

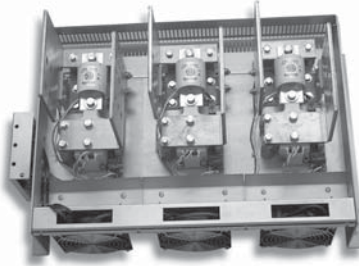
Controls

MaxPac III Three Phase, 3-Leg Power Pak

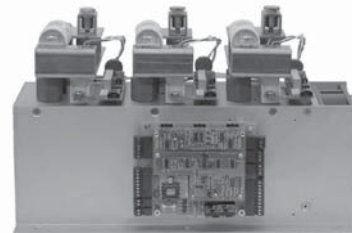
- 120-600 VAC @ 100-1200 Amp
- User Adjustable Firing Modes Include:
 - On/Off Control Inputs: 120VAC, 240VAC, 5-32 VDC Dry Contact Closure
 - Proportional Zero Cross or DOT Firing Power Control
- Inputs:
 - 4-20mA, 0-5 VDC, 1-5 VDC, 0-10 VDC Remote Manual Adjust, Remote Auto Manual Switch
- Flexible I/O Power Wiring
- Built-In Power Distribution
- Shorted SCR Detection (option)
- Easy Customer Interface
- Remote Stop
- Electronically Protected with Temperature Warning and Shutdown System
- Compact Size and Construction
- Touch-Safe (option on 100 to 650 Amp models)
- 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
- Single or Three Cycle Resolution (Jumper selectable)

Applications

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



Touch Safe Design
Shown without cover



Open Design



Description

The MaxPac Series is specifically designed for the OEM market. The plug-in options, flexible I/O power wiring, space saving footprint, optional lug kits, I²t fusing and universal approvals make it an excellent candidate for your product.

The Chromalox Model MaxPac III is a Solid State, highly versatile power pak with optional plug-in Shorted SCR Detection Boards. Firing modes can be switched between On/Off and proportional Zero Cross or DOT Firing power control at any time based on process needs.

Chromalox's 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
- Built-In Power Distribution

Electrical Features

- PIV 1200V Min at 480 VAC
PIV 1500V Min at 600 VAC
- Isolated Semiconductor Power Blocks are used on all Current Ratings up to 650 Amps

Safety Features

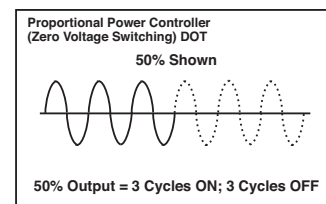
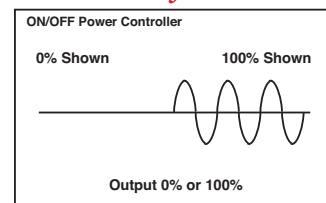
Personnel Safety

- Ground Potential Heat Sink up to 650 Amps
- SCR to Heat Sink Isolation up to 650 Amps
- UL 508 Listed for units 650 Amps and under
- CE Approval for all units with line filters required.

Equipment/Process Safety

- Input to Output Isolation
- dv/dt Transient Voltage Protection
- Optional I²t Fusing
- Remote Stop
- Optional Shorted SCR Detection

Wave Form Cycle Rate



SCR COMPONENTS

Controls

MaxPac III

Three Phase, 3-Leg Power Pak (cont'd.)

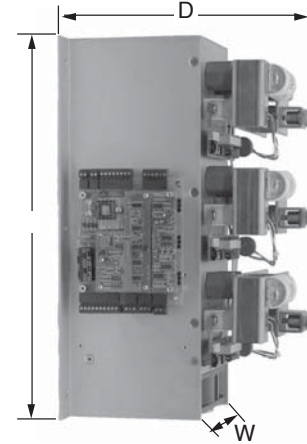
Mounting Dimensions

MaxPac III Open

Amps	Width W	Height H	Depth D
100	9	14.75	10
150	9	14.75	10
200	9	14.75	10
300	22.75	14.75	10
400	22.75	14.75	11
550	27	17.75	11
650	27	17.75	11
800	33	27	17
1000	33	27	17
1200	33	27	17

MaxPac III Closed

Amps	Width W	Height H	Depth D
100	22.75	14.75	11.8
150	22.75	14.75	11.8
200	22.75	14.75	11.8
300	22.75	14.75	11.8
400	22.75	14.75	11.8
550	27	20	17.75
650	27	20	17.75



Ordering Information

Complete the model number using the matrix provided.

Model	SCR Power Pack
MXPC III	3 Phase 3-Leg Power Pak
Code	Control Configuration
5	Proportional Control, DOT Zero-Crossover Firing, Command Input Signals: 4-20mA, 0-5VDC, 1-5VDC (via Modbus RTU/485 only), 0-10VDC, Remote 0-1000 OHM Potentiometer w/Manual Override, Modbus RTU/RS485 Communications. RTD Heat Sink Temperature Sensor with Two Set-Points, Automatic Line Sensing 50/60HZ, Remote Permissive Shutdown Input, Form "C" Dry Contact Alarm Output, Staged Heating w/Digital Calibration Zero / Span Adjustments(4-8mA, 8-12mA,12-16mA,16-20mA(via Modbus RTU/RS485 only), LED Diagnostics: Command Input, Main/Trigger Boards Running, SCR Status per Phase, Diagnostic Kit via Modbus RTU/RS485: Highest Heat Sink Temperature, Last Heat Sink Temperature, Highest and Lowest Ambient Temperature, Line Frequency Monitoring, Third Party Certifications: UL, cUL, CE, DEMKO (650A and below).
Code	Current at 50°C (122°F)
01	100 Amp Open Design
02	100 Amp Touch Safe Design
03	150 Amp OpenDesign
04	150 Amp Touch Safe Design
05	200 Amp OpenDesign
06	200 Amp Touch Safe Design
07	300 Amp OpenDesign
08	300 Amp Touch Safe Design
09	400 Amp OpenDesign
10	400 Amp Touch Safe Design
11	550 Amp OpenDesign
12	550 Amp Touch Safe Design
13	650 Amp OpenDesign
14	650 Amp Touch Safe Design
15	800 Amp OpenDesign
16	1000 Amp OpenDesign
17	1200 Amp OpenDesign

