NOsparc® MGXDC1F250
DATA SHEET

PRODUCT OVERVIEW
The NOsparc® MGXDC1F250 contact arc suppressor (DC power applications) protects, cleans, and restores the contact points of relays and contactors. This improves their overall performance and extends contact life to the mechanical life of the relay or contactor.

The NOsparc MGXDC1F250 arc suppressor is designed to suppress contact arcing from 12Vdc to 250Vdc. This NOsparc DC arc suppressor connects across the contact terminals on existing products and equipment using only two wires.

Connect MGXDC1F250 across contacts only! NOsparc DC arc suppressors will support the following DC power load categories:

- General Purpose
- Capacitive
- Motor
- Resistive
- Inductive
- Tungsten
- Transportation
- & Automation

NOsparc is effective even under mixed load conditions.

FEATURES AND BENEFITS

- **EXTENDS CONTACT LIFE**
  - CONTACTS LAST TO MECHANICAL LIFE OF RELAY OR CONTACTOR

- **REDUCES MAINTENANCE, REPAIR, AND REPLACEMENT COSTS**

- **ROHS COMPLIANT**

- **REDUCES CARBON FOOTPRINT**

- **REDUCES GREENHOUSE GASSES**

- **EASY INSTALLATION**
  - ONLY 2 WIRES
  - NO EXTERNAL POWER REQUIRED

- **SMALL FOOTPRINT**
  - EASILY ADAPTED TO EXISTING INFRASTRUCTURE
  - QUICK AND SIMPLE PANEL MOUNT RETROFIT PROCESS

- **LOWER EMI**
  - AVERAGE 30dB REDUCTION OF EMI OVER 30MHz TO 1GHz RANGE

DIMENSIONS AND MOUNTING
Panel mounting of an arc suppressor can be accomplished using a #6 screw through the two mounting holes.

**Example of two (2) MGXDC1F250 products on DIN rail clips:**

Optional **DIN rail mounting** (shown left) of up to three (3) stacked MGXDC1F250 products can be accomplished by adding a single DIN rail mounting adaptor (NOT PROVIDED), with a #6 screw to each side of the single arc suppressor or stacked arc suppressors. Accepts a 1in #6 screw for two (2) stacked NOsparc units or a 1¾in #6 screw for three (3) stacked NOsparc units.

This product is manufactured under the following patents: US 8,619,395; US 9,087,653; US 9,423,442; US 9,508,501; US 9,847,185; US 10,134,536; US 10,566,150; US 10,727,005; and US 10,727,010. Other patents pending.

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## CONTACT Specifications

<table>
<thead>
<tr>
<th><strong>ABSOLUTE MAXIMUM CURRENT RATING</strong></th>
<th>75A — this absolute maximum current rating also represents the maximum allowable Locked Rotor Amperage (LRA) for motor loads and the cold filament inrush current for tungsten loads</th>
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<tr>
<td><strong>ARC SUPPRESSION</strong></td>
<td>duration: 1ms (typical)</td>
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<tr>
<td><strong>CIRCUITS (CONTACTS)</strong></td>
<td>one (1) NOsparc per contact (multiple NOsparc units required for multi-contact relays)</td>
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</table>
| **CIRCUIT BREAKER / FUSE (MAXIMUM)**| 50A for resistive loads  
10A for all other loads                                                                                                                                 |
| **CLAMPING VOLTAGE**                | 330V (typical at 1mA)                                                                                                                                                           |
| **CYCLING**                         | maximum cycle time: per relay specifications (DO NOT EXCEED relay operating specs)                                                                                             |
| **LEAKAGE CURRENT**                 | 0.5mA (nominal)                                                                                                                                                                   |
| **OPERATING VOLTAGE**               | 12Vdc to 250Vdc (nominal +/-10%)                                                                                                                                                 |
| **TERMINATION**                     | across contacts: two (2) 0.250" insulated quick connect terminals                                                                                                               |

## GENERAL Specifications

| **DIMENSIONS**                       | length: 2.380in (6.045cm)  
width: 1.070in (2.718cm)  
height: 0.740in (1.880cm) |
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<td><strong>ENVIRONMENTAL</strong></td>
<td>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)</td>
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<tr>
<td><strong>INTERFACE WIRES</strong></td>
<td>across contacts: two (2) (W1 / W2, non-polarized)</td>
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| **MOUNTING**                         | orientation: any  
number of holes: two (2)  
hole diameter: 0.150in (#6 screw) (3.81mm) |
| **MTBF / RELIABILITY**               | 800,000 hours (MIL-HDBK-217F)                                                                                                                                                         |
| **POWER-ON**                         | load current passthrough: 1ms                                                                                                                                                         |
| **POWER TYPE**                       | DC (direct current)                                                                                                                                                                   |
| **WEIGHT**                           | 1oz (28g)                                                                                                                                                                              |
| **WIRE GAUGE**                       | wire length between Nosparc and contact terminals: up to 24in: #14AWG (minimum); 24in to 36in: #12AWG (minimum)  
NOTE: DO NOT use wire lengths over 3 feet |

### SYSTEM WIRING

One NOsparc connects in parallel across each contact shown. Make sure installation uses accepted proper crimping standards and is compliant with all safety regulations.

The MGXDC1F250 is non-polarized.

Right: wiring diagram

### IMPORTANT NOTE

NOsparc will be damaged if connected across the following locations where there is NO arcing: i.e., LOAD, POWER, and/or COIL.

UL Recognized Component, certified as "Component - Auxiliary Devices" Industrial Control Equipment for both Canada and the United States, per UL 508 and CSA-C22.2 No 14.