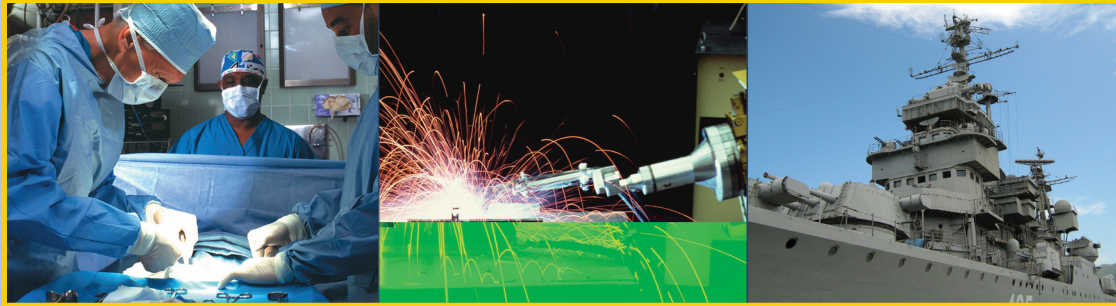


Surge Suppression[®] Incorporated

Manufacturer and Supplier of Quality TVSS Systems

WORLD LEADER IN SURGE PROTECTION FOR THE DIGITAL AGE...AND BEYOND



SURGE SUPPRESSION INCORPORATED[®] is the leading manufacturer, distributor and service provider of power quality products, trusted by over 200,000 customers around the globe. Our customers include the U.S. Department of State, state and local government operations, and a collection of the world's most recognized brands, like Nike and Mobil Oil.

QUALITY, PERFORMANCE, INTEGRITY

By specializing and focusing all of our research and development on surge protection, we deliver only the highest-performing, award-winning TVSS/SPDs (surge protective devices), including power panel, individual equipment, telecom and data protection. Backed by the most admired 25 Year Warranty in the industry, our multiple lines of SPDs cover all range of power needs from .5VDC to 7200VAC.

Surge Suppression Incorporated has extensive application experience across a full range of industrial, commercial and military sectors. We are proud to provide Surge Protective Devices on shipboard applications for the U.S. Navy as well as a number of domestic and foreign installations for the U.S. Navy, U.S. Marine Corps, U.S. Army and U.S. Air Force.

Our team's depth of expertise and collective years of experience, combined with shared positive ethical values, honesty and integrity, serve as the foundation upon which we provide unsurpassed service and excellence to all of our current and future customers.

Our growth and expansion, fueled by the increasing demand for our products and services, has necessitated the establishment of offices in primary markets within the U.S. and key locations in Asia, Central America, South America and the Middle East.

We set the industry standards for quality, performance and customer satisfaction and are devoted to continually raising that bar. Surge Suppression Incorporated is your surge protection solution.

YOUR PROBLEM: TRANSIENTS

In today's digital age, companies are more reliant than ever on electronic systems and microprocessor-based controls to efficiently run and maintain their operations while maximizing profits. These electronic control circuits are found in many of these critical systems such as water and waste water treatment facilities, traffic control systems, point of sale terminals, automated manufacturing, accounting, air traffic control systems, computer systems, 911 communications centers, health care facilities, security systems, emergency trauma centers and countless other components of our industrial, commercial and military sectors.

Powerful yet delicate, electronic circuit controls are susceptible to damage from common, often undetected, everyday voltage surges called transients. As the single most common and destructive power quality event, transients cost companies billions of dollars per month in equipment damage or failure, system downtime and lost profit-generating opportunities.

WHAT IS A TRANSIENT?

Transients are brief but powerful over-voltages and over-currents lasting up to a few hundred microseconds (as defined by ANSI/IEEE C62), reaching in excess of 100,000 volts. Transient sources vary from external sources such as lightning, power system faults and utility grid switching, to internal sources which are generated by load switching (turning equipment on and off) and normal equipment operation, including electronic equipment. While much lower in voltage and current as compared to external sources, internal switching transients can occur over 1,000,000 times per hour in active industrial environments (ref. Figure 1).

