

PROTECTING SMART GRID CONTROLS

The electric grid is changing from its historic simple design of one-way power to become a system that communicates its needs and can be controlled remotely. The term “Smart Grid” simply means that electronic devices are being installed on the electric system to provide control and, just as important:

Communication devices, installed with the field electronic devices, provide feedback of field data to central control systems and receive commands from the central controller to operate the field electronic devices.

Communications are installed near the electronic device and often that is on a pole mounted panel. Interestingly both the electronic device as well as the communications device must have power to operate and, for pole mounted units, typically a small transformer provides 120 Vac power.

For the overall smart system to be reliable it must not only do its job, but it also is in an exposed environment outdoors. The communication electronics as well as power electronics must be protected to maintain reliability. In addition to moisture and temperature, these electronics are exposed to high energy lightning surges as well as over voltages when a power line falls.

For years cable TV distribution systems have recognized the need for reliability and outdoor protection for their electronics. They've found that lightning damage is the most prevalent



damage that their field electronics have, closely followed by utility power line drops. Being in the electric protection business, we were approached by a major cable TV distributor to develop a special surge device to eliminate failure of their field electronics. They wanted strong reliable surge protection as well as over voltage protection from utility power line drops.

In 2008, we developed the VSS-20 series of surge protectors specifically for field electronics



protection. Not only can the VSS-20 withstand typical lightning surge energy, it contains specialized fusing that protects against power line drops. After a small test program, the VSS20 has been protecting many thousands of field amplifiers very reliably.

VSS20 Spec Sheet <<https://www.kenick.com/images/spec/Kenick%20VSS.pdf>>

Electric utilities have begun using the VSS-20 to protect their field electronics. Initial installations were protecting field mounted capacitor controllers and expanded from there.

It only makes sense to protect those field electronics; they are expensive. But the real cost is in sending a repair truck to replace damaged electronics in the field. Often the truck expense is more than the cost of the electronics and certainly more than the cost of a VSS-20 to protect them.

The VSS-20 is one way to ensure reliability for your field electronics!

ABOUT KENICK, INC.

KENICK, Inc. has been providing surge protection products and solutions to the electric utility industry for over 32 years. Their manufacturing facility includes a state-of-the-art research laboratory, allowing them to test surge protection products to see how they respond to small, medium, large and “oh my gosh... what was that!!” transient surge events.

ABOUT THE AUTHOR

Peter Jackson has been responding to the needs of electric utility clients and their customers for over 25 years. His knowledge and expertise in mitigating transient surge damage events has been gained through hundreds of field reviews and their successful outcomes.

Questions?

Please contact us if you have questions about this article or a particular issue that you need help with.
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