



VSS-20: A CASE STUDY ON A SURGE PROTECTOR SAFEGUARDING UTILITY EQUIPMENT

The VSS-20 surge protector is a cutting-edge solution to prevent damaged electronic control equipment. From capacitor controls to smart grid devices the VSS-20 will prevent damaged controls, outages and saves repair time and cost. In this case study we explore the VSS-20 and its applications.

BACKGROUND

Utility control and communication devices are critical for managing power flow and keeping the power on for customers. Since they are typically located outdoors on poles near power lines, they are exposed and vulnerable to power surge damage. Based on field failure experience it saves time and money to properly protect utility electronics.

THE VSS-20 SURGE PROTECTOR

The VSS-20 surge protector is a state-of-the-art device specifically designed to protect utility equipment against damaging power surges. Unlike many other surge protectors, the VSS-20 is designed to be a series protective device with multiple surge stages. The series design is the



highest level of surge protection available.

Its key features include:

1. High Surge Protection Capacity: The VSS-20 offers a robust multi-stage surge protection capacity and is connected in series with the protected electronics so that it can handle high-energy surges commonly encountered in utility applications.

- 2. Patented X-Coil technology®: Specially designed to protect field equipment with low resistance to normal current use and instantaneous high resistance to surges.
- 3. Fast Response Time: The VSS-20 boasts an ultra-fast response time, promptly diverting surge currents from connected equipment and preventing potential damage.
- 4. Hard-wired versions are typical for base station, controls and switched capacitor bank protection. It is available in hard-wired as well as cord-connected models.



INSTALLATION AND PLACEMENT

The VSS-20 surge protector can be installed both on concrete and wood poles, where it serves as the first line of defense against power surges. Due to its rugged design, it can be installed almost anywhere and can be exposed to weather as well as direct sun. The surge protector is typically connected directly to the incoming 120 or 240V power and then to the electrical panel, providing comprehensive protection to all equipment connected to the pole.



CASE STUDY IMPLEMENTATIONS

The above photo was taken from an electric utility in the Southeast that, prior to using the VSS-20, had repeated equipment damage at multiple base stations.

The engineering department determined that electrical surges were causing damage. To eliminate this issue, they purchased forty VSS-20 to install at various trouble areas. The VSSs were installed into the existing infrastructure, and after the installation of the VSS-20 surge protectors, they observed a significant improvement in equipment reliability and

operational continuity. Equipment failures and service disruptions due to power surges were drastically reduced, resulting in enhanced customer satisfaction and reduced maintenance costs.

At a different utility, VSS-20s are used to protect switched capacitor banks. These capacitor banks are essential for power factor correction and voltage stabilization in electrical distribution networks. The VSS-20s act as a shield, intercepting and diverting excess voltage away from the switch capacitor banks.

BENEFITS AND ADVANTAGES

Equipment Protection

The strongest available multi-stage surge protection that safeguards critical utility equipment. Multi-stage means even the strongest surges that get past a single stage device cannot get past the X-Coil technology and the final stage. Nothing else protects like the VSS-20!

Operational Continuity

The VSS20 stops the failure of utility electronics

and minimizes downtime and damaged equipment, giving utility customers a stronger and more reliable power grid.

Cost Savings

The VSS20 pays for itself by stopping electronics repair costs as well as costs to send a truck and labor for a repair crew. Just ONE repair event costs more than the VSS-20.

CONCLUSION

The VSS-20 surge protector has emerged as a reliable and effective solution for protecting utility equipment installed at base stations on concrete poles. Its advanced features, fast response time, and high surge protection capacity offer unparalleled defense against power surges.

Through its successful implementation, several utilities have experienced improved operational continuity, reduced equipment damage, and cost savings.

The VSS-20 pays for itself: it costs less than a single repair job.

By adopting the VSS-20 surge protector, you can confidently safeguard your critical infrastructure, ensuring uninterrupted services

and mitigating the financial impact of equipment failures and service disruptions.

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.