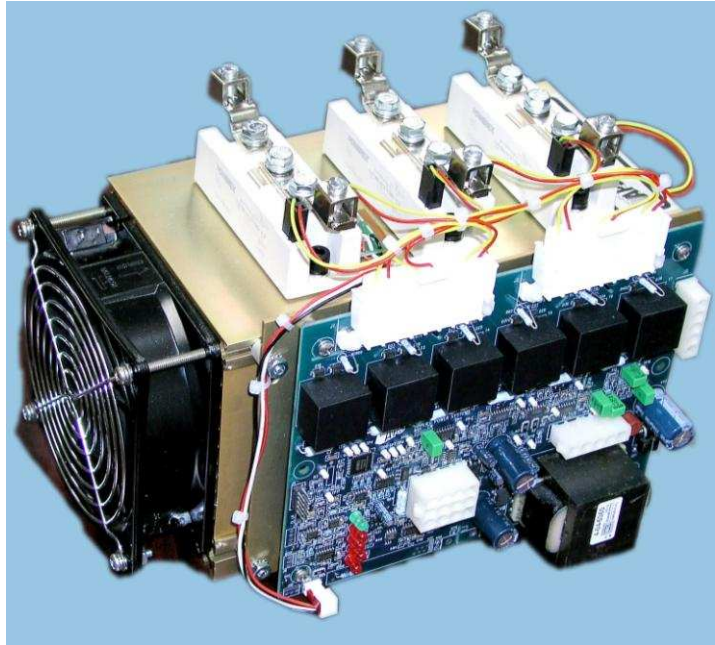


CAP6643 AC-AC Controller

Description:

The CAP6643 is a three-phase AC to AC phase Controller assembly. The assembly includes six SCRs connected as AC switches for phase controlled AC output, the thermal management system, a BAP1950 SCR phase control gate firing board, an R-C-MOV snubber for each SCR and all bus work. It is rated at 150 Amps rms output and up to 660 volts AC input at 50, 60 or 400 Hz.



Typical use for the CAP6643 is as a phase controlled, AC to AC controller for OEM equipment for rail and many other applications.

Contact APS for higher current system requirements.

Specifications:

Input

Parameter	Min	Typ	Max	Units
Ambient Temperature	-40		50	°C
Input AC Voltage	50	480	660	Volts
Frequency	47	60	77	Hz ¹

SCR Modules

Parameter	Min	Typ	Max	Units
Average Current		125	150	Amps
One cycle peak current			4,000	Amps
Blocking Voltage			1,600	Volts
Module Isolation Voltage	3,500			Volts
dV/dt	1,000			V/μs
dl/dt (non-repetitive)	300			A/μs

¹ Other Frequency bands are available – consult APS for more information.

BAP1950 Gate Firing Board Power Requirements

Parameter	Min	Typ	Max	Units
Input Voltage	100	115	130	Vac
Power rating			24	VA

Controller Output

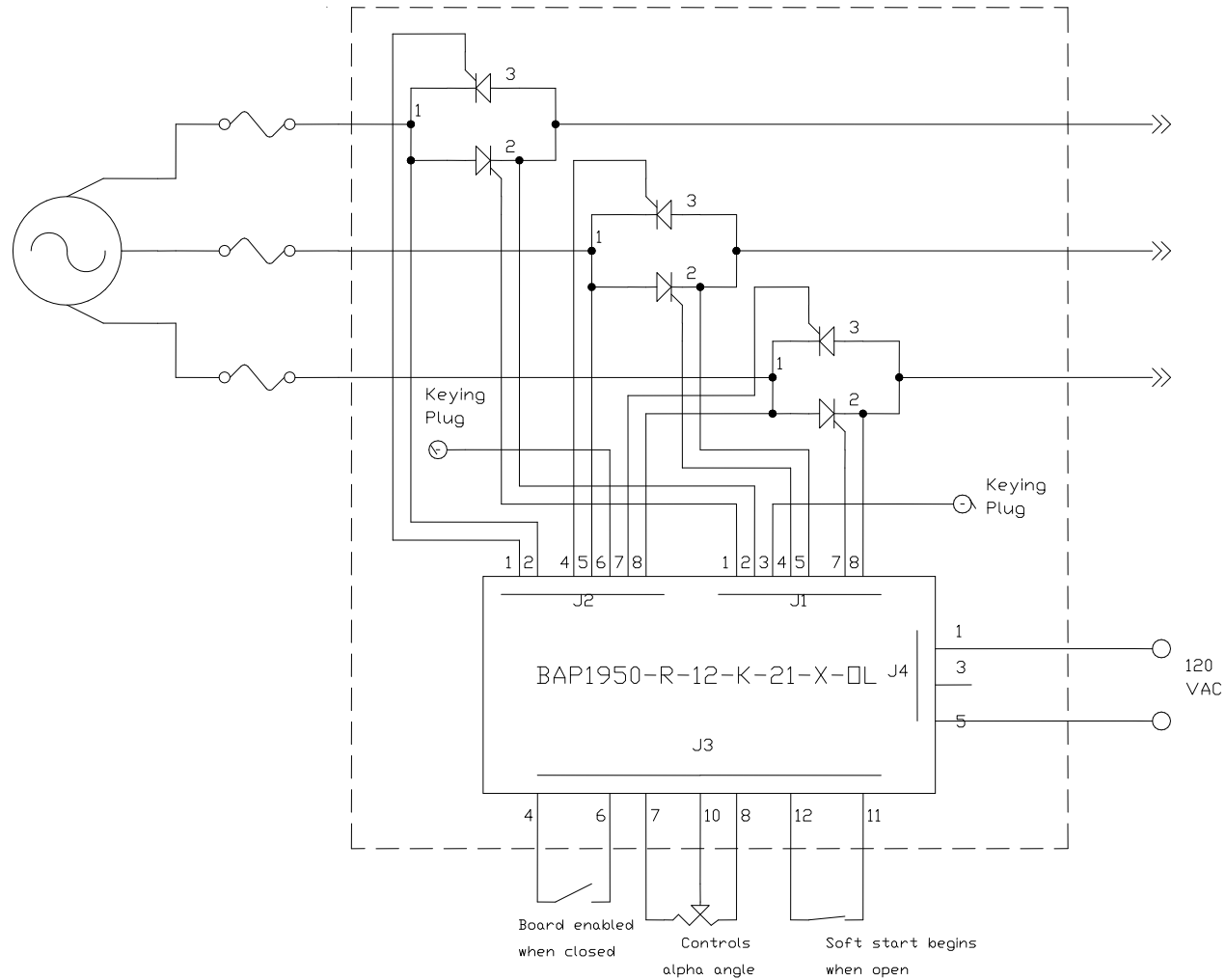
Parameter	Min	Typ	Max	Units
Output Voltage	0		660	Vac rms
Current	0	125	150	Amps

Isolation

The low level signal inputs are isolated from the high level output and AC input in the following manner:

Isolation	Isolation Method
AC Supply	The AC supply is sensed through a resistor voltage divider with a 1 meg Ω isolation resistance on each phase.
AC Supply and DC Load	5,000V _{ac} (60 sec.) – rating from gate pulse transformers
AC Load	1500V _{rms} (cont.) rating of isolation amplifier
BAP1950 Input Power	2500V _{ac} (1 min.) from input transformer on board.

NOTE: Galvanic isolation is available with a special modification and additional circuitry. For isolation voltages above 2,500 volts, please consult factory.



Schematic of AC-AC Phase Controller Application
Shown without snubber circuit

