL SOURCES.

#### Internal Sources



LARGE APPLIANCES TURNING ON/OFF



FAULTY WIRING OR LOOSE CONNECTIONS



OVERLOADED CIRCUITS, SHORT  
CIRCUITS, OR GROUND FAULTS



POWER RECOVERY

#### External Sources



LIGHTNING



DAMAGE TO POWER LINES



UTILITY POWER GRID SWITCHING

### NEW 2020 NATIONAL ELECTRICAL CODE REQUIREMENTS

All new and renovated homes are **required** to be protected by Listed and Approved **Type 1** or **Type 2** Surge Protective Devices.

#### Type 1

**Permanently connected** Surge Protective Device. Protects against external and internal surges. May be installed **inside** or **outside** the home



#### Type 2

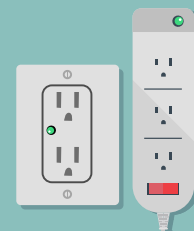
**Permanently connected** Surge Protective Device installed in, or next to, breaker box. Protects against **internal and external** surges.



#### Extra Protection

#### Type 3

**Point of use** Surge Protective Device. **Must be used in conjunction with Type 1 or Type 2 SPD** to meet 2020 code requirements.



Use **Type 1, 2, and 3 SPDs** for the best level of protection.