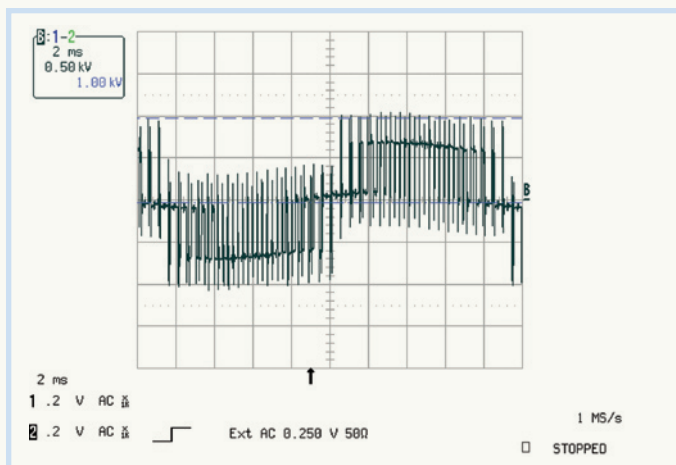


Figure 1: Actual power quality survey test plot showing repetitive transients at the output of a Pulse Width Modulation (PWM) drive.

THE EFFECTS OF TRANSIENTS

EXTERNAL SOURCES

While dramatic and frequently catastrophic, lightning and power distribution system faults represent only about 20% of overall transient-related activity. A single high-energy transient can cripple an entire system for extended periods of time, causing process interruptions and costly downtime and rapidly eroding profits from the costs associated with equipment repair or replacements, low customer satisfaction and lost opportunity.

INTERNAL SOURCES

Internally generated load switching can produce over 1,000,000 transients per hour in active industrial environments causing cumulative damage and eventual system failure. Even without a single lightning strike, power system anomalies and internally generated transient activity cause premature board failure, operational errors and decreased productivity.

SURGE SUPPRESSION INCORPORATED PROVIDES YOU WITH A COMPETITIVE EDGE

From Fortune 500 corporations to small businesses, the need for quality surge protection exists for every sector of commercial, industrial, and governmental applications. Integrated protection systems provide critical protection against damage and even more costly downtime and lost productivity. Safeguarding critical systems is not only a prudent precaution, but it provides a significant competitive advantage.

YOUR COST FOR PREVENTION IS ALREADY PAID

The investment needed to protect your systems from damaging transient-related activity is already in your budget! In many cases, the reduction in your yearly electrical-related equipment maintenance and repair cost will yield an ROI in less than one year or immediately with the next lightning strike, downed power line or overly curious squirrel in a power transformer.

RAPID RETURN ON INVESTMENT

Annual Pre Install Maintenance	\$7,814,718
Annual Post Install Maintenance	\$2,865,107
SPD Cost	\$2,679,350
ANNUAL SAVINGS	\$4,949,611
PAYBACK PERIOD (yrs.)	0.54

U.S. NAVY Analysis of Pre/Post Installation of Surge Suppression Systems on 23 Surface Ships

OUR SOLUTION: OPTIMAL PROTECTION NETWORK®

To eliminate the destructive effects of both external and internal transients and ensure your systems survive and remain operational, our Optimal Protection Network plan consists of a layered defense approach, using patented, proprietary surge protective devices. The devices are strategically placed based on your power, data and telecom systems according to your specific, unique needs.

LAYER 1: SERVICE ENTRANCE LOCATIONS

SPDs at service entrance locations suppress high-energy transients to levels that downstream SPDs can eliminate.

LAYER 2: DISTRIBUTION PANEL LOCATIONS

Any transient energy remaining from the service entrance location during power system faults or severe lightning strikes are further reduced or eliminated at distribution panels that have properly-applied SPDs installed.

LAYER 3: BRANCH PANEL LOCATIONS

Protecting branch and sub-panel locations further safeguards mission-critical and high-dollar systems.

LAYER 4: TELECOM & DATA CIRCUITS

Although often exposed to high-level transients such as lightning, even extremely low-level transients can damage mission-critical telecom, data and control circuits, protection at all building entry points and selected high-risk internal locations is necessary.

