

1027A

Single-Phase Zero-Cross SCR Power Controller

FEATURES

- Distributive Zero-Cross Control
- Sync-Guard™
- Trans-Guard™
- Line Voltage Compensation
- Operates at 50 or 60 Hz

APPLICATIONS

- Resistive Loads

DESCRIPTION

The model 1027A is a single phase, zero-cross SCR power controller. The 1027A linearly controls, with respect to a command signal, the electrical power applied to a single-phase resistive load. The controller can be configured to accept all standard industrial command signals as well as many non-standard commands.

The model 1027A is available with current ratings from 50 to 160 amperes, and nominal voltage ratings from 120 to 575 Vac. The controller will operate without adjustment or modification on 50 or 60 Hertz.



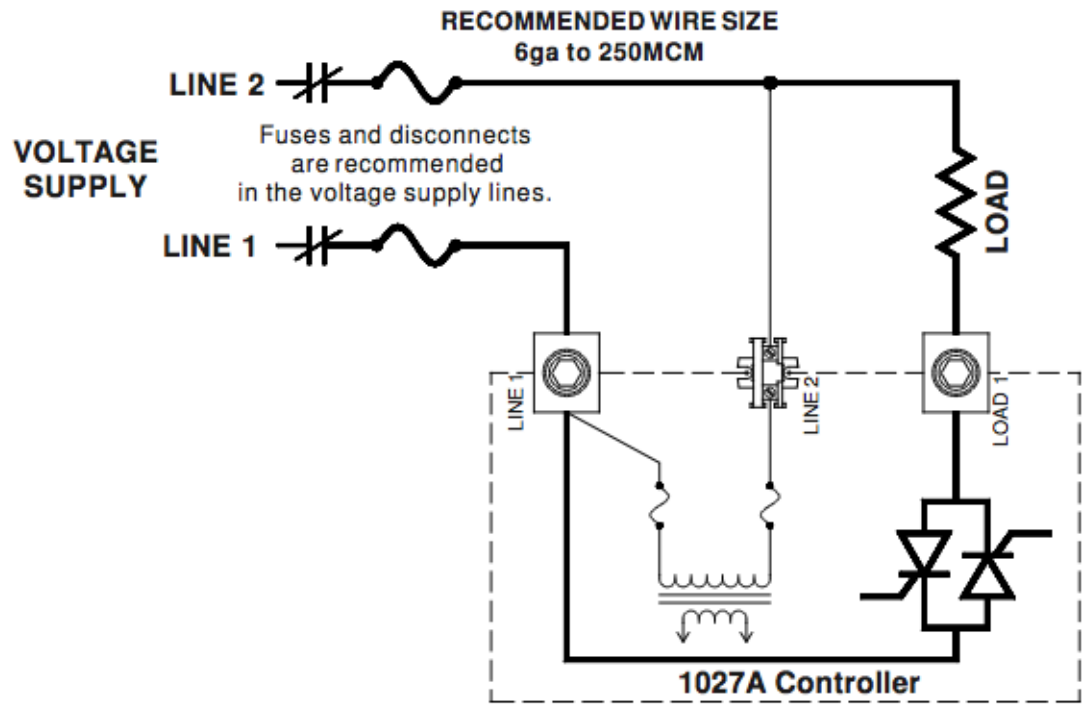
LISTED 3L32
INDUSTRIAL
CONTROL
EQUIPMENT



