

NOsparc® GCKAC3T480 DATA SHEET



HVACR & Automation

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

PRODUCT OVERVIEW

The NOsparc® GCKAC3T480 contact arc suppressor (AC power applications) protects, cleans, and restores the contact points of 3-phase relays and contactors. This improves their overall performance and extends contact life to the mechanical life of the relay or contactor.

The NOsparc GCKAC3T480 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 coil.

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

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

NOsparc is effective even under mixed load conditions.

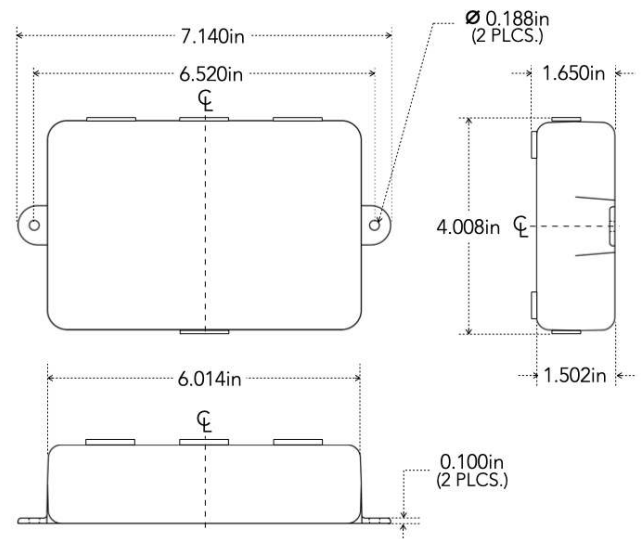
BENEFITS

- **EXTENDS CONTACT LIFE**
 - RELAY OR CONTACTOR ELECTRICAL LIFE EXTENDS TO MECHANICAL LIFE
- **CLEANS, PROTECTS, AND RESTORES CONTACTS**
 - REDUCES MAINTENANCE, REPAIR, AND REPLACEMENT COSTS
- **LOWERS EMI**
 - AVERAGE 30dB REDUCTION OF EMI OVER 30MHz TO 1GHz RANGE
- **REDUCES GREENHOUSE GASSES & CARBON FOOTPRINT**
 - ELIMINATES OZONE AND OTHER ARC-CAUSED PARTICULATE MATTER
 - FEW OR NO REPLACEMENT CONTACTORS OR RELAYS REQUIRED

FEATURES

- **EASY INSTALLATION**
 - ARC SUPPRESSOR CONNECTS IN PARALLEL ACROSS EACH CONTACT
 - QUICK AND SIMPLE PANEL-MOUNT RETROFIT PROCESS
- **WORKS WITH ANY CONTACTOR OR RELAY**
 - EASILY ADAPTED TO EXISTING INFRASTRUCTURE

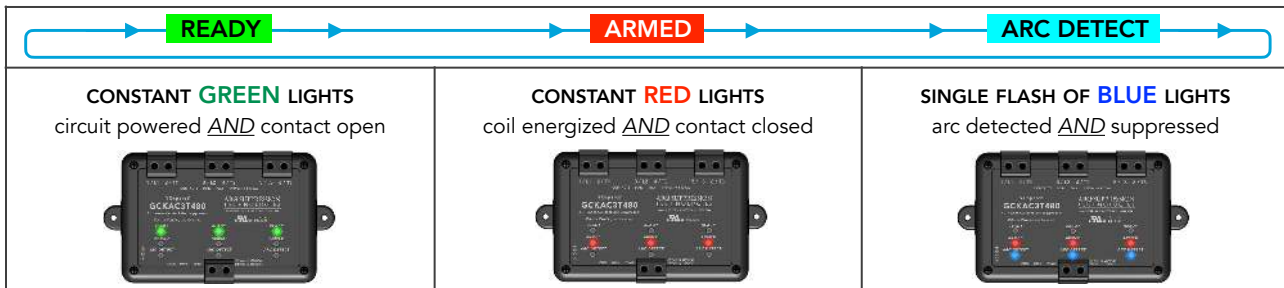
DIMENSIONS AND DRAWINGS



LED INDICATOR LIGHTS

The GCKAC3T480 has three indicator lights for each contact: "READY" (green), "ARMED" (red), and "ARC DETECT" (blue).

NORMAL OPERATION of the product is indicated by the following sequence of displays as the contact cycles:



Light patterns other than those shown above indicate either improper installation or product malfunction (see WARNINGS on page 2 of User Manual).