LAYER 5: DEDICATED LOAD & POINT-OF-USE LOCATIONS

Dedicated and isolated loads are protected to mitigate the adverse effects of cumulative transient damage and close-proximity transient-generating locations.

NOT GREEN ENOUGH? Our SPDs contribute significantly to green industry initiatives by reducing electrical and electronic waste associated with damaged or destroyed equipment.

Our Optimal Protection Network Solution also provides:

➔ **STRONGEST PRODUCT WARRANTY IN THE INDUSTRY**
25-Year Product Warranty with free SPD replacements, no strings attached!

➔ EXPERIENCED PROFESSIONALS

Our executive, application engineering and R&D staff average two-plus decades of industry tenure while our sales personnel have over 25 years of industry experience and SPD-specific knowledge.

➔ INDUSTRY LEADING PRODUCT DESIGN

Never sacrificing safety or let-through voltage performance for marketability, the features of our products continue to drive the industry standard. SSI is unsurpassed in quality and performance.

➔ QUALITY AND LISTINGS TO INDUSTRY STANDARDS

ISO 9001: 2008 Quality System; ANSI/UL 1449-2006 (Third Edition); UL 1283; CE; Mil-spec 901D, 67-A, 1399; UL 497A and B

➔ TOOLS TO MAKE AN INFORMED BUYING DECISION

Complete, real-world performance testing and specification data from "as installed" tests allows you to make the most informed purchasing decision. We have no reason to hide behind partial test parameters or missing values!

➔ ADDITIONAL SERVICES AND RESOURCES

- SPD design and application seminars – Certified by The Institute of Electrical and Electronic Engineers (IEEE) for CEUs/PDHs
 - Power quality and transient susceptibility analysis
 - Complete on-site SPD application survey with full system protection recommendations
- End-user modifiable SPD guide form specifications
- Interactive product selection CD
- On-site pre- and post-installation assistance

SURGE PROTECTION ACCORDING TO THE IEEE

IEEE Std 1100 (Emerald Book), Section 8.6.4 Premise Electrical Surge Protection:

In addition to surge protective devices installed in the service entrance equipment, it is recommended that additional surge protective devices of listed Category "B" or Category "A", as specified by IEEE Std C62.41-2002, be applied to downstream electrical switchboards and panel boards, and panel boards on secondary or separately derived systems if they support communications, information technology equipment, signaling, television or other form of electronic load equipment.

After installing custom designed SPD (Surge Protective Device) they have experienced ZERO losses due to lightning.

*Jesse Clark, Instrument Technician
NAS Pensacola*

We decided to put your product throughout the system after doing a cost benefit analysis which showed a handsome payback many times over... I would certainly recommend Surge Suppression Incorporated to any other municipality or company for that matter. Simply stated, it's the truth.

*Gerald Beatty, Foreman
Electrical Maintenance Water Operations, MLGW*

Had it not been for the SPD system, the electrical system would have been completely destroyed and quite possible could have caught on fire.

Ambrose S. Daigle III, Facility Manager

The Suppressor took a direct strike and sacrificed itself. Our electronics sustained NO DAMAGE AT ALL.

*SSgt Steve Schlott, Alarms Technician
Eglin Airforce Base*

Conclusion: SPD is a great investment on any and all systems and ships represented in this study. The Return-On-Investment ratios are all positive...SPDs are low cost items with tremendous savings potential in terms of maintenance on the systems they protect.

