

NOsparc® GCLAC3F480 DATA SHEET



**HVACR &
Automation**

Additional information and a full User Manual are available on our website: www.ArcSuppressionTechnologies.com

PRODUCT OVERVIEW

The NOsparc® GCLAC3F480 AC contact arc suppressor (AC power applications) protects the contact points of 3-phase relays and contactors, which extends their life and improves their overall performance along with the equipment these switches control.

The NOsparc GCLAC3F480 arc suppressor is designed to suppress contact arcing from 110Vac to 480Vac. NOsparc AC arc suppressors connect across the contact terminals on existing products and equipment using two wires per contact, plus a connection to the contactor's AC coil.

NOsparc AC power arc suppressors support the following AC power loads:

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

NOsparc is effective even under mixed load conditions.

FEATURES AND BENEFITS

EXTENDS CONTACT LIFE 10X OR MORE

- Reduced maintenance, repair and replacement costs
- Dramatic reduction in total cost of ownership

GREEN

- RoHS compliant
- Reduced carbon footprint and greenhouse gasses

LOW POWER

- Improves contact switching transition efficiency 20x

EASY INSTALLATION

- Arc suppression connected in parallel across each contact
- AC coil power connection draws approx. 2mA_{rms} from controller

SMALL FOOTPRINT

- Easily adapted to existing infrastructure
- Quick and simple panel mount retrofit process
- Minimal impact to design due to size of the hardware solution

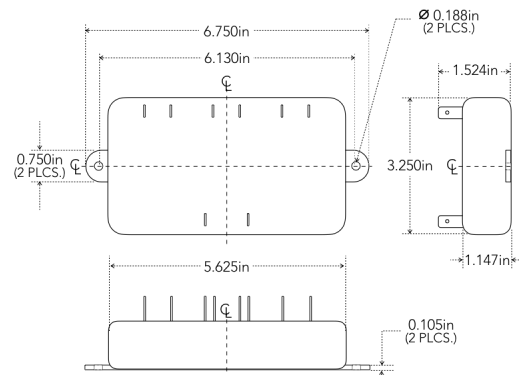
LOWER EMI

- Average 30dB reduction of EMI over 30MHz to 1GHz range

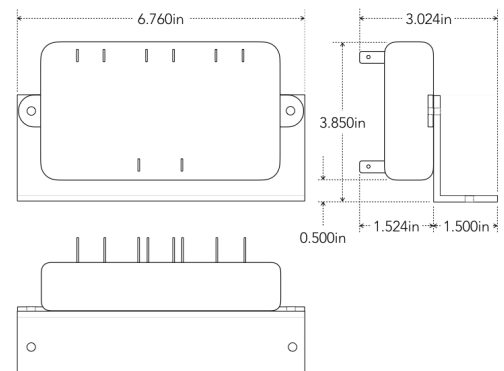
DIMENSIONS AND DRAWINGS

Note that the GCLAC3F480 comes with an "L"-shaped mounting bracket screws that may be used as needed for installation.

Product dimensions without mounting bracket:



Product dimensions with mounting bracket and screws:



LED INDICATOR LIGHTS

READY Lights:

3 **green** LEDs will light when arc suppressor installed in a powered circuit and contacts are open.



ARMED Lights:

3 **red** LEDs will light when the contactor's coil is on and arc suppressor is ready for operation.



Any LED configuration than those shown above indicate malfunction.

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; US10,134,536; and other patents pending

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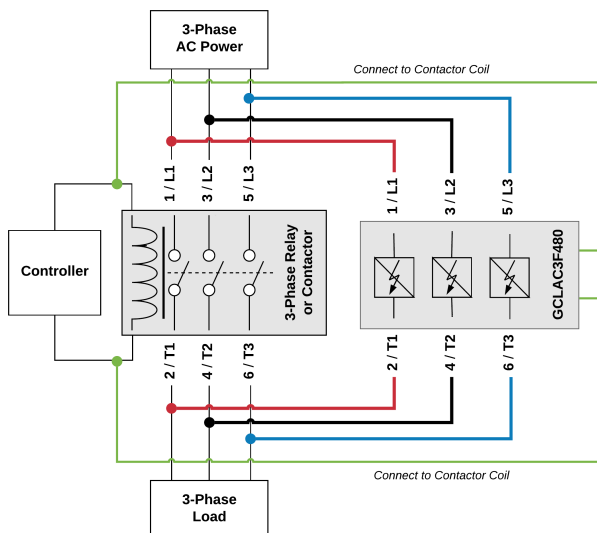
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SPECIFICATIONS

