

# MAY 2023 CCDC SAFETY MESSAGE

## Surge Protection

In 2021, the Electrical Safety Foundation International surveyed industrial and commercial facility professionals, including managers, owners, building engineers, heads of maintenance, and related occupations. These professionals provided insights regarding power surge incidents and effects, as well as usage of Surge Protective Devices in the facilities they manage.

Surges, or transients, are brief overvoltage spikes or disturbances of a power waveform that can damage, degrade, or destroy electronic equipment within any home, commercial building, or industrial and manufacturing facilities. Transients can reach amplitudes of tens of thousands of volts. Most equipment is designed to handle minor variations in their standard operating voltage. However, surges can be very damaging to nearly all equipment.

### Common Voltage Surge Causes:

- Switching of Electrical Loads -your power goes on and off, you use a light switch, you turn on an appliance.
- Lightning
- Faulty Wiring and/or Connections
- Damage to Power Lines

Install Surge Protective Devices to Prevent Downtime and Protect Equipment – information below is from industrial sources.

- Surge Protective Devices Work
  - 79% of facilities state that Surge Protective Devices have cut down on the amount of downtime and equipment failures.
- Unplanned Outages Causes
  - 34% of unplanned outages are caused by power surges and unexpected resetting or mis-operation of equipment (commonly causes by power surges)
- Unexpected downtime is common with over 72% of facilities surveyed experiencing downtime more than a few times a year.
- 23% of facilities installed Surge Protective Devices after experiencing a surge event.
- 78% of equipment failures caused by power surges were in service for 5 years or less.
- 49% reported that a power surge had caused an interruption within the last 12 months.

### Surge Protective Device & Power Surge Misconceptions

- Surge Protective Devices only protect against voltage surge events, no matter the source.
  - Surge Protective Devices cannot protect against direct lightning strikes or sustained voltages.
- Only Surge Protective Devices aka Transient Voltage Surge Suppressors protect against Power Surges
  - Typical power strips, consumer uninterruptable power supplies, ground-fault circuit interrupters, and fuses or breakers do not provide Surge Protection

### Surge Protective Device & Power Surge Equipment Options for Home Use

- UL rated Surge Protective Devices only protect against voltage surge events, no matter the source.
- Arc Fault Interruption outlets and breakers

Visit [NEMASurge.org](http://NEMASurge.org) to learn more about Surge Protective Devices.

**THINK SMART, BE AWARE, BE FLEXIBLE, BE EDUICATED (SAFE)**