



Surge Pure

HI-ENERGY NON-DEGRADING SURGE PROTECTION

CALL NOW **1.877.833.5440** or E-MAIL info@surgepure.com

SurgePure is known as the most robust industrial SPD (surge protection device) on the market today

WHY DO WE NEED INDUSTRIAL SURGE PROTECTION?

- Businesses have everything on the line and rely on a clean source of power to keep them in full production.
- Dirty power and its damaging effects costs North America billions in downtime and equipment loss.
- System integrity is what every business needs in the ever-growing digital world in which we operate.

WHAT IS ELECTRICAL POLLUTION?

The three main power problems are Blackouts, Brownouts and Electrical Pollution. When correct power (a clean sinewave) is maintained within design limits of your most sensitive electronic controls, you can expect a long and productive life. 'Clean Power' is not the norm. If your power usage is 120 to 600 volts, it is not uncommon to incur up to 6000 volt spikes in what is known as Surges, Spikes, Transients, and Dirty Power. These anomalies are always above the designed-in limits of electrical devices and this is what causes degradation of our sensitive equipment.

WHERE DOES DIRTY POWER COME FROM?

On average, 75% of dirty power comes from within our own facilities with all the switching loads such as motors that cycle 'on' and 'off' everyday. SurgePure offers catastrophic event protection from external sources while also providing isolation of all downline sensitive equipment from internally generated surges so all circuits can live in a clean power environment.

HOW CAN SURGEPURE HELP?

The SurgePure System preserves all your total power assets and 'The Green Initiative' and its ever-growing long-term value! A SurgePure SPD System keeps your 'power assets' out of your local landfill! SurgePure eliminates much of the apparent and the deceiving 'high cost of downtime and lost production.'

WHAT TO EXPECT WITH THE SURGEPURE POWER QUALITY SYSTEM:

- 1) SurgePure stops the high voltage surges, spikes and transients on the incoming power lines from entering and contaminating your building's distribution system.
- 2) SurgePure systems filter out transients generated internally at their source to keep your power system clean.
- 3) SurgePure eliminates damage and failures of sensitive equipment.
- 4) SurgePure prevents catastrophic failures and downtime of computers, automation controls, HVAC systems, electronic lighting controls, office equipment and factory machinery.
- 5) SurgePure prevents "data loss" and glitches on communication lines.
- 6) SurgePure avoids long term degradation and extends the life of electronic equipment, motors, VFDs and electrical system components.

SurgePure is known across North America as the most reliable longest lasting surge protection device on the market today. Since 1974 SurgePure has proven to be the real pioneer in the surge protection industry with its line of performance products.

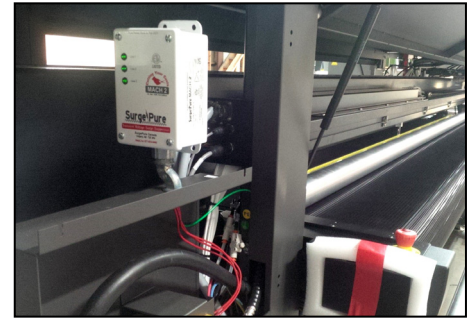
SurgePure is utilized in the highest profile facilities and institutions!

SURGEPURE PROVIDES PERFORMANCE

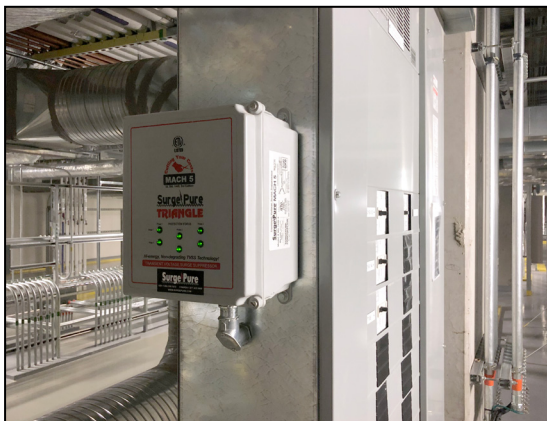
- Catastrophic Event Protection
- Isolation of all Nearby Switching Loads
- Enhances all Equipment Life
- Cuts Replacement Costs
- Lowers Service and Maintenance Calls



