

## Why should electronic equipment be protected against electrical disturbances?

Just when did the power we've used for years get to be so dirty? The answer is that it's always been that way. But in the past, machines weren't quite so sensitive. Electric motors were simple and rugged enough to run almost endlessly. Electric typewriters could work night and day, unfettered by spikes or other changes in voltage. Electric equipment—from lights to heavy machinery - was unfazed by EMI, short for electro-magnetic interference.

Today, the devices we take for granted - from PCs, mainframes, FAX machines to complex facilities with robotic equipment and more - have become increasingly sophisticated. In addition, new types of electronic products operate at very low voltages and amperage levels. As a result, machines that contain modern, electronic printed circuit boards are very sensitive to power source changes and disturbances. What's more, there are very few electrically based products nowadays which are not controlled by new electronic micro chips and circuit boards.

The nature of electric power, on the other hand, has changed very little in the past few decades. Words like surge, spike, transient suppressing, and fluctuations now pepper our everyday language. But for a user of sensitive computer equipment, for example, any one of these electrical abnormalities can cause disaster. Hard drives can crash from an unexpected voltage surge. Circuits can be damaged. Process control equipment can go down. The list goes on and on.

### Lightnings influence on electronics

A real nemesis to modern electronic equipment is lightning strikes. These strikes occur worldwide with staggering frequency. In all, there is an average of 1,900 thunderstorms in progress around the world at any given moment. And the impact from lightning can be catastrophic, causing millions of dollars in property damage.

Other sources of power fluctuations can be just as harmful and can occur even more frequently than lightning. These power problems are most noted with equipment that runs in cycles, or has numerous on-off stages. Examples include air conditioners, refrigerators and other high-amperage drawing equipment.

But there is a way to clean up the electricity you use - before it can cause damage. The key is to eliminate the disturbances at the source. Energy Control's broad range of power products makes it easy and cost effective to safeguard electronic equipment from malfunction, downtime or failure. In the 10 years since we first introduced Active Tracking Filters for telecommunications, we've been leading the way in innovative solutions.