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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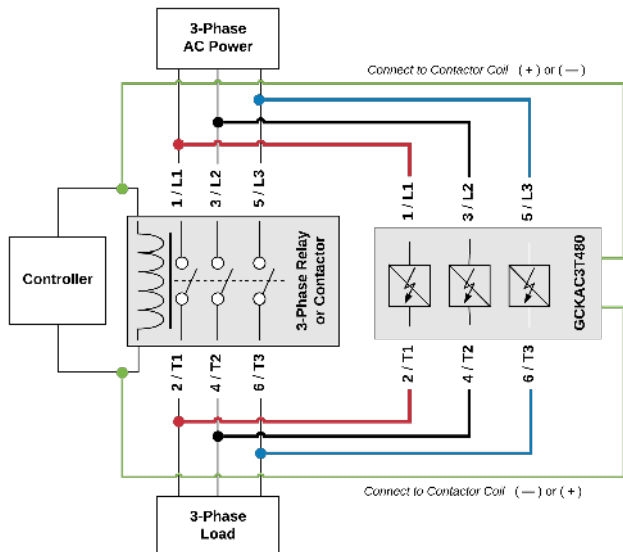
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SPECIFICATIONS

CONTACT Specifications	
ABSOLUTE MAXIMUM CURRENT RATING **DO NOT EXCEED**	470A _{rms} at 60Hz / 390A _{rms} at 50Hz — 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)
CIRCUIT BREAKER / FUSE (MAXIMUM)	200A for general purpose, heater, and resistive loads, 100A for inductive, motor, and pilot duty loads 40A for ballast, capacitive, and Tungsten loads
CLAMPING VOLTAGE	820V (typical at 1mA)
CYCLING	maximum cycle time: per relay specifications (DO NOT EXCEED relay or contactor operating specs)
LEAKAGE CURRENT	7mA at 480Vac
OPERATING VOLTAGE	110Vac to 480Vac (nominal +/-10%)
PHASE TO PHASE TERMINAL DIELECTRIC ISOLATION VOLTAGE	3750Vac
TERMINATION	across contacts: 8-14 AWG stranded copper wire, insulation stripped 3/8"-½" maximum, screw - rising cage clamp style, torque screw to 1.36Nm (12Lb-in); six (6) total
WIRE GAUGE	wire length between NOsparc and contact terminals: #12AWG up to 24in; #10AWG up to 36in DO NOT use wire lengths over 3 feet
COIL Specifications	
CIRCUITS	one (1) coil connection; either AC or DC (non-polarized)
CLAMPING VOLTAGE	470V (typical at 1mA)
OPERATING CURRENT	26mA (nominal +/- 10 %)
OPERATING VOLTAGE	24Vac to 240Vac (nominal +/-10%); 24Vdc to 250Vdc (nominal +/-10%)
COIL TO PHASE TERMINAL DIELECTRIC ISOLATION VOLTAGE	3750Vac
TERMINATION	across contacts: 12-18 AWG stranded copper wire, insulation stripped 3/8"-½" maximum, screw - rising cage clamp style, torque screw to 1.36Nm (12Lb-in); two (2) total
WIRE GAUGE	wire length between NOsparc and coil terminals: #18AWG up to 72in; DO NOT use wire lengths over 6 feet
GENERAL Specifications	
DIMENSIONS	length: 7.140in (18.136cm) width: 4.008in (10.180cm) height: 1.65in (4.191cm)
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	14.2oz (402g)

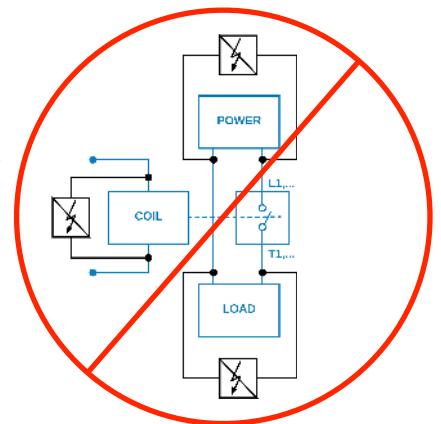
SYSTEM WIRING

Arc suppressor connects in parallel across each respective contact (phase) as shown, with a separate connection to the contactor coil. Make sure installation uses accepted proper wiring 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.



left: GCKAC3T480 connected to three-phase contactor



UL Recognized Component, Industrial Control Equipment NKCR2 "Auxiliary Devices - Component" for the United States, per UL 508-18th Ed. and NKCR8 "Auxiliary Devices Certified for Canada - Component", per CSA-C22.2 No. 14-18, 13th Ed.