



PATENT PENDING

# NOsparc™ DATA SHEET

Preliminary Revised

**MHXAC1F120**  
**MHXAC1F240**  
**MHXAC1F480**

## PRODUCT NOTES

Connect NOsparc™ MHXAC across relay, contactor, or snap action switch contacts only!

NOsparc™ MHXAC capabilities will be fully effective even under mixed load conditions.

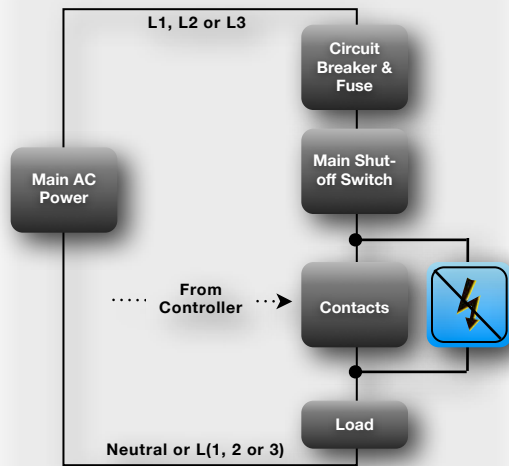
NOsparc™ MHXAC has been designed to support the following AC power load categories:

- General Purpose
- Inductive
- Ballast
- Resistive
- Motor
- Pilot Duty
- Capacitive
- 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

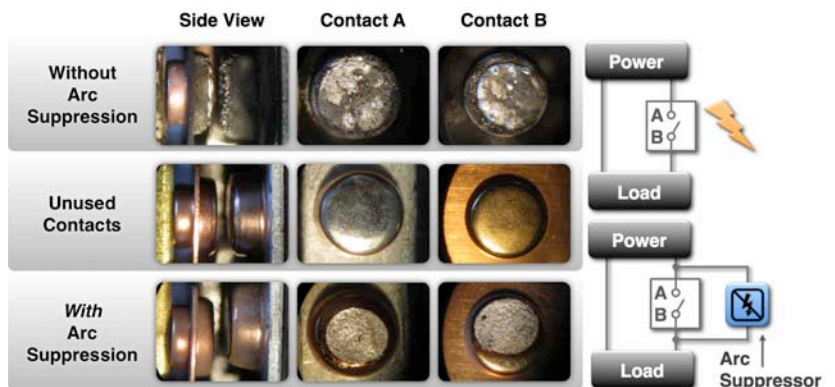


## PRODUCT OVERVIEW

NOsparc™ MHXAC products (AC 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 MHXAC products 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 MHXAC detects the nascent arc as it forms and suppresses its energy. The result is a low energy "arcllet" with arc energy of only a few μJ as opposed to a full contact arc that is hundreds of mJ (or more).



The pictures above show how use of a NOsparc MHXAC 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 neutral connection needed</li> <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>	<ul style="list-style-type: none"> <li>• 15dB reduction of EMI over the range of 30MHz to 1GHz</li> </ul>

## APPLICATIONS

- **COMMERCIAL**
- **INDUSTRIAL**
- **DEFENSE**

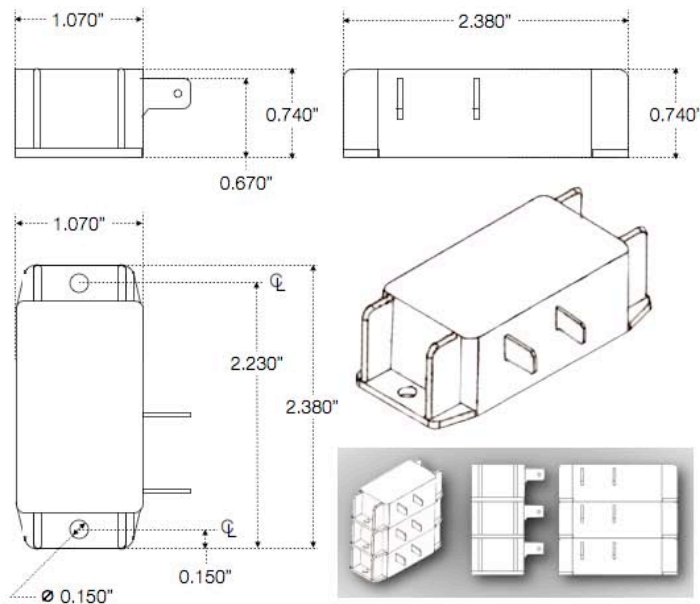
# NOsparc™ DATA SHEET

MHXAC1F120 • MHXAC1F240 • MHXAC1F480

## SPECIFICATIONS

NOsparc™ MODEL	MHXAC1F120	MHXAC1F240	MHXAC1F480
ARC CURRENTS	break: "steady-state" make: "inrush"		
ARC SUPPRESSION	duration: ½ AC power cycle (maximum)		
CIRCUITS (POLES)	one (1) unit per pole (multiple units required for multi-pole relays)		
CIRCUIT FUSE RATING	maximum: 50A (do not exceed fuse rating)		
CLAMPING VOLTAGE	205V (typical at 1mA)	410V (typical at 1mA)	820V (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)		
FREQUENCIES	typical operating frequencies: 50Hz / 60Hz		
INTERFACE WIRES	across contacts: two (2) (W1/W2 non-polarized)		
LEAKAGE CURRENT	4mA (nominal)	6mA (nominal)	10mA (nominal)
MOUNTING	orientation: any number of holes: two (2) hole diameter: 0.150in (#6 screw) (3.81mm)		
OPERATING VOLTAGE	120Vac (nominal)	240Vac (nominal)	480Vac (nominal)
POWER-ON	load current passthrough: ½ cycle (maximum)		
POWER TYPE	AC (alternating current)		
RELIABILITY	MTBF: 50,000 years (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

NOsparc™ Part Number: **MHXAC1F480**

M H X A C 1 F 4 8 0

Maximum Circuit  
Fuse Rating  
MH = 50A

Power Type  
AC = AC power

Connector  
F = FASTON

Case  
X = panel mount

Poles  
1 = 1-phase

Voltage  
120 = 120V  
240 = 240V  
480 = 480V