*Mach 5 primary level protection.
2000 amp service entrance*



Mach 2 protecting \$500,000 laser printer



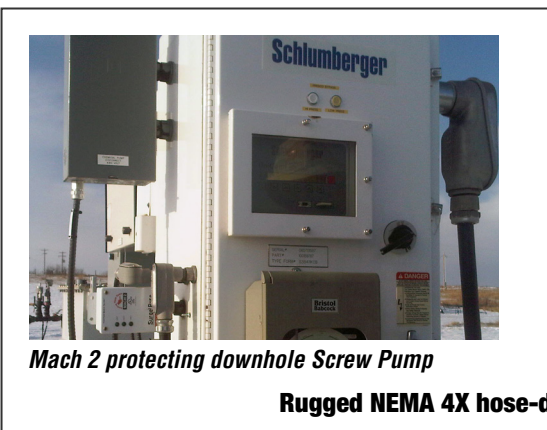
Mach 5 offering over 1 MILLION AMPS of SOLID SURGE CAPACITY installed in the \$1.4B South Health Campus Hospital



*Mach 4 inside 800 amp MCC.
Made to fit in switch gear*



Mach 2 SPDs protecting Canada's Largest Bitcoin operation



Mach 2 protecting downhole Screw Pump

Rugged NEMA 4X hose-down outdoor enclosures



Mach 4 protecting four SAGD Well Pads



Pictured is 1 of 160 Mach 2 units (with 'Remote Aware' option) that were installed in the \$1.4B South Health Campus Hospital in Calgary back in 2011. As of today SHC has experienced 100% satisfaction with zero failures on SurgePure!

ALL SURGEPURE MODELS

- UL1449, 5th Edition
- CSA - C22.2 No.269
- SCCR - 200kAIC
- ANSI/IEEE C62.11, C62.41 & C62.45
- RoHS Compliant



SurgePure NON-DEGRADING Surge Protection

'SINGLE-ELEMENT' TECHNOLOGY

- SurgePure offers very-high-energy surge capacities that are virtually non-degrading due to 'single-element' technology.
- SurgePure's single MCOV (Maximum Continuous Operating Voltage) thresholds insure 'nano-second fast' response times critical to protecting and isolating even the most sensitive downline circuitry and components.

'FUSE-LINK' TECHNOLOGY

- Every SurgePure module is fused for safety and maximum surge capacity.
- **SurgePure's Fuse-Link integrity is 'always' maintained, and does not open until entire surge capacity is fully utilized, unlike conventional designs that vaporize or open the 'fuse' long before the claimed surge capacity is engaged and utilized.**
- Fuse-Link integrity can be sustained throughout many hi-energy surge events that would otherwise degrade the integrity of the MOV (Metal Oxide Varistor) during frequent typical nearby surge events. One of the primary risks of conventional SPD (Surge Protection Device) degradation is the inability to field-verify MOV integrity, especially after surge events where subtle degradation has occurred.
- Fuse-link integrity eliminates both nuisance type SPD failures and resulting downline equipment failures, especially the more gradual, 'rust-like deterioration' of components.
- SurgePure's combination of 'integrated MOV/fuse-link' technology and sustained MOV integrity eliminates the frequent cost of SPD replacements, as well as the risk of downline equipment losses, frequent repairs, and costly downtime.

SAFETY 'SURGE CUSHION' TECHNOLOGY

- SurgePure's encapsulated MOVs insure the thermal integrity of critical surface areas and maintains functional MOV integrity by special heat-sinking characteristics.
- Heat dissipation is one of SurgePure's major advantages to the entire long-term SPD integrity.
- SurgePure's unique combined safety design features keeps even the most violent SPD failures hazard-free both to the user and to vulnerable nearby equipment.

AST - ACTIVE SINEWAVE TRACKING

SurgePure features AST in the Mach 3 series offering ultra-pure power for digital demanding environments. Active Sinewave Tracking filters low-level spike/noise to 'isolate your most sensitive downline equipment' from nearby motor loads and in-house surges for safe, reliable, clean, non-degrading, surge protection. AST is best utilized in Computer rooms - Server rooms - Dentist offices - Hospital applications where maintaining computer grade power of mission critical digitally sensitive equipment is vital.

SURGEPURE HAS A LOW MCOV OFFERING BETTER PROTECTION OF EQUIPMENT!

Having a low MCOV (Maximum Continuous Operating Voltage) allows SurgePure to remove low level spikes while still offering extremely high amounts of surge capacity giving you the utmost protection.

