



# Solving Power Problems For Your Equipment

## How can you tell if equipment failures are due to power-related problems?

Equipment problems like loss of memory, data errors, system lockouts, and loss of circuit boards can be related to hardware or software failures, but they can also be due to power-related problems. We created this checklist to help you take the initial steps needed to identify and resolve some of the most common power problems.

### Preparation: Keep a trouble log

- Record changes to your equipment such as new electrical equipment added or any work that was recently done on your system.
- Record when equipment was installed, when the problem arose, and if it occurs on a regular basis.
- Record all other activities that were occurring at the time of the problem such as other operating equipment, flickering lights, power outages, etc.
- Record other equipment affected including if the problem is similar, if the manufacturer is the same, or if both equipment pieces run on the same circuit.

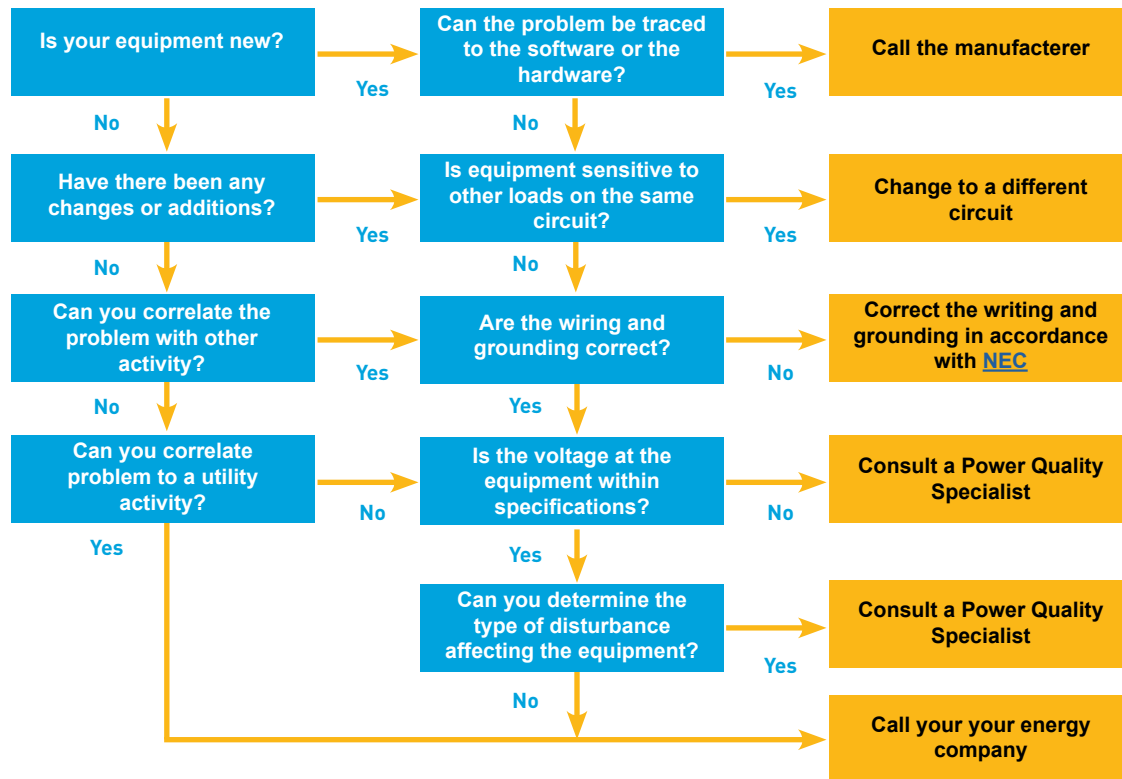
### Equipment investigation: Do visual and measurement checks

- See if nearby equipment on the same circuit could be the source of the disturbances.
- See if there are any circuit breakers tripping, overheating, charred insulation, or burnt areas caused by arcing.
- With a licensed electrician, check for a neutral ground bond by the main service entrance, proper low resistance grounding, and loose, improper or missing connections.
- Use a true RMS voltmeter to see if voltage is within the manufacturer's specifications.
- Check for currents on the neutral and ground conductors. Current on the ground may indicate a wiring problem.

## Possible Solutions

- 1** If the problem is hardware or software related, contact the vendor or manufacturer.
- 2** If the disturbance is caused by other equipment on the same circuit, isolate or move sensitive equipment to another circuit.
- 3** If noise or other high frequency interference is causing a problem, move equipment to a different location.
- 4** If there are any suspected faulty electrical components, replace them.
- 5** If voltage serving the equipment is not within the manufacturer's specifications, consult a power quality specialist.
- 6** If you hear increased noise, see torque and speed issues, or an extreme rise in temperature, measure for load imbalance.
- 7** If there is more than one grounding system, have a licensed electrician correct the situation in accordance with the [National Electrical Code \(NEC\)](#).
- 8** If the problem still persists, contact a power conditioning specialist.

## A flowchart to analyze your power problem



It is normal for the voltage of your electric service to vary. These fluctuations can result from the normal operation of a utility's electric transmission and distribution system, among other reasons. Voltage fluctuations in certain electronic equipment may cause damage or poor operation.



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