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CE Marked Surge Suppressors—the Objective Difference

Certified Suppressors Can Even Assist Other Products in Gaining CE Compliance

by Jim Fowler, Patton Electronics Company

For the past eight years Patton's data line surge suppression devices have protected datacom and telecom systems worldwide. Now the market seems crowded with data line protection products, all making various claims of effectiveness. Conspicuously absent from the fray has been an objective test of surge suppressor performance by which various manufacturer's claims can be evaluated. Enter the IEC.

Protectors Meet IEC Standards

The IEC has published three immunity standards—IEC 801.2, 801.4 and 801.5—that manufacturers must comply with to obtain a CE mark permitting sale of their products into the European Union. (The first two standards are already officially adopted by the IEC under EN50082-1, and the third is slated for adoption within the next 12 months.) Patton Electronics is proud to be the first US manufacturer whose data line surge suppressors have met the IEC's immunity requirements and now carry the CE mark! This IEC certification applies to most existing Patton data line surge suppressors, and also to new devices about to be released.

What IEC Certification Means

In order to receive the CE mark, Patton surge suppressors had to run the gauntlet of three types of electrical hazards. First, they had to withstand the IEC 801.2 test for *ESD (Electro Static Discharge)*. ESD results when an electrical charge builds up from the two non-conductive materials connecting and then separating from one another. ESD has the quickest rise time of the three hazards, at 0.7 to 1.0 nanoseconds. The Patton suppressors withstood the 801.2 test without failure, and diverted over 99% of the energy to ground—well within the “safe” range for most connected equipment.

Second, the Patton suppressors had to face the 801.4 test for *EFTs (Electrical Fast Transients)*. EFTs appear as disturbances in a building's electrical system—both inside and outside the building. EFTs are common occurrences where electromechanical switches are used to connect and disconnect inductive loads. (If your computer terminal has ever locked up when you turn on a light switch, you have seen an EFT.) EFTs have the second fastest rise time of the three hazards, at 5 nanoseconds. The Patton suppressors withstood the 801.4 EFT test without failure, and again diverted over 99% of the energy to ground—a “safe” level for most connected equipment.

Having already been subjected to the high voltages in the 801.2 and 801.4 tests, each Patton data line suppression products was then required to perform up to its specified rating in the 801.5 test for *surge immunity*. Surges are the slowest of the three hazards at a 1.2 μ s rise time. But they also carry the most power. The 801.5 test is the most crucial test for surge suppressors, and emulates well known hazards such as direct or

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nearby lightning strikes, sags, load switching and short circuit failures. To pass the 801.5 test, each Patton suppressor had to clamp 100% of its rated voltage to ground without failure. And this is after having experienced the rigors of the 801.2 and 801.4 tests!

Our CE Mark is Your Opportunity

Why should it matter to you that Patton data line surge suppressors now carry the CE mark? First, our CE mark means that you can sort through the lofty claims of other manufacturers and compare them to Patton. Have their data line products withstood the IEC 801.2, 801.4 and 801.5 tests successfully? Have their products been certified by a recognized, independent body? Until you can answer “yes” to both of these questions, the reliability of other manufacturer’s products is little more than a blind assertion. And that is probably not good enough when your customer’s equipment is at stake.

Second, our CE mark means that our surge suppression products are certified for sale throughout the European Union—now and in 1996. Some manufacturers claim that their protectors don’t need a CE mark. But IEC standard EN50082-1 clearly applies to surge suppression products, so testing is mandatory. Other manufacturers may claim that their products would pass with ease. If so, you should place the burden on them to prove it!

Third, our CE mark may actually assist you, your other vendors, or your OEM customers in gaining CE certification. How? IEC standard EN50082-1 is the immunity standard that *all* computing and communications equipment must comply with in order to obtain CE certification. Most unprotected devices will have difficulty meeting this standard on their own. But many could be pushed over the threshold of compliance by being coupled with a CE approved Patton surge suppressor. For example, a major manufacturer’s BER tester was not able to withstand the IEC immunity tests by itself. But the connection of a Patton surge suppressor boosted its marginal immunity to a level where it could handle the test voltages successfully. This example suggests many other applications where a Patton CE marked surge protector could be “bundled” with a product with marginal immunity, and the two could be CE certified as a system. Please contact us if you wish to create Declarations of Conformity, or to discuss these opportunities.

About Patton

Patton Electronics Company is a leading US manufacturer and marketer of data communications equipment, including last mile access products, remote access products, short range modems, interface converters and network surge protectors. Patton products are available through a worldwide network of Authorized Patton Distributors, as well as through Patton’s own Datacom *Direct* Catalog.

The Patton Electronics Web site (www.patton.com) features Patton’s Online Catalog, new product information, technical documentation and articles covering many facets of data communications. Patton Electronics is an ISO 9001 certified and BABT approved manufacturer. Patton products are CE marked for sale in EC member countries. For more information or a free data communications catalog, please contact Patton Electronics Company, 7622 Rickenbacker Drive, Gaithersburg, MD, 20879, USA. Phone **(301) 975-1000**. Fax **(301) 869-9293**. Email sales@patton.com. World Wide Web <http://www.patton.com>.