Single-Element Technology is designed to handle the most potentially damaging hi-energy transients without degrading.

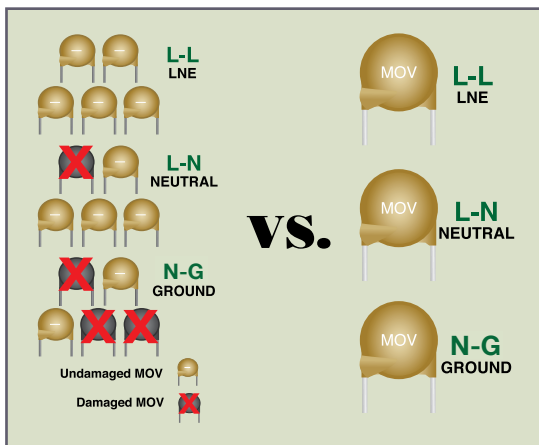
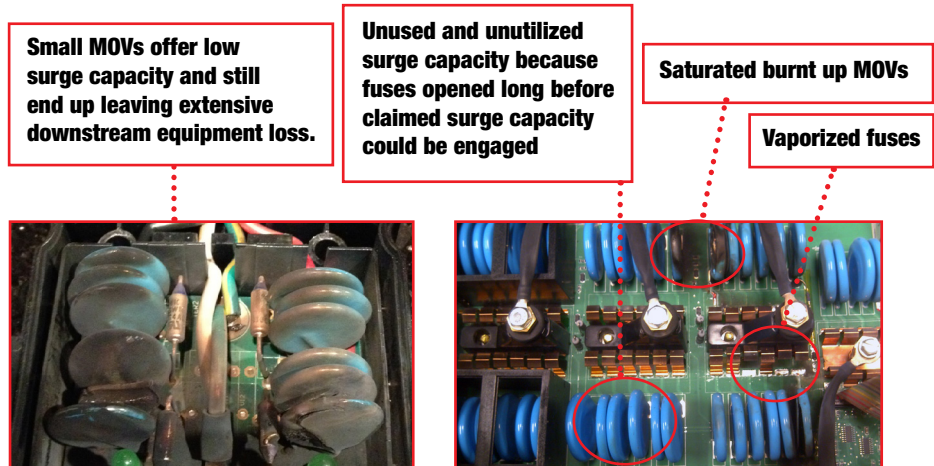
ARE YOU TIRED OF REPLACING SURGE PROTECTION DEVICES THAT WEAR OUT?

SurgePure understands the frustration caused by SPDs that wear out. It is crucial that the lights remain on so that users know their equipment is being protected at all times. With SurgePure's design, if the lights are on, the unit is offering the same surge capacity as a brand new unit. Conventional 'multi-element' designs degrade and will no longer offer 100% protection over time. Keep reading to find out what differentiates SurgePure from the others.

HERE AT SURGEPURE WE UNDERSTAND HOW IMPORTANT POWER QUALITY IS TO YOU.

This is why SurgePure offers super high amounts of surge capacity in all our products. SurgePure SPDs are robust industrial spec grade SPDs that never wear out. Major brands can't match SurgePure's premium industrial strength SPDs. SurgePure SPDs work 24/7, are maintenance free and are backed with a full replacement lifetime warranty. SurgePure utilizes a unique 'single-element' design that sets SurgePure apart from the multi-element designs of the industry. Being 'Single-Element' means SurgePure products are either 100% operational or 0% operational. There is no in-the-middle or second-guessing. Facilities that use SurgePure know they are protected because of SurgePure's extremely high surge capacities coupled with SurgePure's non-degrading design. We're sure you'll like what you see with the SurgePure advantage!

For the lights to go out on a SurgePure, a catastrophic event has to occur. Users will know that a catastrophic event has taken place as they will have a burn mark on their building from lightning, or they blew up their transformer or someone drove into the power pole. This is how serious of an event it has to be to take out a SurgePure. Even in such catastrophic events as these, SurgePure customers do not see the downstream equipment loss that you would typically see with conventional 'multi-element' SPDs as most SPDs fail in an 'open' state thus leaving their customers with extensive downstream equipment loss. Most facilities are tired of replacing SPDs. Time to try SurgePure!