*U.S. NAVY
Analysis of Pre/Post Installation of Surge Suppression Systems on 23 Surface Ships*

**Surge
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Incorporated**
Manufacturer and Supplier of Quality TVSS Systems

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ISO 9001:2008 MANUFACTURER



ANSI/UL 1449-2006 Listed
(Third Edition)
UL1283 Listed



ANSI/UL 1449-2006 Listed
(Third Edition)
UL1283 Listed



UL497A
UL497B

2004
2006

FROST & SULLIVAN

Transient Voltage Surge Suppressors
Customer Value Enhancement Award

THE ADVANTAGE[®] SERIES: BRUTE STRENGTH, REFINED PERFORMANCE

Surge Suppression Incorporated[®] parallel connected surge protective devices have, time after time, provided the brute strength and unsurpassed durability needed to protect mission critical systems during lightning strikes and transients that result from severe power system faults. Designed to safeguard delicate microprocessor based electronics, our surge protective devices allow your critical systems to stay up and running, keeping your company in business while neighboring facilities (often competitors) suffer extensive damage, extended downtime and lost revenue. This is a competitive "Advantage" that is critical to your company's well-being, bottom line and future.



THE MOST ADVANCED SURGE PROTECTIVE DEVICE AVAILABLE TODAY

The Advantage series of parallel connected surge protective devices represent the latest in surge suppression design and performance. By blending advanced computer circuit modeling with tried-and-true design principals learned over the past twenty-plus years, the Advantage has the lowest let-through voltage, providing the highest possible protection levels. Component-level thermal fusing combined with patented, internal, circuit board mounted over-current fusing and Voltage Responsive and Frequency Responsive Circuitry, gives the Advantage series unmatched performance and safety and makes it the best and most advanced surge protective device available today!

AVAILABLE IN ALL SINGLE AND THREE PHASE CONFIGURATIONS INCLUDING:

120, 240, 480, 120/240, 120/208, 220/380, 230/400, 240/415, 277/480, 347/600 120NN, 240NN, 480NN, 600NN, 2500NN, 4160NN, 7200NN and more

STANDARD FEATURES

- 25 Year Free Replacement Warranty
- ANSI/UL 1449-2006 (Third Edition) Listed
- UL1283 Listed
- ISO 9001: 2008 Manufactured Quality
- Industry Leading Let-through Voltage Performance
- Circuit Encapsulation
- Patented Fusing Methodology
- Voltage Responsive Circuitry
- Discrete "All Mode" Circuitry
- Advanced Internal Diagnostics
- Component Level Thermal Fusing
- Peak Surge Current Levels from 90 kA to 900 kA per phase

OPTIONAL FEATURES

- Multi-stage, Hybrid Frequency Responsive Circuitry
- Integral Surge Counter
- Form "C" Dry Relay Contacts
- Internal or Remote Audible Alarm
- Remote Lights
- External Alarm Module
- Integral Disconnect
- External Disconnect
- NEMA 12, 4 and 4X Enclosures
- Application Specific Design Modifications

DEDICATED LOAD MODELS



Today's fast-paced digital world utilizes sophisticated and highly integrated microprocessor based equipment and systems that are increasingly prone to damage from even low-level

transient activity. The Dedicated Load Circuit Protection models provide the level of protection needed to assure that these mission critical systems survive and perform as designed.

- Voltage Responsive & Frequency Responsive Circuitry
- Series Connected Dedicated Load Circuit Protection
- Compact Size
- Terminal and Hardwire
- Simple Installation
- Lowest Let-through Voltage Levels

DATA LINE & CURRENT LOOP



Data communications lines and current loops are the life blood of highly integrated systems and networks, which are susceptible to failure from even low-level transient

activity are often exposed to high-level transients such as lightning. Protecting these circuits is another key element of the Optimal Protection Network[®].

- Multi-stage Hybrid Design
- Data Rates to 100 Mbps
- Low Impedance/Insertion Loss
- Terminal, Coax and Hardwire
- Lowest Let-through Voltage Levels
- UL 497B

TELECOMMUNICATIONS



Telecommunication lines are very often the overlooked "back door" for transients to enter your facility. Telecommunication equipment often suffers the highest rate of catastrophic

damage of any system within a facility. Protecting incoming telecommunications lines and lines running from one building to another is not only prudent, it is an NEC requirement.

