

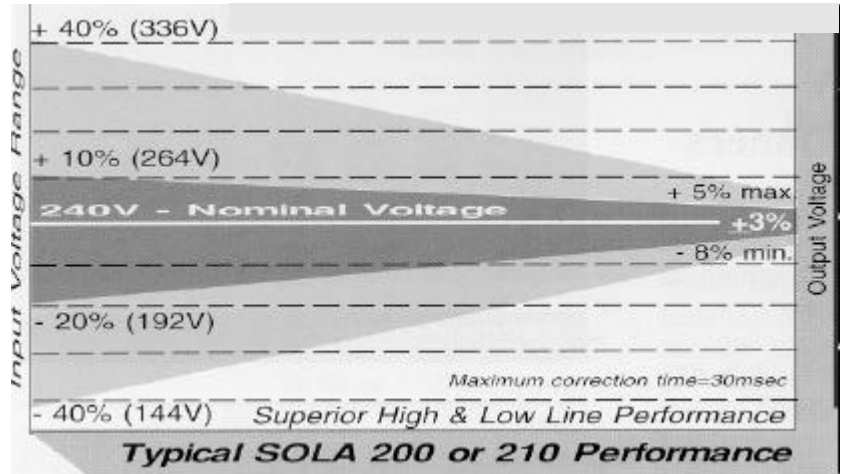
SOLA Ferroresonant Power Conditioners

Portable Type, Floor Standing Type, Industrial Type

SOLA's ferroresonant products are proven technology. In 1938, SOLA was awarded the first patent for ferroresonant power conditioners: the constant voltage transformer. Since then, SOLA has remained at the forefront of ferroresonant power conditioning.

Today, SOLA's ferroresonant power conditioners supply sinewave output, which is especially important for computer applications.

Whether you purchase a SOLA 200, SOLA 210, SOLA 63, SOLA 37 or SOLA 95, you can count on an average of 25 years service from your unit.



What is Ferroresonance?

Simply put, ferroresonance is the property of a transformer design in which the transformer contains two (2) separate magnetic paths with limited coupling between them. The output contains a parallel resonant tank circuit and draws power from the primary to replace the power delivered to the load.

Note that "resonance" in ferroresonance is similar to that in linear circuits with series or parallel inductors and capacitors, where the impedance peaks at a particular frequency. In a non linear circuit, such as a SOLA ferroresonant transformer, "resonance" is used to reduce the changes in supply voltage and provide more constant voltage to the load.

A magnetic device is non linear. Its reluctance changes abruptly above a certain magnetic flux density. At this point, the magnetic device is defined as being in saturation. The design of the SOLA ferroresonant transformer allows one magnetic path to be in saturation, while the other is not.

As a result, further change in the primary voltage will not translate into changes in the saturated, or secondary voltage, and voltage regulation results.

Every ferroresonant power conditioner is manufactured to exacting specifications and is subject to rigorous quality control.

The SOLA ferroresonant power conditioners protect equipment from all power problems, other than the complete loss of power. They excel at tightly regulating the voltage, providing superior noise attenuation and are ruggedly designed to withstand the harshest electrical environments.

Possessing no moving parts, SOLA's ferroresonant power conditioners are virtually maintenance free.

SOLA 200/210 100VA to 2500VA Portable Power Conditioners

Superior surge protection and voltage regulation for sensitive electronic equipment.



Features and Benefits

- ❖ **Superior Low Line Performance**
Specified performance is maintained for all loads 0 - 100% of nominal rating.
- ❖ **Switchmode Computer Load Compatibility**
Able to support typical computer loads when input supply mains voltage is 50% below nominal.
- ❖ **240V, 230V or 220V Models**
Separate models to suit different nominal supplies or particular nominal output voltage requirements.
- ❖ **200% Overload Rated**
Suitable for use with computer startup overloads. Units are output short circuit proof.
- ❖ **5 Year Warranty**
Exceptional MTBF (Mean Time Between Failure), and optimum combination of performance and cost effective power conditioning.

