

# SX SERIES

## DC POWER SUPPLIES



- 20 TO 50 KW
- SCR BASED
- PROGRAMMABLE

**MAGNA-POWER**  
ELECTRONICS, INC.

# SX SERIES

## 20 KW TO 50 KW DC SYSTEMS

# MODULAR

## Engineered Assemblies

### FEATURES

- 40 Models: 16 to 800 Vdc, 24 to 3000 Adc
- Can be specified with any of the PX Series features
- Or'd diagnostic functions for detection of module conditions
- Dedicated master control panel with digital control lines optically isolated
- Modules share currents equally



### SPECIFICATIONS:

**Input voltage:** 208/240 Vac, 50-60 Hz, 3-phase; 380/415 Vac, 50-60 Hz, 3-phase; 440/480 Vac, 50-60 Hz, 3-phase

**Regulation line and load combined:** 0.10%

**Stability:** 0.10% for 8 hours after 30 minute warm up

**Transient response:** 75 ms to recover within 2% of regulated output 50% to 100% or 100% to 50% load change; 75 ms to recover within 10% of regulated output with 0% to 50% or 50% to 0% load change with Electronic Damping Circuit

**Ambient Temperature:** 0 to 50°C

**Programming resistors:** 1K full scale for output voltage, output current, and over voltage shutdown

**Temperature coefficient:** 0.04%/°C of maximum output current

### Notes:

1. Specifications subject to change without notice.
2. Consult factory for options.

### MODELS AND RATINGS

MODEL	VOLTS Vdc	AMPS Adc	RIPPLE mVrms	POWER kW
SX16-1200	0-16	0-1200	50	20
SX32-600	0-32	0-600	30	
SX50-400	0-50	0-400	40	
SX80-250	0-80	0-250	50	
SX125-160	0-125	0-160	60	
SX200-100	0-200	0-100	80	
SX250-80	0-250	0-80	90	
SX375-54	0-375	0-54	100	
SX500-40	0-500	0-40	130	
SX800-24	0-800	0-24	175	
SX16-1800	0-16	0-1800	50	30
SX32-900	0-32	0-900	30	
SX50-600	0-50	0-600	40	
SX80-375	0-80	0-375	50	
SX125-240	0-125	0-240	60	
SX200-150	0-200	0-150	80	
SX250-120	0-250	0-120	90	
SX375-81	0-375	0-81	100	
SX500-60	0-500	0-60	130	
SX800-36	0-800	0-36	175	
SX16-2400	0-16	0-2400	50	40
SX32-1200	0-32	0-1200	30	
SX50-800	0-50	0-800	40	
SX80-500	0-80	0-500	50	
SX125-320	0-125	0-320	60	
SX200-200	0-200	0-200	80	
SX250-160	0-250	0-160	90	
SX375-108	0-375	0-108	100	
SX500-80	0-500	0-80	130	
SX800-48	0-800	0-48	175	
SX16-3000	0-16	0-3000	50	50
SX32-1500	0-32	0-1500	30	
SX50-1000	0-50	0-1000	40	
SX80-625	0-80	0-625	50	
SX125-400	0-125	0-400	60	
SX200-250	0-200	0-250	80	
SX250-200	0-250	0-200	90	
SX375-135	0-375	0-135	100	
SX500-100	0-500	0-100	130	
SX800-60	0-800	0-60	175	

### SIZE MATRIX

POWER (kW)	SIZE (H"xW"xD")	WEIGHT
20	49X22x29	600
30	59½X22x29	875
40	68½X22x29	1150
50	59½X44x29	1425



**MAGNA-POWER**  
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# SX SERIES

## SCR, DC POWER SUPPLIES

**ROBUST, RELIABLE, AND PACKED WITH FEATURES**

**SX SERIES** operate two to five 10 KW modules in master slave configurations for system specific applications. Control functions are merged into one panel for true system integration and control. Standard systems are configured for paralleled output. Non-standard systems can be specified for tracking plus and minus outputs, multiple outputs, and IEEE-488 programming.

