



PATENTS AND PATENTS PENDING

# NOsparc® DATA SHEET

*Preliminary Revised*

- MHXDC1F048**
- MHXDC1F036**
- MHXDC1F024**
- MHXDC1F012**

## PRODUCT NOTES

Connect NOsparc® DC arc suppressor across relay, contactor, or snap action switch contacts only!

NOsparc® DC arc suppressor capabilities will be fully effective even under mixed load conditions.

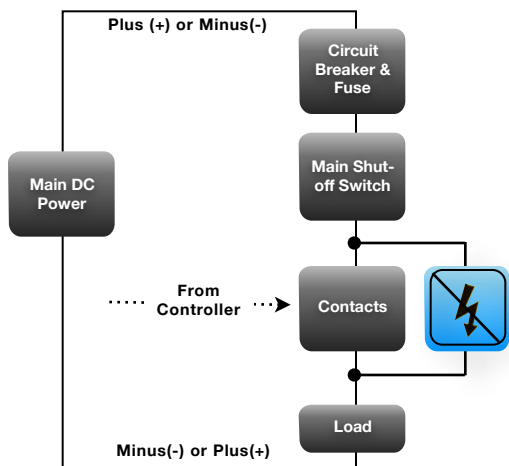
NOsparc® DC arc suppressor has been designed to support the following DC power load categories:

- General Purpose
- Capacitive
- Motor
- Resistive
- Inductive
- Tungsten

Additional information and a full User's Manual for this product may be found on our website:

[www.ArcSuppressionTechnologies.com](http://www.ArcSuppressionTechnologies.com)

## ABBREVIATED WIRING DIAGRAM NOsparc® ARC SUPPRESSOR

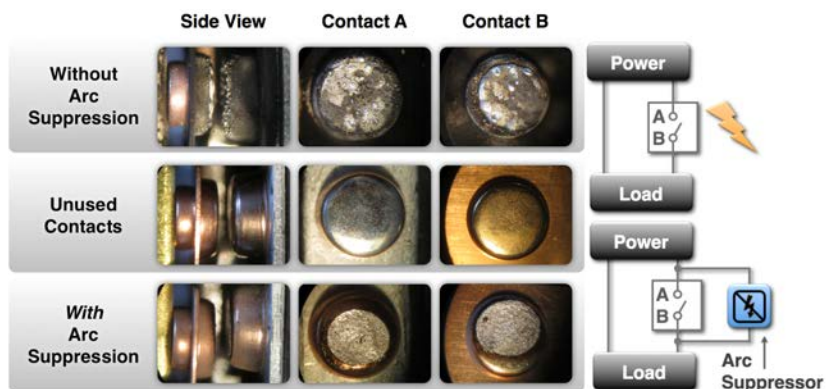


## PRODUCT OVERVIEW

NOsparc® DC contact arc suppressors (DC power applications) are a family of two-terminal contact arc suppressors that attach across the contact points of a power relay, contactor or snap action switch. The products are designed to protect the contact points from premature destruction due to contact current arcing.

NOsparc DC arc suppressors have a simple, elegant and straightforward design that allow them to be connected across the two contact terminals on existing products and equipment with just two wires! The products are tolerant of harsh environments.

During normal operation, the NOsparc DC arc suppressor detects the nascent arc as it forms and suppresses its energy. The result is a low energy "arplet" with arc energy of only a few  $\mu\text{J}$  as opposed to a full contact arc that is hundreds of mJ (or more).



The pictures above show how use of a NOsparc arc suppressor can keep contact points in nearly new condition. In fact, arc suppression both improves relay operation and extends the inevitable end-of-life of a standard relay, contactor or snap action switch by a factor of 100 times or more under normal, specified relay operating conditions (please refer to the relay or contactor specifications).

FEATURES	BENEFITS
<b>Extends Contact Life 100X or More</b>	<ul style="list-style-type: none"> <li>• Reduced maintenance, repair and replacement costs</li> <li>• Dramatic reduction in total cost of ownership</li> </ul>
<b>Small Footprint</b>	<ul style="list-style-type: none"> <li>• Easy adaptation to existing infrastructure</li> <li>• Quick and simple retrofitting process</li> <li>• Minimal impact to design due to size of the hardware solution</li> </ul>
<b>Only 2 Wires</b>	<ul style="list-style-type: none"> <li>• No external power required</li> <li>• No special or complicated assembly requirements or associated connections to auxiliary equipment</li> <li>• "Connect &amp; Forget" operation</li> </ul>
<b>Low Power</b>	<ul style="list-style-type: none"> <li>• Negligible impact on energy costs</li> <li>• Increased reliability</li> </ul>
<b>Green</b>	<ul style="list-style-type: none"> <li>• RoHS compliant</li> <li>• Reduced Ozone and other pollutants</li> </ul>
<b>Lower EMI</b>	Up to 50dB reduction of EMI over 30MHz to 1GHz range