Specifications

INPUT	
Voltage	220 or 240 Volt AC
Frequency	50Hz
Input Voltage Range	+10%, -20% (±40%)
Protection	ANSI/IEEE C62.41 A and B waveforms suppressed to safe levels
OUTPUT	
Nominal Voltage	220 or 240 Volt AC
Frequency	50Hz
Voltage Regulation	±3% for +10%, -20% input +5%, -8% for ±40% input
Control	AC on/off switch
Efficiency	90%
Response Time	Return to regulation envelope within 30 msec.
Dynamic Response	Continuous and smooth correction for input voltage fluctuations
OVERLOADS	
200% of rated load for 10 seconds without damage. 500% of rated load for 10 msec.	
ELECTRICAL NOISE ATTENUATION	
Transverse Mode	60dB typical (80dB max) 4kHz to 20MHz
Common Mode	120dB typical (140dB max) 2kHz to 1MHz
OUTPUT HARMONIC DISTORTION	
Less than 3% THD on linear loads. No greater than 5% on typical computer loads	
ENVIRONMENTAL	
Operating Ambient	-20°C to +50°C
Relative Humidity	0 to 95% non-condensing
Ventilation	Natural Convection Cooled
STATUS INDICATION	
Power On	Amber lamp
OVERLOAD PROTECTION	
Output short circuit protection	
WARRANTY	
5 years	

All specifications subject to change without notice. E & O E

Designed and manufactured in Australia, the SOLA 200/210 portable power conditioner provides smooth stepless control of output voltage to your computer or electronic system, whilst attenuating harmful impulses, surges and other power line disturbances.

The SOLA 200/210 incorporates improved surge withstand capabilities, as specified by ANSI/IEEE C62.41 and is covered by the SEC V Certificate of Suitability Number CS84292V.

240V In/Out

Rated Output VA	Part Number	Current AMPS (Cont)	Output Receptacles	Enclosure Mass (kg)	Size (Note3)
100	200-26-610-00	0.42	1	8	1
150	210-26-615-00	0.63	2	11	2
250	210-26-625-00	1.04	2	15	2
500	210-26-650-00	2.08	2	23	3
1000	210-26-710-00	4.16	3	36	4
2000	210-26-720-00	8.33	3	55	4
2500	210-26-725-00*	10.41	3	66	4

220V In/Out Hardwired Units

Rated Output VA	Part Number	Current AMPS (Cont)	Mass (kg)	Enclosure Size (Note3)
100	200-44-610	0.45	8	1
150	200-44-615	0.68	11	2
250	200-44-625	1.14	15	2
500	200-44-650	2.27	23	3
1000	200-44-710	4.55	36	4
2000	200-44-720	9.09	55	4
2500	200-44-725*	11.36	66	4

- Notes:
1. 240V Hardwired options available to order.
 2. Special voltage configurations available to order
 3. Enclosure sizes (HxWxD mm)
 - Size 1: 130x152x199
 - Size 2: 162x192x248
 - Size 3: 195x210x328
 - Size 4: 252x280x421
 4. *Input lead fitted with 15Amp plug top
(all other units fitted with 10Amp plug tops)
 5. Specific input leads and output sockets can be fitted to order

SOLA verifies performance data within normal industry standards.
Detailed information is available on request.

SOLA 200 3kVA to 22kVA Power Conditioners

Superior surge protection and voltage regulation for large workstations.



The extension of SOLA's ferroresonant power conditioners continues through to 22kVA. These units are mostly suited to hardwired, fixed installation applications for providing smooth stepless control of the output voltage, attenuation of harmful impulses or surges and other power line disturbances. SOLA 200 power conditioners are ideally suited to provide protection in computer rooms, regulation for scientific instrumentation, plus protection and regulated power to sophisticated computer based factory process equipment. To simplify installation, all units are free standing and fitted with castors (excluding 22kVA) and jacking feet. Connections are provided at the rear via a base plate cable entry to an isolation switch.

The flexibility of SOLA 200 power conditioners is increased on units between 7.5kVA and 18kVA. These units can be field configured for single phase or three phase operation.

SOLA 200 power conditioners (3 to 22kVA) incorporate approved surge withstand capabilities, as required by ANSI/IEEE C62.410.