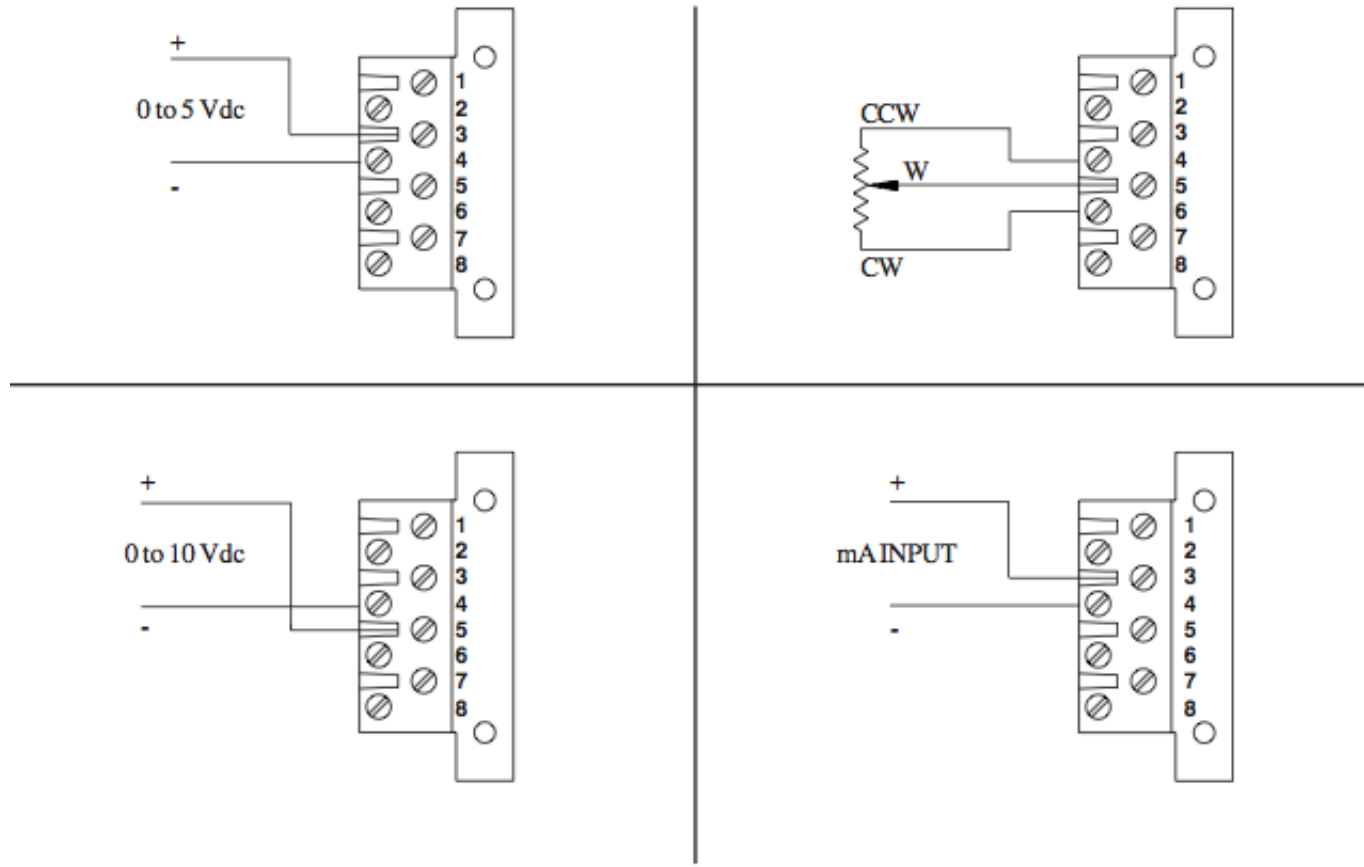
CERTIFIED
BY UL TO
CANADIAN
NATIONAL
STANDARDS



WIRING



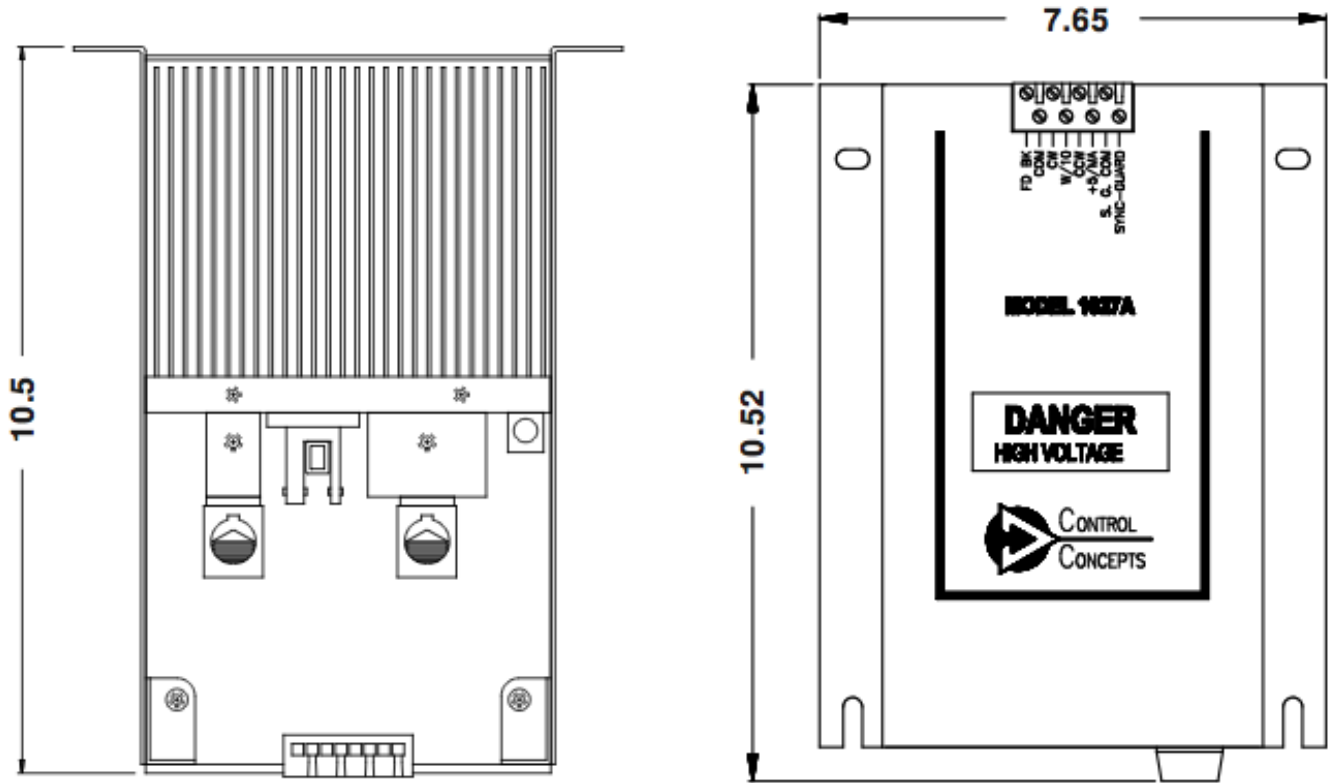
COMMAND SIGNAL CONNECTIONS



SPECIFICATIONS

Control Mode	Single-phase, distributive zero-cross control.															
Current Rating	The “[xxx]A” term within the model number specifies the maximum continuous RMS current rating at the maximum operating ambient temperature of 55°C															
Command Signal	<table border="0"> <tr> <td>Command signal</td> <td>Input Resistance</td> </tr> <tr> <td>1/5 mA</td> <td>1200 ohms</td> </tr> <tr> <td>4/20 mA</td> <td>300 ohms</td> </tr> <tr> <td>0-10 Vdc</td> <td>240K ohms</td> </tr> <tr> <td>0-5 Vdc</td> <td>120K ohms</td> </tr> <tr> <td>Potentiometer</td> <td>240K ohms</td> </tr> </table> <p>(1K recommended; 20K permissible 1/2 watt) (Other standard commands may be available.)</p>	Command signal	Input Resistance	1/5 mA	1200 ohms	4/20 mA	300 ohms	0-10 Vdc	240K ohms	0-5 Vdc	120K ohms	Potentiometer	240K ohms			
Command signal	Input Resistance															
1/5 mA	1200 ohms															
4/20 mA	300 ohms															
0-10 Vdc	240K ohms															
0-5 Vdc	120K ohms															
Potentiometer	240K ohms															
Power Circuit	Inverse parallel silicon controlled rectifiers (SCRs)															
Line Operating Voltage	120, 208, 240, 277, 380, 415, 480, or 575 Vac. +10 -15%, 50/60 Hertz.															
Ambient Temperature	<table border="0"> <tr> <td>Operating</td> <td>0 to 55°C</td> </tr> <tr> <td>Storage</td> <td>-40 to 80°C</td> </tr> </table>	Operating	0 to 55°C	Storage	-40 to 80°C											
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Storage	-40 to 80°C															
Humidity	0 TO 95% Non Condensing															
Isolation	Isolation between power circuit, command signal and ground is greater than 2500 Vrms.															
Linearity	The load power is linear within 2% of span with respect to the command signal.															
