

An estimated \$250-500 million dollars a year is lost in property damages caused by power surges.

Don't burn a hole in your wallet. Have an HVAC professional install a MARS Surge Protection device in your home, TODAY.

MARS Surge Protective Device Protects...

Air Conditioning Units

Furnaces

Heat Pumps

Motors – Especially equipment utilizing ECM motors



Warranty Guidelines & Procedures

**3 Year Product Warranty
\$7,500 Connected Equipment
Warranty**

Easy to file a claim:

- File a claim with your Homeowners insurance and supply them with a copy of the MARS SPD warranty & claim form
- Return the Surge Protection device to the address on the warranty form along with the complete claim form



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When Mother Nature Strikes... Strike Back!

HVAC EQUIPMENT

**Install a MARS 83905
Surge Protective Device**



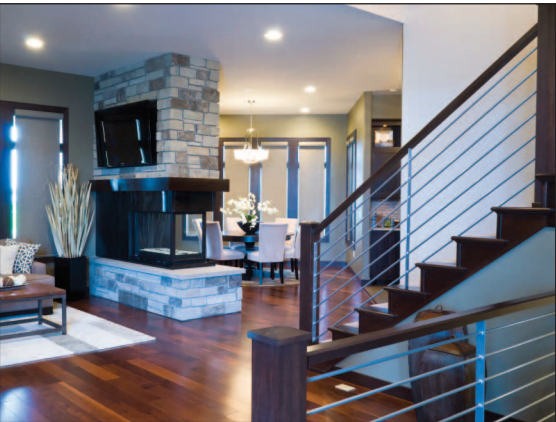
- 3 Year Product Warranty
- \$7,500 Connected Equipment Warranty
- Peace Of Mind



No matter where you live, your home will experience power surges and spikes.

Power surges are the silent killer for home appliances and HVAC equipment. Most homeowners protect their electronics, but leave the more valued equipment unsecured. Power surges can wipe out your HVAC equipment and leave you searching for answers as well as costing you significant dollars in replacement costs. Hopefully, this occurrence is not when the outside temperature is 98 degrees.

Speaking of cost..... How much is your peace of mind during the next storm or power surge worth?



The Solution...

120/240 VAC Single Split Phase SPD for use on a variety of HVAC Equipment

LED Protection Status Indicators

Type 4x Weatherproof Enclosure

Unmatched Surge Protection Ratings

18 in. 10 Gauge Leads

1/2 inch x 20 Threaded Nipple (weatherproof and UV resistant)

Meets all UL 1449 4th Edition Standards

MARS
MODEL 83905
SURGE PROTECTIVE DEVICE

GREEN INDICATOR:
ON: UNIT OPERATING PROPERLY

RED INDICATOR:
ON: PROTECTION UNAVAILABLE
REPLACE UNIT IMMEDIATELY

UL 1449 4th Edition
120/240 VAC 50-60 Hz
VPR: L-G 700V / L-L 1200V
In: 10kA, SCCR: 22kA
MCOV: L-G 150V / L-L 300V
Type 1 or 2 SPD

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MARS Surge Protective devices utilize Thermally Protective MOV surge technology

Today's HVAC equipment is more susceptible to power issues than equipment produced 10 years ago. Why is this? The best answer is the use of sophisticated electronics coupled with the increased frequency and severity of storms. Couple this with issues created by the power generation companies such as rolling brown outs and you have the recipe for disaster with new equipment. Also, other equipment in a home, condo or apartment can create power issues such as surges and transients upon start up and shut down. Power issues can be transmitted through power lines to the home and also may be created by other equipment and appliances in the home.



Why does HVAC/R equipment require protection from power spikes, surges and transients? Isn't that protection designed into the equipment? Some minimal protection may be part of the design but all components are still at risk. Some of the most sensitive components are control boards, ECM motors and inverters in Mini-Split systems.

So why add a surge suppression device?

As an example, when we purchase a new computer we all buy a power surge strip to protect our investment so why aren't we doing the same for our HVAC equipment? After all, the same chips and processors in our P.C. are now being utilized in HVAC equipment to provide increased functionality, efficiency and allow systems to communicate.

The MARS Surge Suppression Device is designed to protect all connected equipment in your HVAC/R system. This includes motors, compressors, electromechanical devices, sensors and control boards. Some Surge Suppressors only cover electro-mechanical devices such as motors so you want make sure you are getting a device capable of protecting all components. The MARS Surge Protective Device carries a three year product warranty as well as \$7,500 connected device coverage.

How does a Surge Protection Device (SPD) work? A surge device absorbs surges, spikes and transients through the use of metal oxide varistors (MOV) and dissipates them as heat and shunts them to ground. During this process the MOV can get warm and in some cases a thermal failure

can occur if the spike is significant. Some thermal failures can present a danger to the homeowner and structure.

MARS surge devices use a patented TPMOV (Thermally Protected MOV). The thermal protection eliminates potentially dangerous thermal failures.

How do you know the SPD is working? A green LED on the device indicates the device is operational.

Where are Surge Suppression Devices installed? Typically they are connected to the external disconnect box for compressors, heat pumps and mini-split units. For indoor furnace or air handler protection they are installed at the disconnect switch. MARS SPD's are type 1 and 2 approved which means they can be installed on the line or load side for ease of wiring. The MARS unit can be installed on 120V and 240V systems. Always refer to the included wiring instructions and follow safety instructions.

Technical Terms

- MOV – Metal Oxide Varistor – Susceptible to destructive thermal failure.
- TPMOV – Thermally Protected Metal Oxide Varistor. Disconnects prior to thermal failure.
- U.L. 1449 3rd Edition – Covers all Surge Suppression Devices and outline performance and safety requirements.
- Surge Arrestor – A term that is no longer relevant. Sure Suppression Device is the current term used in accordance with U.L. 1449 3rd edition.
- **Type 1 SPD**
Devices previously known as Secondary Surge Arresters, Type 1 SPDs are permanently connected devices intended for installation between the secondary of the service transformer and the line side of the main service breaker, but are also suitable for installation on the load side as well. Type 1 SPDs are designed and rated to be installed without the requirement for an external overcurrent protective device.
- **Type 2 SPD**
Devices previously known as Transient Voltage Surge Suppressors, Type 2 SPDs are permanently connected devices intended for installation on the load side of the main service breaker; including SPDs located at the branch panel.