



TRYSTAR®

SCR 2000/2100

THREE PHASE SCR REGULATOR AND FIRING BOARD



Features

- **Dual Range Line Voltage Sense**
 - 50-1000VAC, 10–500 Hz
 - 0-10VAC, 10–500 Hz
- **Analog Interface**
 - Field scalable
 - 0-5, 0-10 Vdc, 0-20 mA
- **Modbus Digital Interface**
 - RS-485
- **Control Features**
 - Digital Phase Locked Loop (PLL)
 - Phase Angle / ZeroCross / Closed Loop
 - Soft Start / Fast Inhibit
- **Integrated Closed Loop Feedback**
 - DC current sense
 - DC voltage sense
- **Easy Setup via Serial Port**
 - Completely Software Configurable
 - Easy User Configuration via Serial Port
- **Flexible Bias Voltage Options**
 - Universal AC Input (*SCR2000*)
 - 18-32 VDC (*SCR2100*)



Description

The SCR 2000/2100 is a state of the art, universal, digitally controlled SCR firing and control board. It has been designed to address numerous SCR power system challenges, allowing fast and economical product development and support.

There is no longer a need to stock dozens of control board variants to meet your various product needs. With the SCR 2x00, nearly every system parameter is software adjustable, providing a **single** control board solution for all your needs.

Configuration and operating parameters are easily modified using the RS485 Modbus serial port and the Trystar Power Studio Tool. Power Studio also makes field updates fast and easy.

For flexibility, both low and high voltage line sense circuits are provided. A digital phase locked loop is used to synchronize to the AC line, exhibiting wide dynamic range, high rejection of line disturbances and noise, and fast, precise tracking.

Systems operating from line voltages as high as 1000VAC are supported using the integrated, transformer isolated, “picket fence” firing circuitry. Dedicated high voltage and current measurement interfaces are also provided for systems requiring closed loop digital control of DC voltage and/or current, eliminating the need for external hardware and system complexity. Pre-designed control algorithms can quickly be selected and implemented using the Power Studio tool.

The SCR 2x00 is ideally suited for a wide range of system applications including:

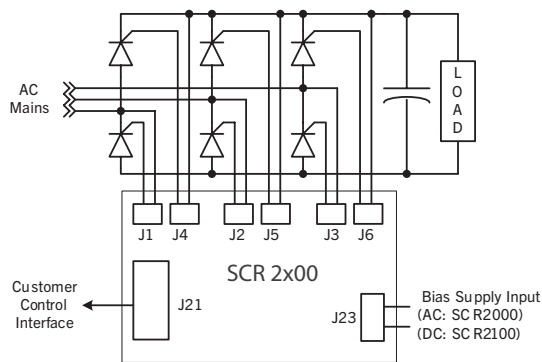
- Three Phase AC Switch
- Three Phase 6-Pulse Rectifiers
- Single Phase Rectifiers
- Multiple Independent Single Phase AC Switches

Systems requiring custom off-board gate drive solutions can use the digital logic-level firing pulse signals available on the expansion interface.

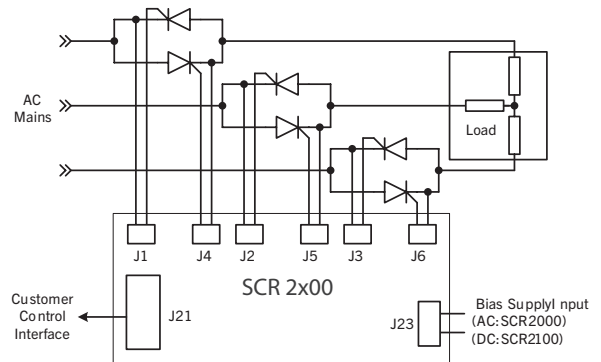
Performance Specifications

Maximum Ratings	
Operating Temperature	-40°C to 85°C
Storage Temperature	-65°C to 85°C
AC Mains Voltage	1000 Vac
Pulse Transformer HiPot (Vac) – 2 sec	5400 Vrms
Control Voltage	100-240 Vac
Universal AC (OZSCR2000)	47 – 63 Hz
DC Bias Voltage (OZSCR2100)	18-32 V _{DC}
Electrical Characteristics	
Analog Command Interface	
Voltage Input	0-10 V _{dc}
Current Input	0-20 mA
Delay Angle Range	0 – 180 deg
Phase Reference Angle Bias	0 or 30 deg
Low Voltage Line Sense	+/-10 V
Soft Start Range	1-65535 deg/sec
Soft Stop Range	1-65535 deg/sec
Gate Drive	
Initial short circuit gate current	3 A
Sustaining gate current	0.75 A
Open Circuit Voltage	15 V
Gate Pulse Width	User configurable
PCB Creepage	UL480, VDE0110
Mechanical Specifications	
Printed Circuit Board Dimensions	6" x 7.5"

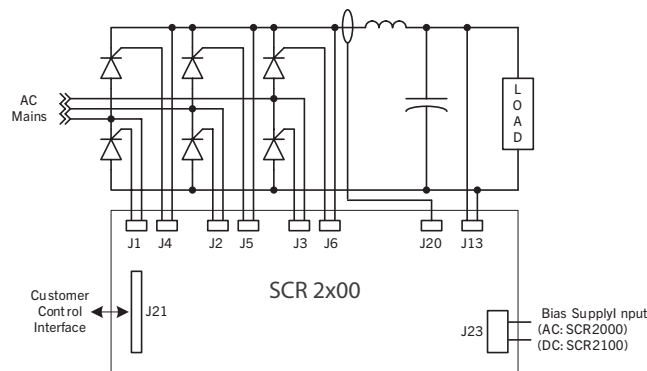
Typical Applications



Open Loop AC/DC Converter



Open Loop Phase Angle Control AC Switch



Closed Loop AC/DC Converter

Ordering Information

Model	Part #	Description
SCR2000	11205-01	Standard Product
	11205-02	Standard Product with Conformal Coat
SCR2100	11206-01	Standard Product
	11206-02	Standard Product with Conformal Coat



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