Specifications

INPUT	
Voltage	220 or 240 Volt AC (Refer to Ordering Details)
Frequency	50Hz
Input Voltage Range	+10%, -20% (±40%)
Protection	ANSI/IEEE C62.410 A and B waveforms suppressed to safe levels
OUTPUT	
Nominal Voltage	220 or 240 Volts AC (Refer to Ordering Details)
Frequency	50Hz
Voltage Regulation	±3% for +10%, -20% input +5%, -8% for ±40% input
RESPONSE TIME	
	Return to regulation envelope within 30 msec (1.5 cycles)
OVERLOADS	
	200% of rated load for 10 seconds without damage. 500% of rated load for 10 msec.
ELECTRICAL NOISE ATTENUATION	
Transverse Mode	60dB typical (80dB max) 4kHz to 20MHz
Common Mode	120dB typical (140dB max) 2kHz to 1MHz
ENERGY STORAGE (RIDE THROUGH)	
	No loss of output for input power losses for up to 3 msec.
OUTPUT HARMONIC DISTORTION	
	Less than 3% THD on linear loads. No greater than 5% on typical computer loads.
OPERATING TEMPERATURE	
Operating Ambient	-20°C to +50°C
Insulation	Class H
AUDIBLE NOISE	
	Low acoustic sound level
WARRANTY	
	5 years

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Ordering Details

Rated Output kVA	Part Number*	Enclosure Configuration	Mass (kg)	Size (Note 5)
3	200-26-730	1 Phase only	100	1
3	200-26-730-00**	1 Phase only	100	1
5	200-26-750	1 Phase only	155	2
5	200-26-750-HO***	1 Phase only	155	2
7.5	200-26-775****	1 or 3 Phase	215	2
9	200-26-790****	1 or 3 Phase	270	2
12	200-26-812M****	1 or 3 Phase	360	3
15	200-26-815****	1 or 3 Phase	420	3
18	200-26-818****	1 or 3 Phase	520	3
22.5	200-46-822****	3 Phase only	595	4

- Notes:
- * For units with nominal input/output voltage of 220 specify -44-, as in 200-44-730.
 - ** Units fitted with WIP 15 plug and 4x10/15 Amp screw sockets.
 - *** Units fitted with input terminal block and 4x10/15 Amp screw sockets.
 - To avoid nuisance tripping of input circuit breakers, we recommend the use of Heinemann CF1 (curve 1) for three phase units. Current rating should be a least one size larger than input current stated on unit data plate. See manual or consult your Sales Representative for further details.
 - Enclosure sizes (HxWxD mm)
 - Size 1: 600x400x440
 - Size 2: 995x525x550
 - Size 3: 990x800x550
 - Size 4: 1236x800x550
 - ****3 Phase loads to be star connected only. Power Conditioners NOT suitable for Delta loads.
 7. 4 Wire input required for 3 Phase connection.

SOLA verifies performance data within normal industry standards.
Detailed information is available on request.

SOLA 63 120VA to 15kVA Industrial Power Conditioners

Multi-voltage, hardwired voltage regulation for industrial applications.



Frequently, power transformers are incorporated with process equipment to provide specific voltages for sensitive equipment. Unfortunately, outside interference will vary the output from these transformers, causing the sensitive equipment to malfunction or fail. The SOLA 63 range of power conditioners provide an immediate answer to this inconvenience, by suppressing and isolating power line interference and regulating the output voltage to $\pm 5\%$. These hardwired power conditioners provide the unique feature of selectable input tap for greater versatility and output voltage taps are also provided. These features makes the SOLA 63 power conditioner the ideal choice for a regulated power supply where a three phase source is provided without a neutral line.

The SOLA 63 power conditioner provides superior noise rejection, exceeding 120dB common mode and 60dB transverse mode noise rejection. By nature of design, this product is a true, ultra isolation device. The SOLA 63 is available from 120VA through to 15KVA as a panel mounting, hardwired unit.