Voltage Compensation	The load power remains constant within 2% of span for line voltage variations of +10% and -15%.															
Control Range	0 to 99.5% of supply voltage.															
SCR Voltage Rating	1400 volts peak															
dv/dt and Transient Voltage Protection	<p>Dv/dt rating exceeds 200 volts per microsecond. A snubber circuit is provided to protect against high frequency transients (dv/dt). An M.O.V. is provided to protect against high voltage transients.</p>															
Zero and Span	Adjustment range is ±20% of span.															
Command Indicator	An LED glows when the SCRs are turned on.															
Heat Dissipation	1.5 watts per amp of SCR current.															
SCR Surge Current and I2t Rating	<table border="0"> <tr> <td colspan="3" style="text-align: center;">Peak 1 Cycle Non-Repetitive</td> </tr> <tr> <td>Controller rating</td> <td>I_{ism} @ 125°C</td> <td>I2t rating @ 125°C</td> </tr> <tr> <td>50 & 80 Amps</td> <td>1750 Amps peak</td> <td>15,000 A2s</td> </tr> <tr> <td>120 Amps</td> <td>1900 Amps peak</td> <td>18,000 A2s</td> </tr> <tr> <td>160 Amps</td> <td>4000 Amps peak</td> <td>80,000 A2s</td> </tr> </table>	Peak 1 Cycle Non-Repetitive			Controller rating	I_{ism} @ 125°C	I2t rating @ 125°C	50 & 80 Amps	1750 Amps peak	15,000 A2s	120 Amps	1900 Amps peak	18,000 A2s	160 Amps	4000 Amps peak	80,000 A2s
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120 Amps	1900 Amps peak	18,000 A2s														
160 Amps	4000 Amps peak	80,000 A2s														
Approximate Shipping Weight and Box Size	14-14-10” Box Size															

DIMENSIONS



ORDERING INFO

1027A - (xxx)V - (xxx)A - XXX

Model 1027A

Command Signal: Most standard commands.

Max. Operating Current Frame Rating: 50, 80, 120 or 160 Amps.

Operating Voltage Choice of : 120, 208, 240, 277, 380, 415, 480, or 575 Vac.

CONTACT/ORDERING INFORMATION

TEL: (952) 474-6200 | (800) 765-2799
 FAX: (952) 474-6070 | www.ccipower.com
 8077 Century Blvd, Chanhassen, MN 55317, USA