Conventional Multi-Element Vs. Non-Degrading 'Single-Element'

CONVENTIONAL SPD DESIGNS LEAVE YOU GUESSING AS TO WHETHER YOU ARE REALLY PROTECTED OR NOT

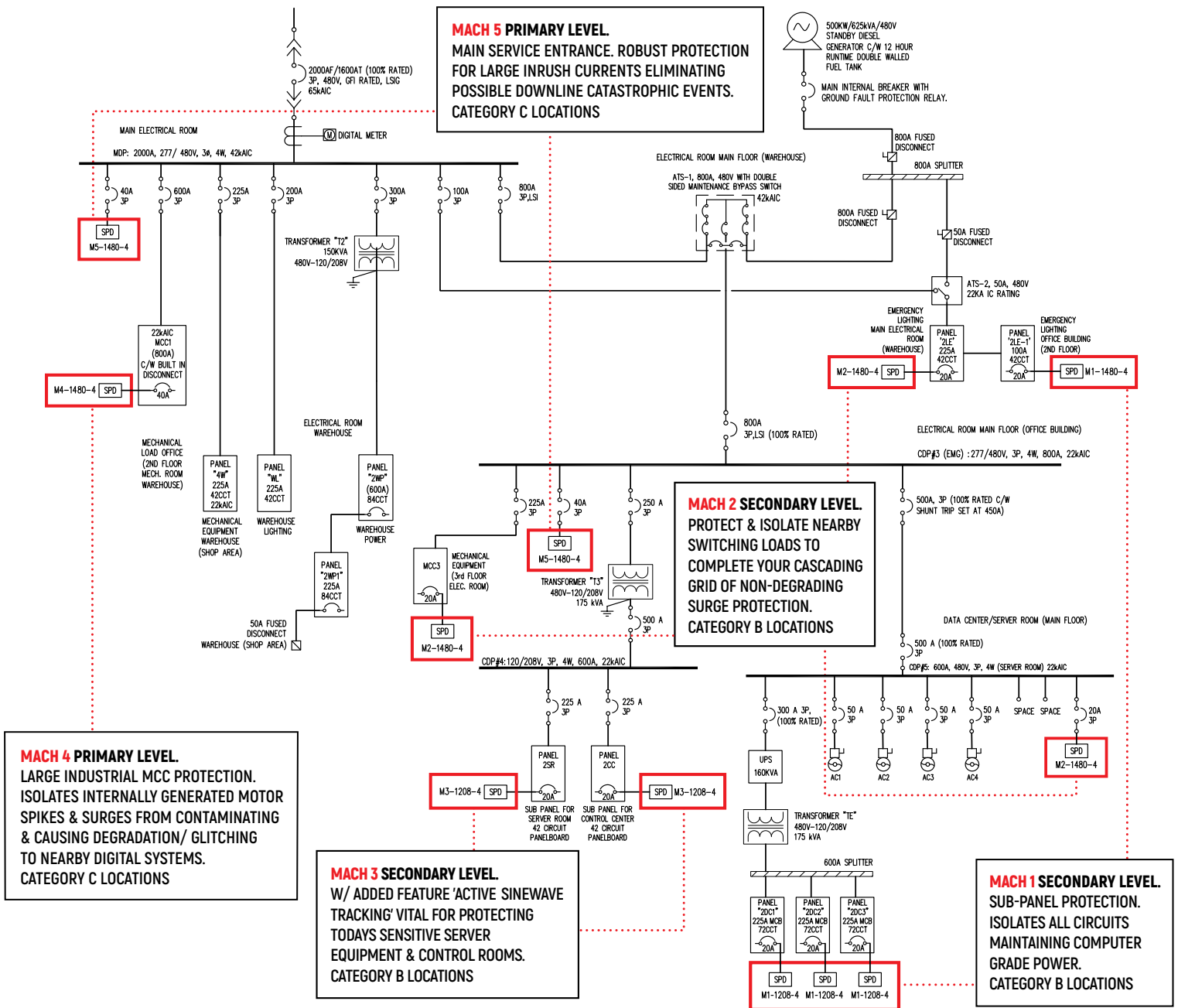
- Multi-Element SPDs also known as 'Balanced Suppression Platforms' or 'Computer-matched MOV Arrays' have been widely known in the industry to have issues with unequal stressing of surges amongst paralleled MOVs.
- Heat dissipation is a major factor when it comes to having a quality SPD. Not having adequate heat dissipation will cause MOVs to go into a 'Thermal run-away' and burn up.
- SPDs with individual 'Thermal Protection Devices' (fuses) often vaporize the fuse long before the claimed surge capacity is fully engaged and utilized.