**SX SERIES** power supplies are fully programmable via resistance, voltage, current, or optional IEEE-488/RS232. While other supplies can remotely control only output voltage and current, **SX SERIES** units also allow programming of over voltage protection. Program lines are constantly monitored for range of operation. If a line should open or if a programmable input is set beyond that anticipated, the unit safely shuts down protecting the load. Differential feedback amplifiers allow remote load sensing at any distance from the power supply.

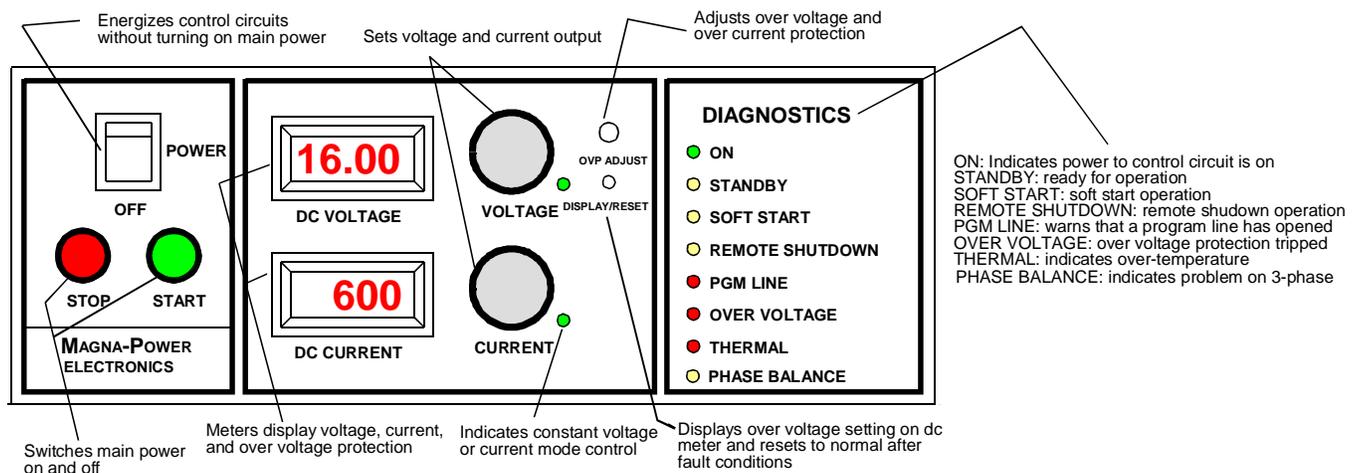
Diagnostic functions are contained directly within the supply's control loop. Exclusive circuitry eliminates guesswork about which function has control -- voltage, current, soft start, or a fault condition. If the fault condition requires user attention, main power is also disconnected. All diagnostic functions are monitored with optical isolators that can be paralleled for master/slave operation. In addition, control functions are also set through optical isolators to allow simultaneous control of one or more **SX SERIES** units.

**SX SERIES** supplies contain power factor correction capacitors for low input current demand — typically 20% to 30% less than competing models. Interphase reactors are used in lower voltage models to lower harmonic currents and to improve the power conditioning process. **SX SERIES** supplies operate with efficiencies in the range of 82% to 88%.

**SX SERIES** supplies have three levels of over voltage protection: shutdown of controlling thyristors, disconnect of main power, and optional SCR crowbar. After an over voltage condition, the supply must be reset forcing the user to observe the over voltage setting.

The transient response of **SX SERIES** supplies is enhanced by feed forward compensation and optional electronic damping. Feed forward compensation detects line changes and offsets feedback signals before being corrected with slower, error amplifiers. Optional electronic damping maintains output rectifiers with continuous current regardless of load conditions. This prevents peak charging of output capacitors and minimizes drooping under transient loading. Transient response under light load conditions is an order of magnitude better than conventional SCR supplies!

**SX SERIES** supplies are available with many options to meet specific needs. Linear output regulators, dual output high-speed switching modules, and undervoltage trip modules are just some of the available options.



