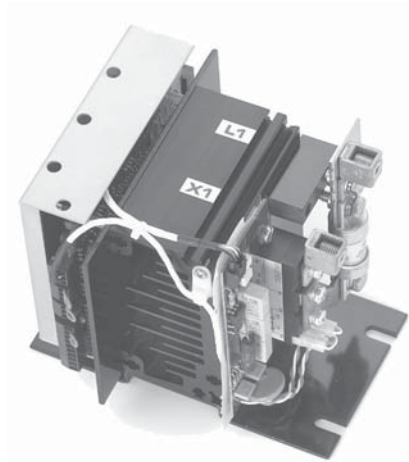


# Controls

## MiniMax 1 Single Phase SCR Power Pak



- 120-600 Vac @ 30-75 Amp
- Zero Cross-Over Firing
- Isolated Control Circuit
  - On/Off Control Inputs: 120 Vac, 240 Vac, 5-32Vdc Dry Contact Closure
  - Proportional (DOT firing) Inputs: 4-20mA, 0-5Vdc, 1-5Vdc, 0-10Vdc
- Remote Manual Adjust, Remote Auto Manual Switch
- Flexible I/O Power Wiring
- Shorted SCR Detection (option)
- Easy Customer Interface
- Remote Shutdown
- Electronically Protected with Temperature Warning and Shutdown System
- Compact Size and Construction
- dv/dt Transient Voltage Protection
- MOV Protection
- DOT Fired with Single or Three Cycle Resolution (Jumper selectable)

### Description

The MiniMax Series is specifically designed for the OEM market. The plug-in options, flexible I/O power wiring, space saving footprint, I<sup>2</sup>t fusing and universal approvals make it an excellent candidate for your product.

The Chromalox Model MiniMax 1 Single Phase Solid State SCR Power Controller is a highly versatile power pak with optional plug-in proportional Firing and Shorted SCR Detection Boards. Firing modes include: "ON/OFF Power Control" (Contactor) and "Proportional Power Control" (Zero Voltage Switching, DOT fire).

Chromalox' exclusive DOT (Demand Oriented Transfer) firing switches the fewest number of cycles to provide the most precise zero crossover control. At 50% output the unit's output alternates between one electrical cycle on and one cycle off. At 51% the output continues with one cycle on / one cycle off and gradually integrates one extra "on" cycle for the additional one percent. With the exception of phase angle firing, DOT firing is the most precise method of SCR control. DOT firing is preferred in many applications because phase angle firing creates unwanted RFI. DOT is excellent for applications where consistent heater/process temperature control is critical.

### Electrical Features

- SCRs PIV 1500V Minimum (1400 Volts on 600 Volt model)
- Isolated Semiconductor Power Blocks are used on all Current Ratings
- I<sup>2</sup>t Fusing

### Safety Features

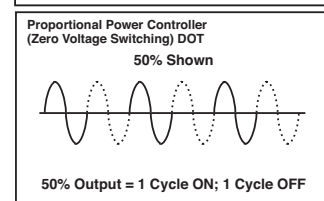
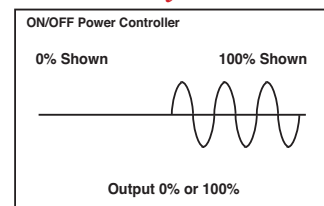
#### Personnel Safety

- Ground Potential Heat Sink
- SCR to Heat Sink Isolation

#### Equipment/Process Safety

- Input to Output Isolation
- dv/dt Transient Voltage Protection
- I<sup>2</sup>t Fusing for SCR Protection
- Remote Shutdown
- Optional Shorted SCR Detection
- MOV

### Wave Form Cycle Rate



### Applications

- Resistive Heaters
- Electric Ovens
- Furnaces
- Kilns
- Environmental Chambers

### Mechanical Features

- LED Indication of Firing
- Customer Control Connections are made on a Plug-In Screw Type Terminal Block
- Optional Remote Manual Adjust and Auto/Manual Switch
- Heatsink Mounted Temperature Sensor