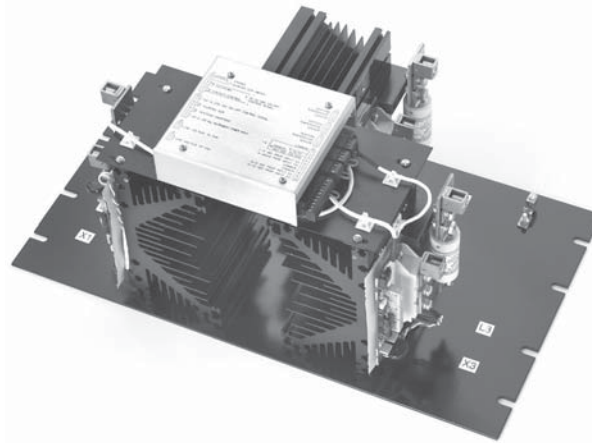


# Controls

## MiniMax 3 Three Phase, 3-Leg 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
- Six SCR Full Converter
- MOV Protection
- Three Phase Delta, 3-Wire Wye or 4-Wire Wye Connected Loads
- DOT Fired with Single or Three Cycle Resolution (Jumper selectable)

### Applications

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

### 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 3 is a Solid State, highly versatile power pak with optional plug-in proportional Firing and Shorted SCR Detection Boards. Firing techniques 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 cross-over control. At 50% output the unit's output alternates between three electrical cycles on and three cycles off. At 51% the output continues with three cycles on / three cycles off and gradually integrates three 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.

### 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

### Electrical Features

- PIV 1200V Min at 480 Vac
- PIV 1500V Min at 600 Vac
- Isolated Semiconductor Power Blocks are used on all Current Ratings

### 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

### Wave Form Cycle Rate

