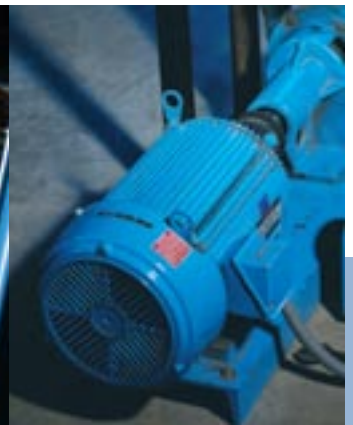
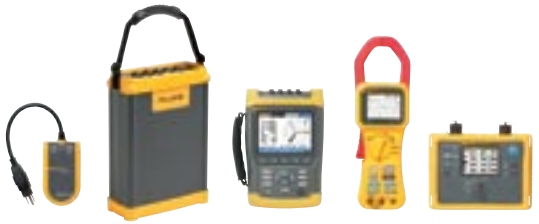
FLUKE®

You may have a hidden electrical problem if you have:

1. **Repeated equipment failures**
2. **Random equipment resets or process failures**
3. **Breakers tripping or fuses blowing with no signs of overloading**
4. **Transformers or motors running hot**
5. **Uninterruptible power supplies (UPS) frequently going on line**



Count on Fluke to help you solve power problems.
Visit your local Fluke distributor for the power quality tools that best meet your needs. Or, find out more at www.HiddenPowerProblems.com.



Fluke. *Keeping your world up and running.®*

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Top 5 Warning Signs that you may have a hidden electrical problem.

How to see everything your electrical system may be hiding.

A computer locks up. Lights flicker. A motor overheats.
These, and many other symptoms, can present themselves in any facility. They're often considered minor or even normal—assumed to be the result of normal wear, minor bugs, or equipment aging. But too often, the real cause is poor power quality.

Power quality problems can be serious and very costly:

- Downtime
- Data loss
- Products damaged during production
- Excess energy consumption
- Additional expense in maintenance, equipment repairs, and equipment replacement

Are power quality problems damaging your business—or your customer's?

What are the hidden problems?
If you have experienced any of the top five warning signs, you could be the victim of one or more of these repeat offenders:

- **Voltage dips and swells**—typically caused by large loads starting up or shutting down; can damage computers, electronic controls, and lamps
- **Harmonic distortion**—alteration in current frequency cycles; can cause heat-related problems in motors and transformers, plus problems with circuit breakers, fuses, and relays
- **Voltage unbalance**—significant differences in phase voltages of more than 2 %; typically causes motors and transformers to overheat
- **Flicker**—cyclic voltage dips; causes lights to flicker: more a threat to employee productivity than to equipment
- **Transients**—brief, sharp voltage increases caused by equipment switching on or off, capacitor switching, and lightning; can lock up computers, burn out circuit boards, and damage electrical insulation

These conditions are usually within the facility itself and therefore your responsibility, not the electrical supplier's. We can help you identify them, fix them, and avoid them in the future through proper prevention and maintenance.

FLUKE®

Count on Fluke to find, fix, and prevent.

When you need to identify and solve your electrical problems fast, Fluke has the tool for the job.

New to Power Quality? Fluke offers intuitive and safe troubleshooting tools with online seminars and application notes to help you get started.

Seasoned Pro? Fluke has the advanced products and industry case studies to match your most demanding problems.

For more information visit us online at HiddenPowerProblems.com or call 1-888-257-9897.