ALL SURGEPURE MODELS

- UL1449, 5th Edition
- SCCR - 200kAIC
- RoHS Compliant
- CSA - C22.2 No.269
- ANSI/IEEE C62.11, C62.41 & C62.45



SurgePure provides a cascading grid of non-degrading AC protection for mission critical environments.

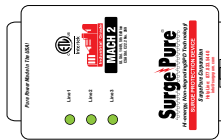


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MACH 2 PANEL MOUNT INSTALLATION



MAKE ALL LEAD LENGTHS AS SHORT AS CONVENIENT FOR MOST IDEAL KELVIN TYPE, CLOSE COUPLED CONNECTION.

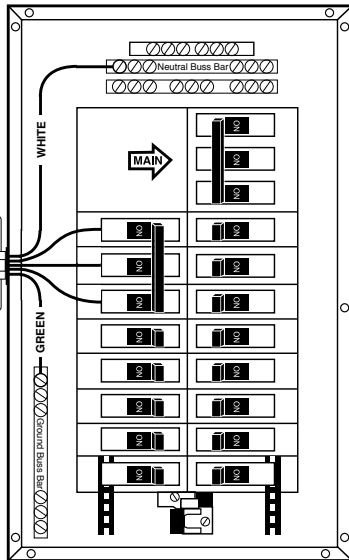
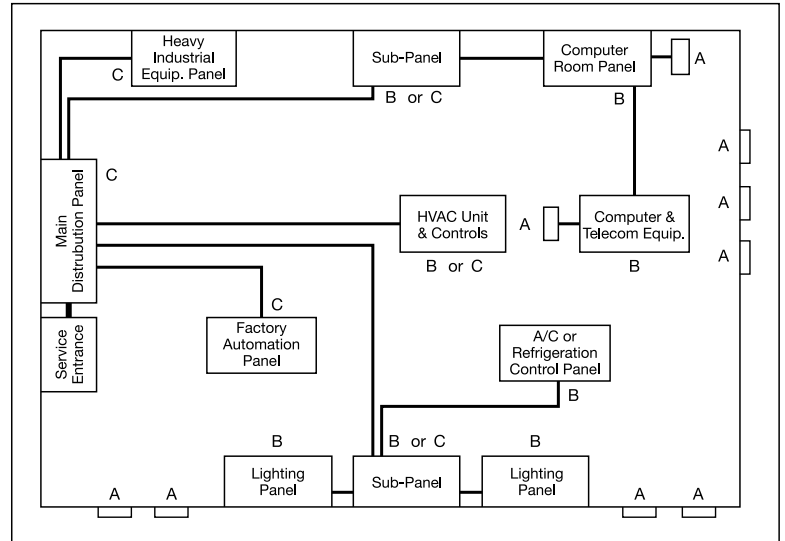
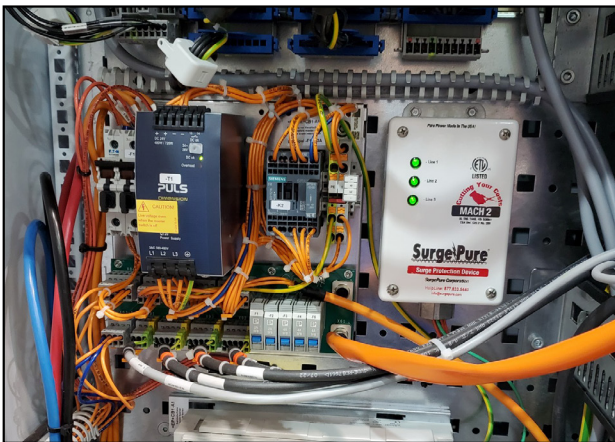


ILLUSTRATION OF SPD SYSTEM NETWORK APPLICATIONS



Mach 2 protecting \$5M Laser at Magellan Aerospace



SurgePure SPDs Provide Isolation

Whenever we start and stop inductive or capacitive loads we are making voltage spikes. SurgePure keeps your most vital equipment isolated and protected from internally generated surges as well as externally generated surges thus giving you more uptime and less downtime.

