

# Why Every Commercial/Residential Facility Needs Surge Protection

<http://waterheatertimer.org/How-to-wire-Whole-house-surge-protector.html>

Electrical disturbances and downtime cost North American companies and residents more than \$26 billion every year. Every process and appliance within your building is controlled by electrical equipment and electronic components which all require surge protection to function reliably.

ANSI/IEEE has defined common disturbances which occur in modern facilities; Voltage, Waveform, Current Waveform and 100 kHz Ring Wave. Depending on the proximity of the equipment to your power entry points, the severity increases. As the transient event propagates throughout your building, it degrades your electronic components by stressing them with excess voltage and current.

Every modern facility is a strong candidate for surge protection. Intermatic has a broad line of Service Entrance, Panelboard and Point-of-Use Surge Protection.

**Service Entrance, Panelboard and Point-of-Use surge protection can be found in the following types of facilities and installations:**

- Industrial Manufacturing
- Commercial Office Space
- Health Care Facilities
- Institutional Buildings
- Government
- Hospitality
- Retail Space
- Single/Multi-Family Residences

**Virtually all devices which are powered by electricity are vulnerable. Surge Suppression is required for protection of the following types of systems:**

- Computers/Peripherals/Servers
- Network Servers/Routers/Modems
- Telecom Equipment
- Variable Frequency Drives
- Lighting Ballasts
- HVAC/R Controls
- Fire Alarm Systems
- Security Systems
- Lighting Control and Dimming Systems
- Automatic Test Equipment
- Uninterruptible Power Supplies
- Bar Code Scanning Equipment
- Programmable Logic Controllers
- Stereos
- Televisions
- Home Theater Systems
- Pumps, Motors and Related Equipment with Electronic Controls or Starters

To understand how Surge Protective Devices work with generators please visit [www.intermatic.com](http://www.intermatic.com)

## ANSI/UL 1449 3<sup>rd</sup> Edition Surge Protection Definitions

As of September 30, 2009 ANSI/UL 1449 3<sup>rd</sup> Edition replaced UL 1449 2.5. Surge Protective Devices (SPDs) manufactured after September 30, 2009 need to meet ANSI/UL 1449 3<sup>rd</sup> Edition standards. Any products manufactured before this date may still be sold as a UL 1449 2.5 compliant product.

Due to increased use of electrical devices in residential, commercial and industrial markets, ANSI/UL 1449 3<sup>rd</sup> Edition was adopted. Electrical components in devices such as computers, security systems, home theater systems and factory equipment are susceptible to transient overvoltage and can create significant downtime, equipment replacement and costly repairs.

As a result "Surge Protectors" will now be known as "Surge Protective Devices" (SPD) and are reclassified into Type 1, Type 2 and Type 3 SPDs.

**Surge Protective Device types:** (The type of SPD is listed on the product)

**TYPE 1:** Permanently connected SPD which is intended to be installed between the secondary transformer and the line side of the service equipment.

**TYPE 2:** Permanently connected SPD which is intended to be installed on the load side of the service equipment over current device.

**TYPE 3:** Cord connected SPD which is intended to be installed at the point of use.