- POTS, ISDN, DSL, T1, T10, Fax and Modem Lines
- Terminal Strip, Modular Jack and Punch-down Block Configurations
- Lowest Let-through Voltage Levels
- UL 497A
- UL 497B

CUSTOM/SPECIALTY



Our engineering and manufacturing capabilities combined with our experienced staff of professional design and application engineers, affords us the ability to

successfully solve your most difficult surge protection applications. If one of our thousands of standard models will not fit your unique requirements, we will work hand-in-hand with your personnel to make the necessary modifications and design changes to provide you the most optimal protection solution. From a single unit to an entire protection system, no job is too small, too large or too complex.

- Medium Voltage Applications (up to 7200 VAC)
- External Lighting and Audio Controls
- Casino and Gaming Controls
- Amusement Ride Controls
- FAA Required Obstruction Lighting
- Integrated Load Centers
- Din Rail Mount Kits

MEDIUM VOLTAGE SOLUTIONS

Surge Suppression Incorporated parallel connected medium voltage surge protective devices (1000 to 7200 Vrms) have repeatedly provided the brute strength and unsurpassed durability needed to protect mission critical systems during lightning strikes and externally and internally generated transients. Our surge protective devices assist in allowing uninterrupted operation of your critical systems preventing extended downtime and lost revenue while aiding to keep your electrical system from suffering extensive damage. This is essential to your company's well-being, bottom line and future.



THE MOST ADVANCED SURGE PROTECTIVE DEVICE AVAILABLE TODAY

The Medium Voltage Series of parallel connected surge protective devices represent the latest in surge suppression design and performance. By blending advanced computer circuit modeling with tried-and-true design principles learned over the past twenty-plus years, the Medium Voltage series provides superior protection for your mission critical equipment and power systems. Our Voltage Responsive Circuitry, makes the Medium Voltage series the most advanced medium voltage surge protective device available today!



" Since installation of the surge and lightning protection units, we have not had a failure of the motors. There has been many an opportunity for lightning to damage the motors as we are situated in an area where severe weather is possible in the spring and summer.

Recently, we had an event where there was a documented surge on the main feeder line that provides power to the Unit 2 motors. The question was asked, 'Why didn't we have a problem with the motors?'. The answer is that we installed surge protection equipment. "

-Skip Guthrie, Electrical Engineer, City of Lakeland , FL

**" IT WILL BE CHEAPER TO INSTALL LIGHTNING AND SURGE PROTECTION ...
THAN TO REPAIR THE MOTORS AFTER THEY HAVE BEEN DAMAGED BY AN EVENT."**

TOTAL EXPENSE FOR REPAIR, LABOR AND
LOST GENERATION AFTER A SURGE EVENT

\$786,000.00

TOTAL INVESTMENT FOR
SURGE PROTECTION EQUIPMENT

\$80,000.00

Case Study - Energy Supply McIntosh Power Plant



TECHNICAL INFORMATION

DELTA AND WYE CONFIGURATIONS FOR:

1000, 1500, 2000, 2500, 3000, 3500, 4160, 6900, 7200 Vrms

STANDARD FEATURES

- 5-Year Free Replacement Warranty
- ISO 9001: 2008 Manufactured Quality
- Circuit Encapsulation
- Voltage Responsive Circuitry
- Discrete "All Mode" Circuitry
- Peak Surge Current Levels
from 80 kA to 160 kA per mode

OPTIONAL FEATURES

- Integral Fused Manual Disconnect Switch*
- Integral Fused Option*
- NEMA 12, 4 and 4X Enclosures
- Application Specific Design Modifications

* Not available for the 6900 or 7200 V product at this time

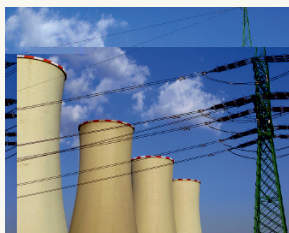
APPLICATIONS

MEDIUM VOLTAGE SPD WITH INTEGRAL DISCONNECT SWITCH

This industrial grade, Medium Voltage SPD with Integral Disconnect Switch is specifically designed for heavy duty applications including, but not limited to:



Chemical Plants



Power Plants



Waste Water Treatment



Mining



Production Lines



Chillers



Blowers



Oil Refineries