All SPD types are rated for IEEE's Category A, B, or C locations within a given facility. A standard for testing, and evaluating the safety and performance of SPD design options, as well as the products of various SPD manufacturers, has been established by UL (Underwriter's Laboratories), IEEE, and by the power industry. The IEEE Std. 587, as well as ANSI C62.41 defines the three classifications of surge levels, based on the strategic location within a facility's wiring network, where a power problem may be encountered. They classify the SPD type, the potential impact of transient surges or spikes, and SPD location as follows:

CATEGORY A: Defined as any plug-in receptacles or branch circuits extending more than 10 meters (30 ft.) beyond a Category B location.

CATEGORY B: Defined as all major sub-feeders, bus systems, and short branch circuits such as distribution panels, sub panels, industrial buses, and feeder systems, heavy appliance circuits, commercial lighting systems and receptacles less than 10 meters from a Category B location.

CATEGORY C: Defined as outside power gear and main service entrance which includes main supply lines, transformers, service connections, and feeder lines to main service entrance panels, main switch gear, any overhead or sub-feeder lines, underground lines to adjacent facilities such as well pump supply lines or other major equipment.

With the SurgePure Power and Quality Protection System you'll only buy it once!

SurgePure

HELPLINE 1.877.833.5440
ORDERS sales@surgepure.com



MACH 1 Secondary Level Panels Up To 200 amp

When downline from Primary Level Protection

- Residential main services
- Downline office panels
- NEMA 4X hose-down enclosure
- Type 2 locations
- Multi-Element for each surge-path
- 10-year warranty
- 1-phase & 3-phase 120 volt up to 480 volt



MACH 4 Primary Level Service Entrances Up To 800 amp

- 160,000 Solid Amps of Non-degrading Surge Protection
- Large commercial and industrial service entrances
- Type 1 for Type 1 & Type 2 locations
- NEMA 4X hose-down enclosure
- Single-Element for each non-degrading surge-path
- Lifetime Warranty
- 1-phase & 3-phase 120 volt up to 600 volt



MACH 2 Primary Level Service Entrances Up To 400 amp

- 100,000 Solid Amps of Non-degrading Surge Protection
- Small commercial and industrial service entrances
- Type 1 for Type 1 & Type 2 locations
- NEMA 4X hose-down enclosure
- Single-Element for each non-degrading surge-path
- Lifetime Warranty
- 1-phase & 3-phase 120 volt up to 600 volt



MACH 5 Primary Level Service Entrances Up To 2500 amp

- 320,000 Solid Amps of Non-degrading Surge Protection
- Very large services rated up to 2500 amp
- Type 1 for Type 1 & Type 2 locations
- NEMA 4X hose-down enclosure
- Single-Element for each non-degrading surge-path
- Lifetime Warranty
- 1-phase & 3-phase 120 volt up to 600 volt



MACH 3 Enhanced EMI/RFI Filtering Up To 400 amp

- Added feature AST 'Active Sinewave Tracking'
- AST is for your most vital sensitive digital applications
- Computer room - Server room applications
- Dentist offices - Hospital equipment - Jumbotrons
- Type 1 for Type 1 & Type 2 locations
- NEMA 4X hose-down enclosure
- Single-Element for each non-degrading surge-path
- Lifetime Warranty
- 1-phase & 3-phase 120 volt up to 480 volt



MACH 6 Primary Level Service Entrances Up To 6000 amp

- 640,000 Solid Amps of Non-degrading Surge Protection
- Heavy Industrial, Primary-Level Protection
- Service Entrances rated up to 6000 amp
- Type 1 for Type 1 & Type 2 locations
- NEMA 4X hose-down enclosure
- Single-Element for each non-degrading surge-path
- Lifetime Warranty
- 1-phase & 3-phase 120 volt up to 600 volt

REMOTE AWARE

(Option on Mach 2 to Mach 6 models)

SurgePure offers 'Remote Aware' status that can be wired to the building management system for supervisory alert notification against loss of protection. SurgePure recommends the Remote Aware only on main service entrances or far off remote un-manned locations. Downstream sub-panel SurgePure SPDs do not require this option as the downstream SurgePure SPDs will not be subjected to catastrophic surge levels when the main service is properly protected.

Remote Aware is great for:

- Main service entrances
- Un-manned locations
- Remote monitoring of SPD status
- Peace of mind



Optional 'Remote Aware' integrates with building management system for supervisory alert notification

Large Inventory • Pre-paid Shipping

All SurgePure models can be found in the Data Sheets at www.surgepure.com/products