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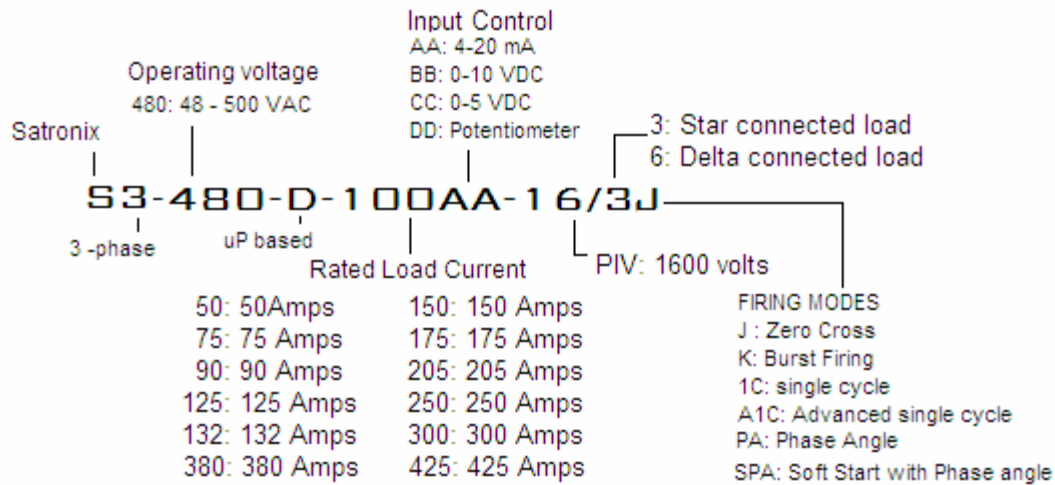
THREE PHASE DIGITAL SCR POWER CONTROLLER / BURST Controller

Features

- Allows to set the voltage applied to different sort of loads like Resistive, Inductive.
 - Small Housing. Easy and ready to use.
 - 6 SCR Phase angle control for star and delta 3 SCR 3 Diode.
 - Shorted SCR detection.
 - Optically coupled gate drives.
 - Fully opto-isolated full cycle three phase angle controller.
 - Plug in and interchangeable controller card
 - Linear control of RMS voltage with respect to command signal 0-10 VDC or 0-5VDC or 4-20mA
 - Input Output transfer characteristic linearization function (Resistive load).
 - Over temperature protection.
 - Diagnostic features like status given on LED
 - Built –in Power Supply (90 – 270 VAC) , 50/60Hz
 - Power Switch and controller in a single casing
 - Rated operational Load current 50 – 425 A at 25 °C
 - Integrated heatsink and fan for force cooling for higher ratings.
 - Semiconductor fuses for thyristor protection.
- NOTE: 2-Phase & 1-Phase models available. Higher ratings will be available on request**



Type selection guide





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TYPE		S3-480-D-... -16-6/3	
Mains voltage	Mains frequency	Current	Control input
Up to 480 VAC	50 / 60 Hz	50A/75/ 90/ 125/ 150/ 175/ 205/ 250/ 300/ 380/ 425A	0-5 VDC/ 0-10VDC / 4-20mA

Description

This model is 3Ø phase angle power controller with 6 SCR for Star and 3 SCR, 3 diode for Delta phase angle control. It linearly controls RMS load voltage with respect to control signal. This model is available with current rating from 50 to 425 amps. It is useful for transformer coupled loads, fast responding loads and non linear loads.

Applications

- Vacuum furnaces
- Transformer coupled loads
- Fast responding loads
- T-3 lamps
- High frequency induction heating
- Variable resistance loads
 - Silicon carbide
 - Molybdenum di silicide
 - Graphite

Input specifications

Control signal	AA: 4 to 20mA BB: 0 to 10 VDC CC: 0 to 5 VDC DD: Potentiometer controlled
Allowable Input Current	Less than or equal to 50mA
Impedance (Rc) Dynamic	100MΩ
Control Range	0 to 100% of line voltage

