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1022 / 1025

Single-Phase Phase-Angle **SCR Power Controller**

FEATURES

- Compact Size
- Soft Start
- Missing Cycle Detection
- Diagnostic Indicator
- Electrical Isolation of command signal from load and line voltages.
- RMS voltage control and line voltage compensation.
- Continuous operation at 55°C

1022



1025



LISTED 3L32 INDUSTRIAL CONTROL EQUIPMENT E136219

CERTIFIED BY UL TO CANADIAN NATIONAL STANDARDS

PROUDLY DESIGNED & ASSEMBLED IN THE USA

APPLICATIONS

- Transformer-Coupled Loads
- Lamp Loads
- Fast-Responding Resistive Loads

DESCRIPTION

The models 1022 and 1025 are phase-angle SCR power controllers for use in single phase applications. The controllers are similar except for command signals. The 1022 accepts 0-5 Vdc, 0-10 Vdc or potentiometer. The 1025 accepts 4-20 mA.

Both controllers control the RMS voltage to the load proportional to the command signal, independent of line voltage changes of +10/-15%.

The command signal is electrically isolated from the line and load voltage.

ADVANTAGES

Size of enclosure and panel space are reduced.

Provides slow application of power, reducing inrush (surge) currents. Prevents nuisance fuse blowing and circuit breaker tripping.

Missing cycle detection prevents transformer saturation or damage due to power interruptions.

Light emitting diode (LED) provides visual indication of controller operation.

Eliminates potential ground loops. Provides safe operation with inexpensive, non-isolated process controllers.

Provides a stable control loop because RMS load voltage is proportional to command signal and is not affected by line voltage variations.

No de-rating required below 55°C.

BENEFITS

Valuable space is saved, enclosure costs are reduced.

Controllers may be used to operate transformer loads or loads that have a low cold resistance such as lamps.

Prevents surge currents often seen in inductive or variable resistance loads.

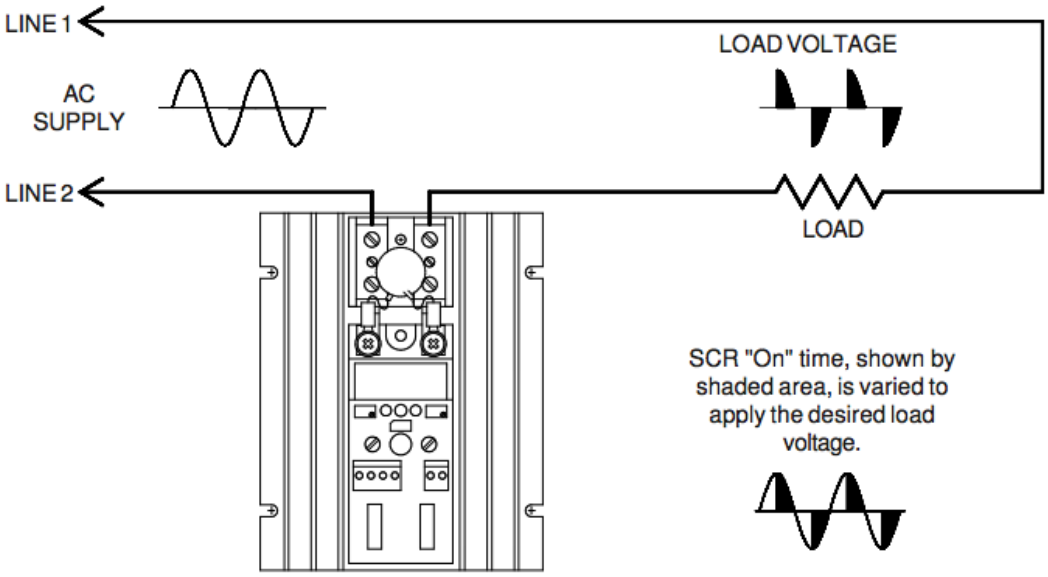
Provides an easily understood means to troubleshoot by inexperienced personnel.
Reduces down-time.

A less costly, more reliable means to achieve good process control.

Product quality remains constant.

Improves reliability and provides long life operation.

PHASE ANGLE OPERATION



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SPECIFICATIONS

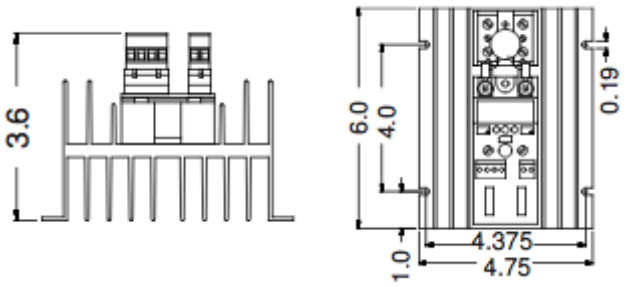
Control Mode	Single phase, Phase-Angle control of RMS load voltage.
Command Signal	Model 1022; 0-5 Vdc, Impedance: 100K 0-10 Vdc or potentiometer. Impedance: 200K Model 1025; 4-20 mA Impedance: 300W
Power Circuit	Inverse parallel silicon controlled rectifier (SCRs)
Operating Voltage	120, 240, 480 or 575 Vac (+10%, -15%) 50/60 Hertz
Ambient Temperature	Operating: 0° to 55°C (32 to 131°F) Storage: -40° to 80°C (-40 to 176°F)
Humidity	0 to 90%, non-condensing.
Isolation	Isolation between power circuit, command signal and ground is greater than 2500 volts RMS.
Linearity	The RMS load voltage is linear within 2% of span of the command signal.
Control Range	0 to 97% of supply voltage.
Soft Start and Missing Cycle Detection	On startup or after momentary power interruptions, the SCR conduction angle (SCR "on" time) is set to zero and then allowed to ramp to the desired value. This prevents surge currents often seen in inductive or variable resistance loads.
dV/dT and MOV Protection Zero and Span Adjustment	200 volts/usec minimum dv/dt snubber circuit and an MOV are used to protect against high frequency transients (dv/dt) and voltage spikes.
Mounting	20% of span.
Diagnostic Indicator	Vertical surface with fins vertical. Because heatsinks are electrically isolated, units may be mounted adjacent to each other.
Heat Dissipation	The intensity of the LED is proportional to the command signal.
Physical	1.2 watts per amp.
Current Rating	Weight; 10 thru 40 Amp; 2lbs, 70 Amp; 12 lbs Dimensions: Refer to installation drawing