CONTACT Specifications	
ABSOLUTE MAXIMUM CURRENT RATING	235A(rms) 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
ARC SUPPRESSION	duration ½ AC power cycle (maximum)
CIRCUITS	one (1) arc suppressor for each contact of a 3-phase contactor or relay, 3 total
CIRCUIT BREAKER / FUSE (MAXIMUM)	100A for general purpose, heater, and resistive loads, 50A for inductive, motor, and pilot duty loads 20A for ballast, capacitive, and Tungsten loads
CLAMPING VOLTAGE	820V (typical at 1mA)
CYCLING	maximum cycle time: per relay specifications (DO NOT EXCEED relay operating specs)
LEAKAGE CURRENT	9mA @ 110 Vac to 10mA @ 480Vac
OPERATING VOLTAGE	110Vac to 480Vac (nominal +/-15%)
PHASE TO PHASE TERMINAL DIELECTRIC ISOLATION VOLTAGE	4000Vac
TERMINATION	across contacts: 0.250" insulated quick connect terminals per contact/phase, six (6) total
COIL Specifications	
CIRCUITS	one (1) AC coil connection
CLAMPING VOLTAGE	470V (typical at 1mA) <i>below: GCLAC3F480 connected to three-phase contactor</i>
OPERATING CURRENT	2mA
OPERATING VOLTAGE	110Vac to 480Vac (nominal +/-15%)
COIL TO PHASE TERMINAL DIELECTRIC ISOLATION VOLTAGE	277Vac
TERMINATION	across coil: 0.250" insulated quick connect terminals for the AC coil connect, two (2) total
GENERAL Specifications	
DIMENSIONS (WITHOUT BRACKET)	length: 6.750in (17.145cm) width: 3.250in (8.255cm) height: 1.524in (3.871cm)
DIMENSIONS (WITH BRACKET)	length: 6.760in (17.170cm) width: 3.850in (9.779cm) height: 3.024in (7.681cm)
ENVIRONMENTAL	operating temperature: -40°C to 75°C (-40°F to 167°F), storage temperature: -50°C to 125°C (-58°F to 257°F), humidity: 5% to 95% (non-condensing)
MOUNTING	orientation: any number of holes: two (2) hole diameter: 0.188in (#10 screw) (4.775mm)
MTBF / RELIABILITY	800,000 hours (MIL-HDBK-217F)
POWER FREQUENCIES	typical operating frequencies: 50Hz / 60Hz
POWER TYPE	AC (sinusoidal alternating current)
WEIGHT	5.75oz (165g)
WIRE GAUGE	wire length between Nosparc and contact terminals: 0in to 24in: #14AWG (minimum); 24in to 36in: #12AWG (minimum). NOTE: DO NOT use wire lengths over 3 feet

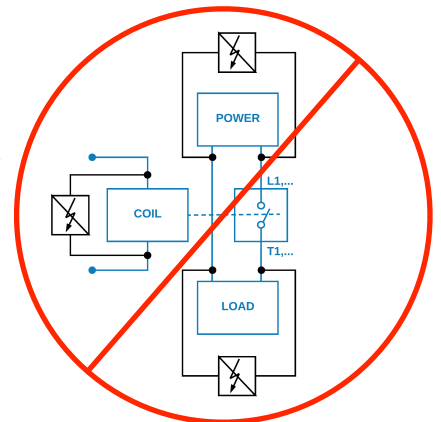
SYSTEM WIRING

Arc suppressor connects in parallel across each respective contact (pole) as shown, with a separate connection to the contactor AC Coil. Make sure installation uses accepted proper crimping standards and is compliant with all safety regulations.



IMPORTANT NOTE

NOsparc will be damaged if arc suppressor connected across the following locations where there is NO arcing: 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.