Output specifications

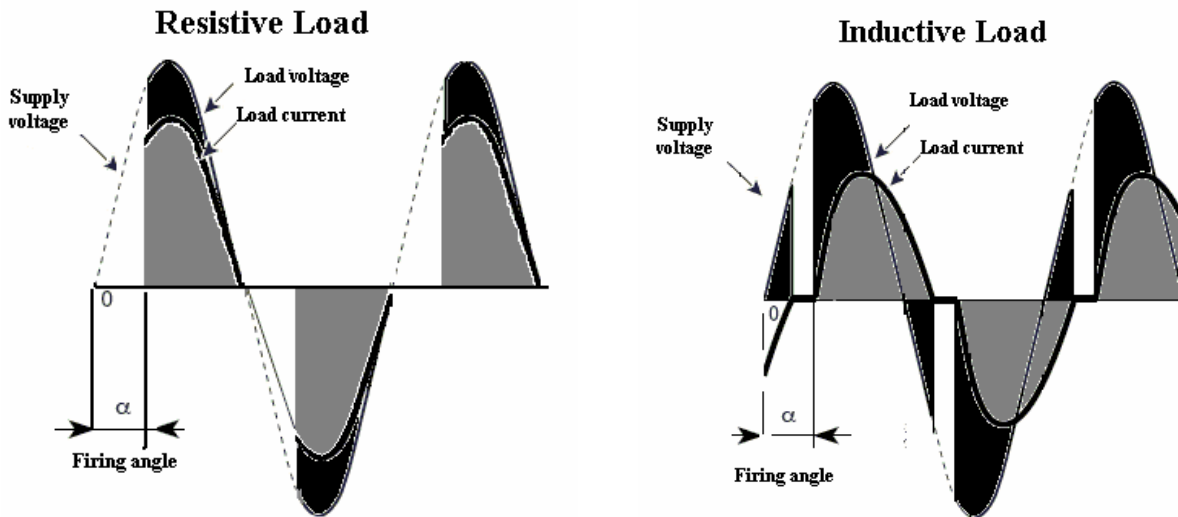
Current	Voltage Range V	PIV 480 V	PIV 600 V	Max. Peak (1 cycle current)	Leakage Current mA	I ² T For fusing t = 10m secs
50 A	25 – 600 V	1200 V	1600 V	1000 A	15 mA	4750 A ² S
75 A	25 – 600 V	1200 V	1600 V	1350 A	15 mA	14450 A ² S
90 A	25 – 600 V	1200 V	1600 V	2000 A	15 mA	19100 A ² S
110 A	25 – 600 V		1600 V	2000 A	15 mA	89500 A ² S
125 A	25 – 600 V		1600 V	2000 A	15 mA	89500 A ² S
150 A	25 – 600 V		1600 V	5250 A	15 mA	128000 A ² S
162 A	25 – 600 V		1600 V	5250 A	15 mA	128000 A ² S
200 A	25 – 600 V		1600 V	5250 A	15 mA	128000 A ² S
250 A	25 – 600 V		1600 V	5250 A	15 mA	128000 A ² S
300 A	25 – 600 V		1600 V	7800 A	15 mA	300000 A ² S
400 A	25 – 600 V		1600 V	8000 A	15 mA	306000 A ² S
500 A	25 – 600 V		1600 V	17800 A	15 mA	1027000 A ² S
700 A	25 – 600 V		1600 V	18200 A	15 mA	1027000 A ² S

Load current	50- 425 Amps/ Phase @ 25°C (50/125/150/175/ 200/250/300/380/425 Amps)
Min. Operational Current	Less than equal to 50mA
Load Voltage range	0 to 100% VAC/ 25 – 480 VAC
Off state leakage current	Less than 10mA
Voltage Frequency	
dv/ dt critical	1000 V/ μS
I²T	25300 A ² S for 205 Amps
SCR voltage (Peak forward and reverse rating)	1600 Volts minimum

General specifications

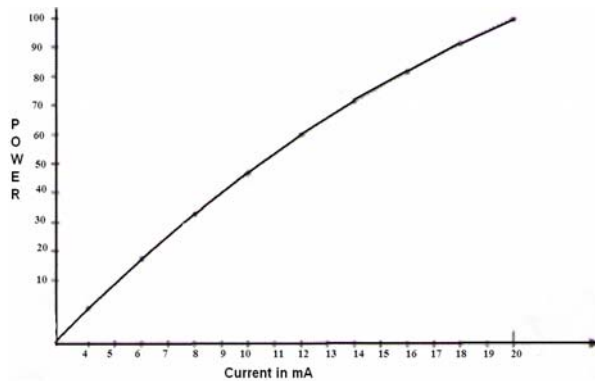
Frequency	50/60 Hz
Rated Insulation Voltage I/P to O/P	≤ 4000 VAC rms
Rated Insulation Voltage O/P to Case	≥ 2500 VAC rms
Insulation resistance O/P to case	≥ 10 ¹⁰ Ω
Insulation Capacitance O/P to case	≥ 50 pF
Isolation Capacitance I/P to O/P	≤ 8 pF
Cooling	Convection cooling on 50 A model and forced cooling on other models
Over temp protection	O/P is interrupted when not cooled adequately
Heat dissipation	1.5 W/A of controlled current per phase
Fuses	Semiconductor fuses are recommended. Fast acting electronic fuses protect control transformer.
Operating temperature	0 to 55°C
Storage temperature	-40 to 80°C
Junction Temperature	100 °C
Protection against fast voltage transients	Built-in RC network

Waveforms for resistive and inductive loads

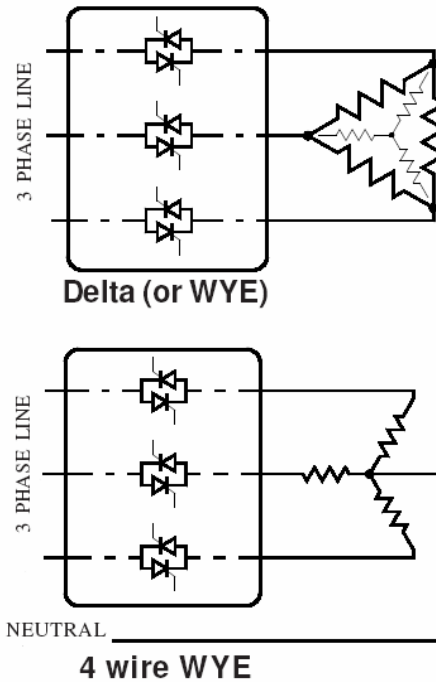


Power curve

Power Vs. Current in mA curve



Wiring Diagram



SATRONIX (INDIA) Pvt.Ltd.

OFFICE: 412, Laxmi Plaza, Laxmi Indl. Est., Link Rd, Andheri (W), Mumbai- 400 053,INDIA
 Works:Unit No. 1,Electronic Sadan 1/Unit No.12, Electronic Sadan 3,Bhosari MIDC, PUNE -411026,INDIA

Tele: 91 22 26325242, 91(20) 27122758 FAX: 91(020) 27122758
 Email: sales@satronixindia.com satronix@bom3.vsnl.net.in