Model	Continuous RMS amps	Surge Current (amps)	
		Peak 1 Cycle	RMS 1 Second
1022/25-XX-10	10	120	22
1022/25-XX-20	20	250	40
1022/25-XX-30	30	625	80
1022/25-XX-40	40	1000	150
1022/25-XX-70	70	1000	150

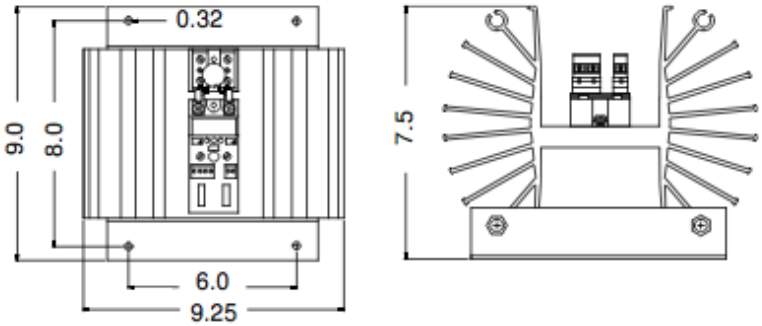
Approximate Shipping Weight and Box Size	10-40A	3 Lbs	7-5-5" Box Size
	70A		14-14-10" Box Size

INSTALLATION DRAWINGS

10 - 40 AMPS

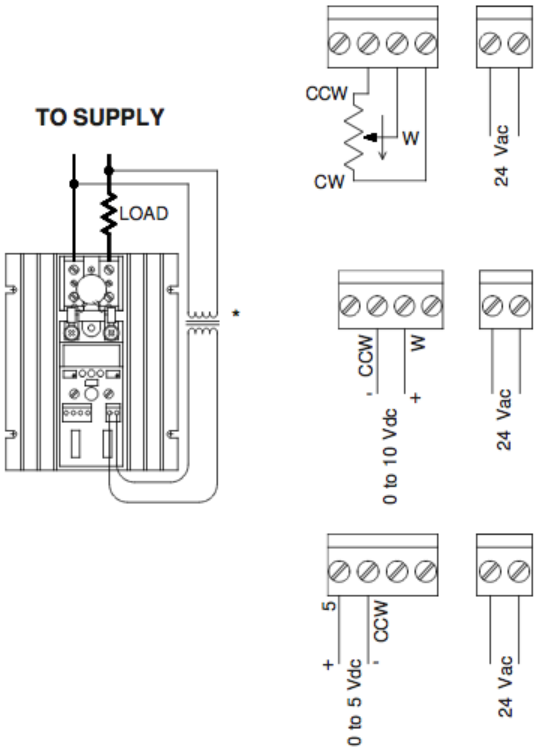


70 AMPS

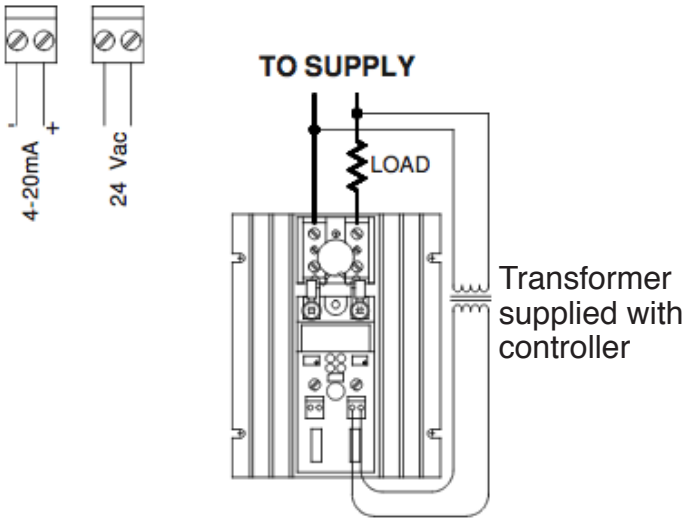


ELECTRICAL CONNECTIONS

Model 1022



Model 1025



Transformer supplied with controller

ORDERING INFO

Specify Model: 1022 - XX - XX
1022 or 1025

Specify Voltage:
12 = 120 Vac, 24 = 240 Vac, 48 = 480 Vac

Specify Current:
10, 20, 30, 40, 70 Amp

ABOUT US

Control Concepts, Inc. has the expertise to meet your specific industrial power control needs with a full range of standard and custom SCR power controllers and signal conditioners. All Control Concepts products are covered by a limited two year warranty.

Call us for more information and assistance.

CONTROL CONCEPTS

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