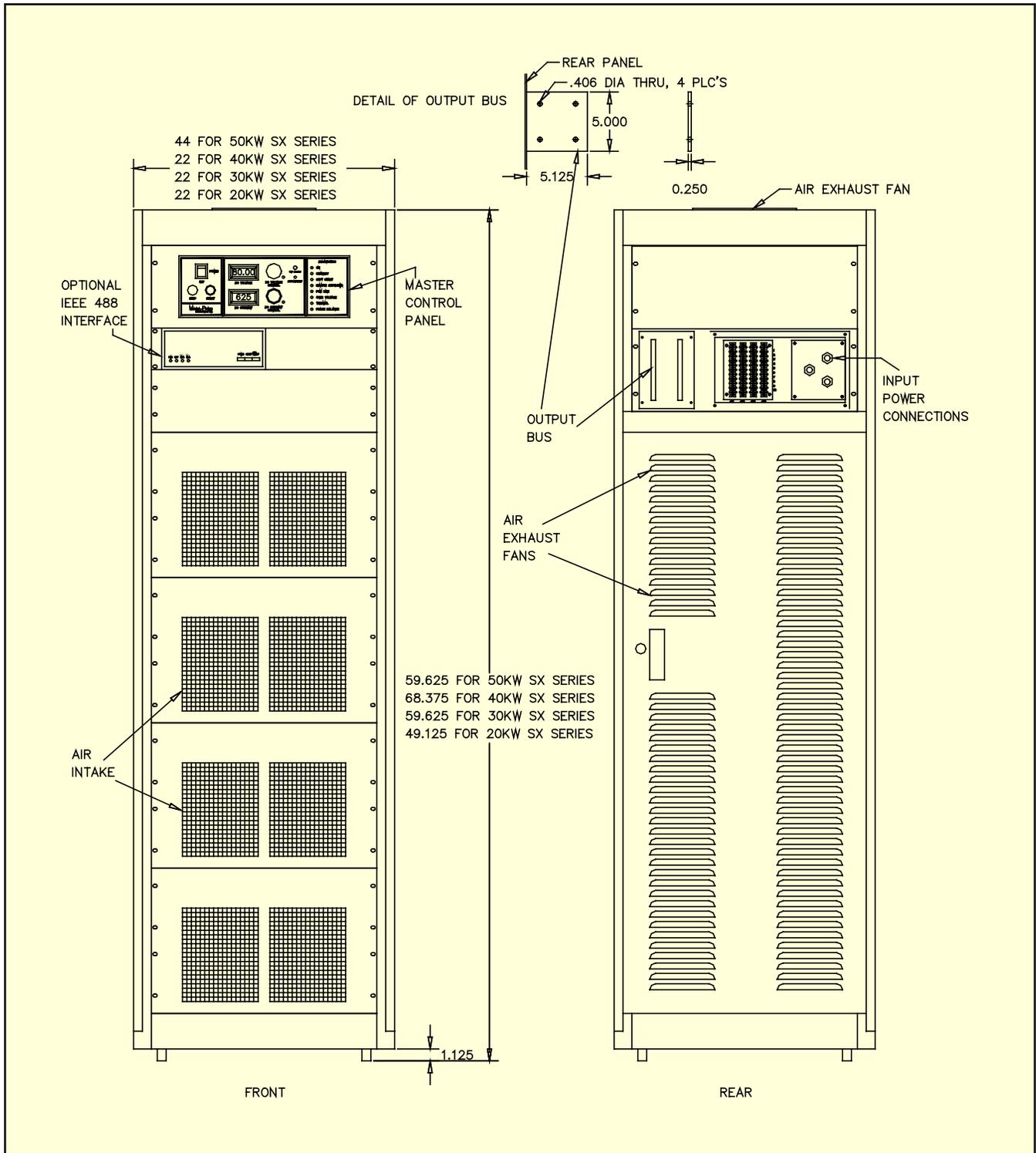
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# SX SERIES

**USER FRIENDLY!**

## OUTLINE DRAWINGS AND ELECTRICAL INTERFACE



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