

# Targeting Uncontrolled Variables in the Lab

**PPI laboratory instrumentation power protection systems deliver smooth, conditioned power to protect sensitive analytical instrumentation 24/7**



As a global supplier of energy and power quality products, Precision Power International (PPI) helps laboratories protect their sensitive and costly instrumentation and equipment to create energy efficiencies. Precision Power International has over 35 years experience in clinical, biotechnology, pharmaceutical, and scientific research instrumentation development meeting 21 CFR (Code of Federal Regulation) Part 860, FDA section 510 (k) (CDRH medical devices), and 21 CFR part 11 (electronic records reporting) regulations. Our instrument power protection systems (IPPS) and "smart reporting" technology

As scientists, we strive to live in a world of controls. Controlling all experimental design variables is paramount to ensuring consistent, accurate, and reliable test results.

But what happens when a critical variable hasn't been controlled? Safeguards are in place to control much of what happens in the laboratory, but what happens when the power entering your sensitive and costly instrumentation is left to chance?

**Even a single power transient that may not even register as an "event" can cause irreparable damage to such costly systems as DNA analyzers and mass spectrometers. Further, samples in process can be compromised and laboratory productivity impacted.**



A study conducted by the US DOE's Lawrence Berkeley National Laboratory at UC Berkeley estimates the total cost to the U.S. of power interruptions at about \$80 billion per year. Of this, \$57 billion (73 percent) is from losses in the commercial sector, including all the research, government and commercial laboratories in the country. Further, the study found that momentary power interruptions were

assure constant monitoring and reporting of electrical power providing the basis for managing all critical utilities. Management of critical utilities is fundamental to meeting 21 CFR part 11 requirements. Additionally, Precision Power International's IPPS laboratory power solution (LPS) products form a power bridge that safeguards the GxP organization against lost personnel productivity, adulterated test results, and instrument damage.



"At PPI, our power protection application engineers have the right IPPS calibrated and certified to each of your laboratory instruments," says Ray Hecker, COO and company principal.

"We are here to answer your questions and apply the perfect power and backup solution to meet all of your requirements."

responsible for two-thirds of the cost, at \$52 billion, while sustained interruptions of five minutes or more caused \$26 billion in damaged or destroyed equipment and sample data.

These findings highlight two things: (1) the commercial sector, including laboratories, is highly susceptible to significant losses attributed to power interruptions and (2) the interruptions that pose the highest risks are momentary interruptions.

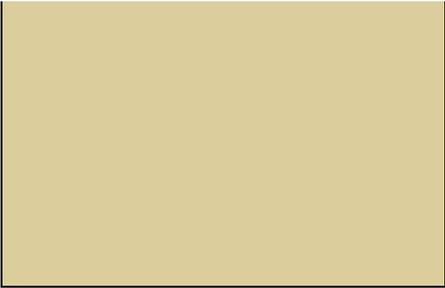
**Power quality is an enormous hidden risk that needs to be aggressively managed, before an event happens.**

Where the focus is often on complete power loss (interruption), this study emphasizes the importance of considering the very short duration "power quality events" that the grid and local distribution networks experience every day. These events occur when, according to the study, "the power supplied to customers deviates from the standard that electric utilities are regulated to deliver. That standard is 60 cycles per second, alternating current at 120/220 volts for residential and 480/240/208 volts for commercial and industrial customers. **Electronic equipment, from computers to industrial (laboratory) control systems, can stop functioning or suffer damage during a power quality event, so power quality has become a larger concern of the commercial and industrial sectors.**"

Controlling all the test variables requires putting safeguards in place to protect against all kinds and durations of power outages and the inherent poor power quality coming from an aging and over-taxed power grid and local distribution network that is delivered to our nation's laboratories. Without considering the true costs of both occurrences in terms of damaged instrumentation, sample loss, and lost productive time, a laboratory is risking its ability to produce consistent, accurate, and reliable test results in a timely manner.

**The solution is simple, cost effective and immediately available from Precision Power International ( PPI ). And it comes automatically with Smart Monitoring to give you the kind of control over your instrumentation power that will have you sleeping well. Contact us today and we'll put you in control of the power in your lab.**





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