Specifications

INPUT	
Voltage	120-5000VA Models: Field Selectable 110/120V or 220/240V or 380/415V 7.5-15kVA Models: Field Selectable 240V or 380/415V (All 2 wire connections)
Frequency	50Hz
OUTPUT	
Voltage	Field Selectable - 110/120/220/240 Volts AC (All 2 wire connections)
Frequency	50Hz
Voltage Regulation	$\pm 5\%$ for an input line variation of $\pm 15\%$
RESPONSE TIME	
Return to regulation envelope within 30 msec (1.5 cycles)	
OUTPUT HARMONIC DISTORTION	
Less than 3% THD on linear loads. No greater than 5% on typical computer loads.	
EFFICIENCY	
85% at full load	
DROPOUT	
No loss of output for line loss of 3 msec.	
ELECTRICAL NOISE REJECTION	
Transverse Mode	>60dB
Common Mode	>120dB
OPERATING TEMPERATURE	
-20°C to +50°C	
WARRANTY	
5 years	

Ordering Details

Rated Output VA	Part Number	Height (mm)	Width (mm)	Depth (mm)	Mass (kg)
120	63-23-612-8	219	102	132	13
250	63-23-625-8	270	140	137	13
500	63-23-650-8	335	162	229	18
1000	63-23-710-8	456	162	229	28
2000	63-23-720-8	447	238	324	51
3000	63-23-730-8	677	238	324	73
5000	63-23-750-8	762	238	324	110
7500	63-28-775-8	711	238	656	177
10000	63-28-810-8	762	238	656	221
15000	63-28-815-8	762	238	972	350

SOLA verifies performance data within normal industry standards.
Detailed information is available on request.

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SOLA 95 and 37 Power Conditioners

Heavy duty industrial grade power protection

For the ultimate in heavy duty industrial grade Power Conditioning, SOLA offers the 95 and 37 Series Saturable Reactor Power Conditioners.

Ranging in size from 30kVA to 700kVA, these products are the ideal devices to protect large industrial loads, that need clean, regulated power.

The SOLA 37 is an economically priced voltage regulator, with power ratings from 100kVA to 700kVA. It also features significant transverse mode noise attenuation. Typical applications include voltage correction for long feeder runs, large industrial sites with significantly varying loads causing voltage variations, etc.

The SOLA 95 is the ultimate in computer Power Conditioning. Not only does it feature complete galvanic isolation, giving exceptional common mode noise attenuation, but it also features very tight voltage regulation of $\pm 0.5\%$. This product is suitable for protection of buildings, industrial equipment or large computer installations. Output voltage compensation terminals are provided as standard to compensate for voltage drops in load cabling.

Each of these products features SOLA's legendary reliability, simplicity of design and ease of maintenance.

Features and Benefits

- ❖ **Local Design and Manufacture**
Designed and manufactured in Australia for 50 Hz or 60 Hz operation.
- ❖ **High Efficiency**
Up to 96% efficiency, saving valuable energy
- ❖ **Low Maintenance Costs**
Very simple, reliable design giving very low maintenance costs
- ❖ **High Overload Capability**
These products are designed to withstand and operate under high overload conditions for short periods.
- ❖ **Tight Voltage Regulation**
Extremely tight voltage regulation available for sensitive loads.
- ❖ **Warranty**
5 Year Warranty for parts and labour

SOLA 37 and 95 Power Conditioners

MODEL		
Capacity	SOLA 37	100, 150, 200, 250, 300, 400, 600, 700 kVA
Capacity	SOLA 95	30, 50, 75, 100, 150, 200 kVA
OPERATION		
Nominal Input Voltage		380, 400 or 415 VAC (Contact factory for other voltages)
Input Phases		3 Wire (4 Wire for SOLA 37)
Input Protection		ANSI/IEEE C62.41, A & B waveforms suppressed to safe levels on all 3 phases
Nominal Output Voltage		380Y/220 or 400Y/230 or 415Y/240 VAC
Output Voltage Regulation		$\pm 0.5\%$ SOLA 95 and $\pm 1\%$ for SOLA 37 for rated input voltage variations and 0 - 100% variation in load
Output Phases		3
Input Frequency		50 or 60 Hz
Output Frequency		Same as input
Response Time		1 cycle typical
Transverse Mode Noise Attenuation		60dB (1kHz to 1MHz typical)
Common Mode Noise Attenuation (SOLA 95 only)		130dB (DC to 1MHz typical)
Overload Rating		600% of rated load for 30 seconds, 200% of rated load for 10 minutes
Efficiency (typical)		96% at full load unity power factor
Connections		Input and Output termination studs behind removable panels
ENVIRONMENTAL		
UPS Operating Temperature		0°C to 40°C (ambient)
Audible Noise at 2 Metre		< 50dBA

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E & O E

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Printed in Australia SOLADTP: PC/BROCH/799