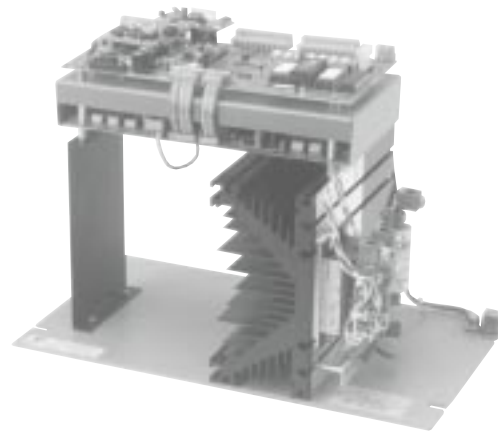


7920

Microprocessor Based Automatic Tap Changer

- Phase-Angle Applications
- Improved Effective Power Factor
- Reduce Power Line Harmonic Distortion
- Linear RMS Secondary Voltage to Load over 0-100%
- Selectable Control Modes of Voltage, Current or Power to Load over Full Output Range (0-100%)
- Isolated 4-20mA Retransmission of Output Voltage, Current or Power
- Easy Field Configuration Using Hand Terminal
- RS-485 Communications to Workstation or Central Computer
- Simple Crossover Point Setting
- Current Limit Optional



Description

Phase-fired SCR paks often generate a high harmonic content in the output voltage and current waveforms, typically reaching maximum when the delay angle is 90°.

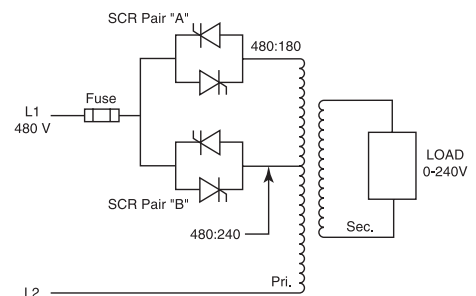
Harmonics create electrical noise (EMI, RFI) that may interfere with electrical and electronic equipment operation. This noise is also introduced back into the power lines as pollution.


Third harmonic content of the output voltage may be in the order of 30-35% of the line voltage, with the higher order harmonics decreasing accordingly, although the higher order harmonics are more likely to show up as power line pollution, and create most of the interference problems.

One common solution is to use a transformer with multiple input taps, as illustrated in the Circuit Diagram. The SCR pack has one set of SCRs for each tap, energizing them in sequence to maintain a linear voltage output of the load.

The automatic tap changing is accomplished by controlling the SCR pair "A" initially; after pair "A" is full on, SCR pair "B" is controlled in turn. When current flows through Pair "B", pair "A" is turned off by the back voltage induced across it.

Using the different transformer tap ratings, the harmonic content of the output waveshape is reduced to less than 25% of that present using a single SCR pair. Different tap ratios change the resulting harmonic reduction and can be selected to cut the harmonic content below 10% of the input line voltage, depending on the application.



 More Information is Available Online on SCR Power Control.

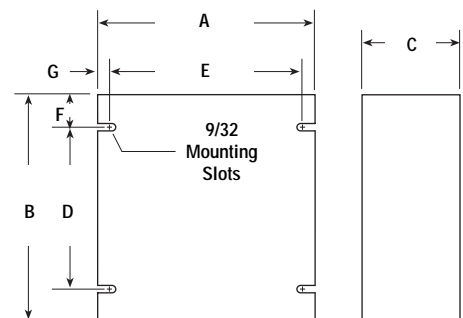
Bookmark Your Browser to www.chromalox.com and Select Manuals.

Dimensions

Amp	A	B	C	D	E	F	G
30-50	14 (356)	6.25 (159)	10.5 (267)	2.5 (64)	13.3 (340)	1.87 (48)	.31 (7.87)
75	14 (356)	6.25 (159)	12.75 (324)	2.5 (64)	13.3 (340)	1.87 (48)	.31 (7.87)
100, 125, 150	15 (381)	8.5 (216)	12.75 (324)	5.5 (140)	14.4 (365)	1.5 (38)	.31 (7.87)
175-200	15 (381)	12 (305)	12.75 (324)	7.5 (191)	14.4 (365)	2.25 (57)	.31 (7.87)
250-300*	15 (381)	6.5 (165)	12.75 (324)	5.5 (140)	14.4 (365)	1.5 (38)	.31 (7.87)
400*	15 (381)	12 (305)	12.75 (324)	7.5 (191)	14.4 (365)	2.25 (57)	.31 (7.87)

500 Amps and above consult factory for dimensions

* Fan cooled. Allow fan clearance below mounting plate, 4" for 250-400 Amps and 6" on 500 Amps and above.



Front View

Side View

All Dimensions in Inches (mm)

7920

Microprocessor Based Automatic Tap Changer *(cont'd.)*

Ordering Information

Complete the Model Number using the Matrix provided.
For more options, see SCR Component Options following the 7930 SCR in this catalog.

Model	SCR Power Pak
7920	Single Phase, Auto Tap Switching, SCR Power Pak
Code	Output Firing Mode
1	Phase Angle Control
	Code Current at 50°C (122°F)
	01 30 Amps
	02 50 Amps
	03 75 Amps
	04 100 Amps
	05 125 Amps
	06 150 Amps
	07 175 Amps
	08 200 Amps
	09 250 Amps, (Fan Cooled)
	10 300 Amps, (Fan Cooled)
	11 400 Amps, (Fan Cooled)
	X Consult Factory for 500 Amps and above
	Code Voltage
	1 120 Vac
	2 208 Vac
	3 240 Vac
	4 277 Vac
	5 480 Vac
	Code Input Signal
	16 0-5 mA
	17 0-20 mA
	18 0-50 mA
	19 1-5 mA
	20 4-20 mA
	21 10-50 mA
	22 0-5 Vdc
	23 0-10 Vdc
	Code Control Mode (Field Selectable)
	1 Voltage
	2 Current*
	3 Power*
	4 External Feedback (4-20 mA Input only) *Available on Phase Angle Firing only, Option C1 also required.
	Code Retransmitting Output Drive Signal (Field Selectable)
	1 Voltage Isolated 4-20 mA
	2 Current* Isolated 4-20 mA
	3 Power* Isolated 4-20 mA *Option C1 required
	Code Options
	See Options Table at end of this section.
7920 - 1	03 2 19 1 1 - C1
	Typical Model Number

Accessories

Hand Held Terminal HL-8200

Allows firing mode selection, control mode selection,
calibration, communications setup, setting of parameters Part No. 0108-49009