## INDUSTRIES

- COMMERCIAL
- INDUSTRIAL
- DEFENSE

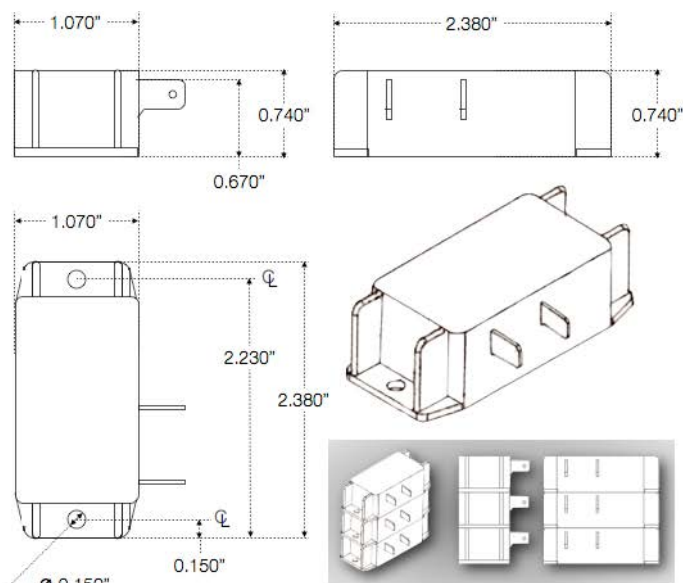
# NOsparc® DATA SHEET

*MHXDC1F012 • MHXDC1F024 • MHXDC1F036 • MHXDC1F048*

## SPECIFICATIONS

NOsparc® MODEL	MHXDC1F012	MHXDC1F024	MHXDC1F036	MHXDC1F048
ARC SUPPRESSION	duration: 5ms (typical)			
CIRCUITS (POLES)	one (1) unit per pole (multiple units required for multi-pole relays)			
CIRCUIT BREAKER / FUSE	50A maximum: resistive and general purpose loads 20A maximum: motor loads 15A maximum: tungsten, inductive, and capacitive loads			
CLAMPING VOLTAGE	180V (typical at 1mA)			
CONTACT CYCLING	maximum cycle time: per relay specifications (DO NOT EXCEED relay operating specifications)			
DIMENSIONS	length: 2.380in (6.045cm) width: 1.070in (2.718cm) height: 0.740in (1.880cm)			
ENVIRONMENTAL	operating temperature: -40°C to 85°C (-40°F to 185°F) storage temperature: -50°C to 125°C (-58°F to 257°F) humidity: 5% to 95% (non-condensing)			
INTERFACE WIRES	across contacts: two (2) (W1/W2 non-polarized)			
LEAKAGE CURRENT	2mA (nominal)			
MOUNTING	orientation: any number of holes: two (2) hole diameter: 0.150in (#6 screw) (3.81mm)			
OPERATING VOLTAGE	12Vdc (nominal)	24Vdc (nominal)	36Vdc (nominal)	48Vdc (nominal)
POWER-ON	load current passthrough: 5ms (typical)			
POWER TYPE	DC (direct current)			
RELIABILITY	MTBF: 438,000 days (MIL-HDBK-217F)			
TERMINATION	0.250in quick connect male terminals (non-insulated)			
TERMINATION MATE	0.250in quick connect female terminals (fully insulated)			
WEIGHT	net weight: 1oz (28g)			
WIRE GAUGE	wire length 0in to 12in: #16AWG (wire length between Nosparc™ and contact terminals) wire length 12in to 24in: #14AWG (wire length between Nosparc™ and contact terminals) wire length 24in to 36in: #12AWG (wire length between Nosparc™ and contact terminals) (NOTE: Wire lengths over 3 feet are NOT recommended)			

## PANEL MOUNTING AND CASE DRAWINGS



**NOTE:** Units may be stacked up to three (3) units high by threading a #6 screw through the mounting holes in the flanges..

## PART NUMBER AND PRODUCT DESCRIPTION

(Example shown: NOsparc® MHXDC1F048)

