



# CONTROL CONCEPTS

# 1021B

## Features

- Fast Cycling Distributive Zero-Cross Control
- Sync Guard
- Line Voltage Compensation
- Increased Heater Life
- Compact Size
- Diagnostic LED
- Isolated Heatsink and Command Signal

## Description

The model 1021B is a single-phase, zero-cross SCR power controller that controls the electrical power applied to a single phase load by fast cycling, distributive zero-cross operation of a pair of SCR's. The power applied to the load is linear with respect to the command signal. Available command signals include 0/5Vdc, 0/10Vdc, or potentiometer. The model 1021B is available with current ratings from 10 to 70 amps and voltage ratings from 120 to 575Vac.

The model 1021B has Sync-Guard, a feature which reduces the possibility of two or more controllers operating synchronously. When more than one model 1021B is operating off of the same line, Sync-Guard can minimize the possibility of all controllers turning on and off simultaneously.

The model 1021B is a compact and economical power control solution for industrial applications that require high reliability and long life. The fast solid state switching of the model 1021B provides superior performance over relays, contactors and other slower cycling controllers by reducing temperature variations associated with the longer ON/OFF cycles of those devices. The result is a more precise control of the heating process and extended heater life. Zero-cross control generates minimal RFI noise, virtually eliminating the possibility of interference with other electronic equipment. Line voltage compensation greatly reduces load power variations that result from line voltage changes. This feature provides a more constant load power independent of line voltage variations.

## Single-Phase Zero-Cross SCR Power Controller



## Applications

- Electric Ovens, Furnaces, and Kilns
- Environmental Chambers
- Contactor Replacement
- Resistance Heating
- Platen Heaters
- Extruders

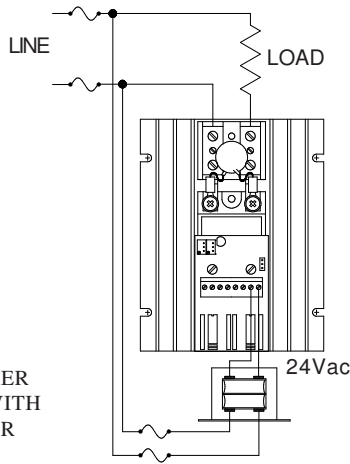


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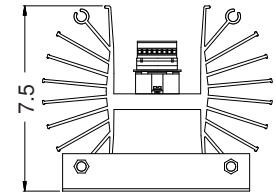
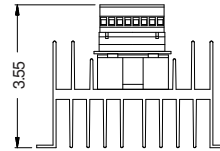
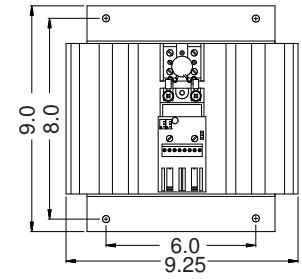
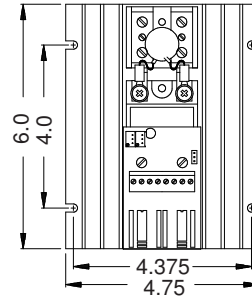
CERTIFIED  
BY UL TO  
CANADIAN  
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STANDARDS

## Wiring



## Dimensions

(inches)



10 to 40 AMP

70 AMP

## Specifications

<b>Control Mode</b>	Single-phase, zero-cross distributive control of the load power.
<b>Command Signal</b>	0/5Vdc, 0/10Vdc, potentiometer (1k min.). Input impedance; 0/5Vdc 100k, 0/10Vdc and potentiometer 200k.
<b>Control Range</b>	0 to 100% of line voltage.
<b>Linearity</b>	Load power is linear with respect to the command signal.
<b>Zero and Span</b>	User adjustable, multi-turn pots, over a range of +/- 20% of span. Factory preset.
<b>Isolation</b>	Dielectric strength, input/output and load voltage/heatsink: 2500V(RMS)
<b>Mounting</b>	Panel mount. Heatsink fins vertical.
<b>Line Voltage</b>	120, 240, 480, and 575 Vac +10%, -15%, 50/60 Hz. Other voltages available.
<b>Line/Load Connections</b>	Compression lugs accept #2 to #14 Copper or #2 to #8 Aluminum.
<b>Load Current</b>	Models available with current ratings of 10, 20, 30, 40 or 70 Amps.
<b>dv/dt and Transient Voltage</b>	200 volts/microsecond minimum. Uses a dv/dt snubber and a metal oxide varistor (MOV).
<b>Cooling</b>	Convection.
<b>Weight</b>	10A thru 40A, 2 pounds; 70A, 6 pounds.
<b>Temperature</b>	Operating: 0 to +55 C (+32 to +131 F) Storage: -40 to +80 C (-40 to +176 F)
<b>Heat Dissipation</b>	1.5 Watts per amp of controlled current.
<b>Fusing</b>	Special semiconductor fuses are not required. Class T fuses are recommended to protect controller and load.

## Ordering Information

1021B Single Phase, Zero Cross SCR Power Controller.

Voltage Rating: 12=120V, 24=240V, 48=480V, 57=575V. Other Voltages Available.

Current Rating: 10, 20, 30, 40, or 70 Amps.

Command Signal: 0/5Vdc, 0/10Vdc, or Potentiometer. Other commands available.

1021B — 48 — 40 — 0/10V

## Complementary Products

Control Concepts, Inc., with a full range of standard and custom SCR power controllers and signal conditioners, has the expertise to meet your specific industrial power control needs. Model 1600-PM6-01 "6•PAK™" delivers six 70 Amp 1021B SCR controllers in 14.5 x 7.5 inches of panel space. All of Control Concepts products are covered by a limited two year warranty.

Call us for answers, and delivery schedules that work.

## Manufactured by



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