

# Surge Protection



**Keep your electrical appliances safe from voltage changes with these tips.**



## These tips can help you keep electrical appliances safe from voltage changes.



At Clark Public Utilities, our goal is to provide you with the highest quality and most reliable electric service. However, many things can happen both inside and outside your home to create power disturbances. This information can help you protect appliances and other electronic devices from potentially damaging occurrences.

### What is a power surge?

A “power surge” is actually a power disturbance or spike that momentarily disrupts the electric supply. In the blink of an eye, the normal 120/240 volts of electricity feeding your appliances can jump to more than 400 volts — and in some cases, all the way up to 6,000 volts. Surges can be caused by high winds, broken tree limbs on power lines, traffic accidents involving utility poles, lightning and other disturbances. More common low-level disturbances are harder to detect. About 60 percent of surges are caused by routine operations, such as washing machines and dishwashers switching through their normal cycles.

### Effects of a power disturbance

Usually low-level disturbances are so brief you don’t notice them, but over time they can shorten the life of your appliances and electronics. Severe power disturbances — the kind you probably notice — can destroy electrical equipment. Other problems caused by electric system disturbances include:

- Flashing clocks in your appliances
- Computer hardware or software failures
- Electronic appliance failures

### Protecting your home from power disturbances

While power surges are unavoidable in an electric system, there are several things you can do to protect your property from damage:

- Purchase point-of-use surge suppressors to protect electronic items, such as computers and TVs.
- Install external surge suppressors to protect built-in appliances and other major appliances in your home, such as refrigerators, washing machines, ranges and heat pumps.
- Purchase appliances that contain a built-in battery back-up.
- Follow the manufacturer’s instructions carefully when installing an electronic appliance or device.
- Check all your appliances for loose or damaged plugs, outlets and connections.
- Label all your circuit breakers with the corresponding appliances.
- Where possible, do not plug electronic devices into circuits shared by other appliances. A dedicated circuit is ideal for computers.
- Inspect all appliances, receptacles and cords for loose connections, corrosion, or signs of insulation damage or overheating. Replace worn or heat-damaged cords and replace or tighten loose connections.
- Have a licensed electrician inspect your house panel and electrical system for good, tight, corrosion-free connections and general insulation, and proper grounding.

If you have any questions, call 360-992-3000 and speak with a Clark Public Utilities customer service representative. You can call for information 24 hours a day, seven days a week.

## Buying a point-of-use surge suppressor

One of the most important things you can do to prevent damage from power disturbances is to attach your electronic equipment to point-of-use surge suppressors. Surge suppressors are available at home improvement stores or at stores that sell or repair computers, stereos and other electronic devices. Here are a few tips on buying a surge suppressor:

- The surge suppressor should have an indicator light or some other feature that shows you it is functioning properly.
- The surge suppressor must have the three modes of protection — line to line, line to neutral, and line to ground. This will be listed in the manufacturer's literature.
- The surge suppressor should be tested and have received the UL listing for the following tests: IEEE standard 587A, 587B and UL1449. These will be verified on the back of the device by the presence of a UL sticker.
- Look for substantial product and equipment damage warranties. The best units typically have an unconditional lifetime product warranty and a substantial equipment replacement warranty.
- For critical computer applications where data loss can cost you money, a UPS (Uninterruptible Power Supply) should be seriously considered.

*Most modern households use state-of-the-art appliances and electronics. Any appliance with electronic components or microchips is highly susceptible to power spikes.*



Learn more at  
[clarkpublicutilities.com](http://clarkpublicutilities.com) or 360-992-3000