Note: CE approval for all units, line filters required. UL Listed for units 650 amps and under.

MXPC III- 5 04 (Continued on next page)

Controls

MaxPac III Three Phase, 3-Leg Power Pak (cont'd.)

Ordering Information (cont'd.)

Complete the model number using the matrix provided.

Model SCR Power Pack
MXPC III 3 Phase Six SCR Power Pack

Code	Line Voltage	
1	120 VAC - 480 VAC	
2	575/600 VAC	
Code		Instrument Power (100 Va Required)
1		120 VAC 50/60 Hz
2		230 VAC 50/60 HZ
Code		Compression Lug Kits (Open Design up to 300 Amps) <small>For Other Ranges See Crimp Lug Chart</small>
L0		None
L1		100-150 Amp PAK (#2 - 4/0)/connection
L2		200-300 Amp PAK (1/0 - 500mcm)/connection
Code		Fusing Option ⁽¹⁾
F00		None
<small>For < 500 VAC Applications, Select One</small>		
F01		100-150 Amp PAK (200 Amp Fuse)
F02		200 Amp PAK (250 Amp Fuse)
F03		300 Amp PAK (400 Amp Fuse)
F04		400 Amp PAK (500 Amp Fuse)
F05		550 Amp PAK (700 Amp Fuse)
F06		650 Amp PAK (800 Amp Fuse)
F07		800 Amp PAK (1000 Amp Fuse)
F08		1000 Amp PAK (1200 Amp Fuses)
F09		1200 Amp PAK (Two 1000 Amp Fuses)
<small>For 575/600 VAC Applications, Select One ⁽²⁾</small>		
F10		100 Amp PAK (125 Amp Fuse)
F11		150 Amp PAK (175 Amp Fuse)
F12		200 Amp PAK (250 Amp Fuse)
F13		300 Amp PAK (400 Amp Fuse)
F14		400 Amp PAK (500 Amp Fuse)
F15		550 Amp PAK (700 Amp Fuse)
F16		650 Amp PAK (800 Amp Fuse)
F17		800 Amp PAK (1000 Amp Fuse)
F18		1000 Amp PAK (1200 Amp Fuse)
F19		1200 Amp PAK (Two 1000 Amp Fuses)
Code		Remote Manual Adjust/Auto Manual Switch
0		None
1		Pot with 0 - 100% dial and Local/Remote Switch ⁽³⁾ Single Turn 1KΩ Potentiometer

Crimp Lug Chart		
Chromalox #	Panduit #	Conductor Size
0135-10002	LCD8-14A-L	#8 AWG
0135-10003	LCD6-14A-L	#6 AWG or #6 Weld
0135-10004	LCD4-14A-L	#4 AWG or #4 Weld
0135-10005	LCD2-56B-Q	#2 AWG
0135-10006	LCD1-56C-E	#1 AWG or #2 Weld
0135-10007	LCD1/0-12-X	#1/0 AWG or #1 Weld
0135-10008	LCD2/0-12-X	#2/0 AWG or #1/0 Weld
0135-10009	LCD3/0-12-X	#3/0 AWG or #2/0 Weld
0135-10010	LCD4/0-12-X	#4/0 AWG or #3/0 Weld
0135-10011	LCD250-12-X	250 MCM or #4/0 Weld
0135-10012	LCD300-12-X	300 MCM
0135-10013	LCD350-12-6	350 MCM
0135-10014	LCD400-12-6	400 MCM
0135-10015	LCD500-12-6	500 MCM

(cont'd.) 1 1 L1 F02 1 Typical Model Number

- 1) SCR Fusing is for semiconductor protection only, not wire protection.
- 2) Supplied Loose for Customer Mounting.

Note:
Storage Temperature 14°F to 158°F (-10°C to 70°C). CE application requires filters.

Chromalox Part Numbers
0005-60056 - Line filter, three phase, 440 VAC
0005-60057 - Line filter, 120-230 VAC

Current Rating	Open Design		Closed Design	
	Input Bus	Output Bus	Input Bus	Output Bus
100, 150, 200, 300	1 Crimp Lug / Phase	1 Crimp Lug / Phase	3 / Phase*	3 / Phase*
400	3 / Phase*	10 / Phase*	3 / Phase*	10 / Phase*
550, 650	4 / Phase*	12 / Phase*	4 / Phase*	12 / Phase*
800, 1200	4 / Phase*	12 / Phase*	N/A	N/A

* Accepts up to this number of NEMA standard lugs (See Crimp Lug Chart)

SCR COMPONENTS