SQ SERIES

DC POWER SUPPLIES

- 13.3 KW
- 16.6 KW
- 20 KW
- 26.6 KW
- 30 KW

MAGNA-POWER
ELECTRONICS, INC.

SQ SERIES

HIGH-DENSITY RACK MOUNT

13.3 KW TO 30 KW DC POWER SUPPLIES

FEATURES

- 50 Models: 16 to 600 Vdc, 21 to 1800 Adc
- Series and parallel master/slave operation
- High dielectric withstand: 2500 Vac
- Digital control lines optically isolated
- Exclusive control loop diagnostics
- OVP and OCP shutdown standard, SCR crowbar optional
- Automatic V/I crossover
- Digital meters standard
- Optional IEEE-488 and RS232 programming
- Air exhaust in rear of cabinet
- User friendly controls and indicators
- High power factor
- CE Mark

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: 10 ms to recover within 2% of regulated output with a 30% step load change
Ambient Temperature: 0 to 50°C
Programming resistors: 1K full scale for output voltage, output current, over voltage, and over current shutdown
Temperature coefficient: 0.04%/°C of maximum output current

NOTES:
1. Specifications subject to change without notice.
2. Specify optional EMI filter to meet EMC requirements.
3. Other options consult factory.

SIZE MATRIX

POWER (kW)	SIZE (H"xW"xD")	WEIGHT
13.3	10½X19x24	195
16.6	10½X19x24	220
20.0	10½X19x24	245
26.6	15¾X19x24	340
30.0	15¾X19x24	365

MODELS AND RATINGS

MODEL	VOLTS Vdc	AMPS Adc	RIPPLE mVrms	POWER kW
SQ16-800	0-16	0-800	40	
SQ32-400	0-32	0-400	30	
SQ50-265	0-50	0-265	40	
SQ80-166	0-80	0-166	50	
SQ125-106	0-125	0-106	60	
SQ200-66	0-200	0-66	80	13.3
SQ250-53	0-250	0-53	90	
SQ375-35	0-375	0-35	100	
SQ500-26	0-500	0-26	130	
SQ600-21	0-600	0-21	150	
SQ16-1000	0-16	0-1000	40	
SQ32-500	0-32	0-500	30	
SQ50-330	0-50	0-330	40	
SQ80-207	0-80	0-207	50	
SQ125-133	0-125	0-133	60	
SQ200-83	0-200	0-83	80	16.6
SQ250-66	0-250	0-66	90	
SQ375-44	0-375	0-44	100	
SQ500-33	0-500	0-33	130	
SQ600-26	0-600	0-26	150	
SQ16-1200	0-16	0-1200	40	
SQ32-600	0-32	0-600	30	
SQ50-400	0-50	0-400	40	
SQ80-250	0-80	0-250	50	
SQ125-160	0-125	0-160	60	
SQ200-100	0-200	0-100	80	20.0
SQ250-80	0-250	0-80	90	
SQ375-54	0-375	0-54	100	
SQ500-40	0-500	0-40	130	
SQ600-32	0-600	0-32	150	
SQ16-1600	0-16	0-1600	40	
SQ32-800	0-32	0-800	30	
SQ50-530	0-50	0-530	40	
SQ80-332	0-80	0-332	50	
SQ125-213	0-125	0-213	60	
SQ200-133	0-200	0-133	80	26.6
SQ250-106	0-250	0-106	90	
SQ375-71	0-375	0-71	100	
SQ500-53	0-500	0-53	130	
SQ600-42	0-600	0-42	150	
SQ16-1800	0-16	0-1800	40	
SQ32-900	0-32	0-900	30	
SQ50-600	0-50	0-600	40	
SQ80-375	0-80	0-375	50	
SQ125-240	0-125	0-240	60	
SQ200-150	0-200	0-150	80	30.0
SQ250-120	0-250	0-120	90	
SQ375-81	0-375	0-81	100	
SQ500-60	0-500	0-60	130	
SQ600-48	0-600	0-48	150	

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SQ SERIES

MFL TECHNOLOGY

CURRENT FED DC POWER PROCESSING

Magna-Power Electronics' **SQ SERIES** sets a new standard for high-powered dc supplies. A combination of high and medium frequency power processing technologies improves response, shrinks package size, and reduces cost. **SQ SERIES** power supplies are current fed. Compared with conventional switching power supplies, these supplies can easily tolerate the punishment of the most rigorous applications.

SQ 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, **SQ SERIES** units also allow programming of over voltage and over current 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.

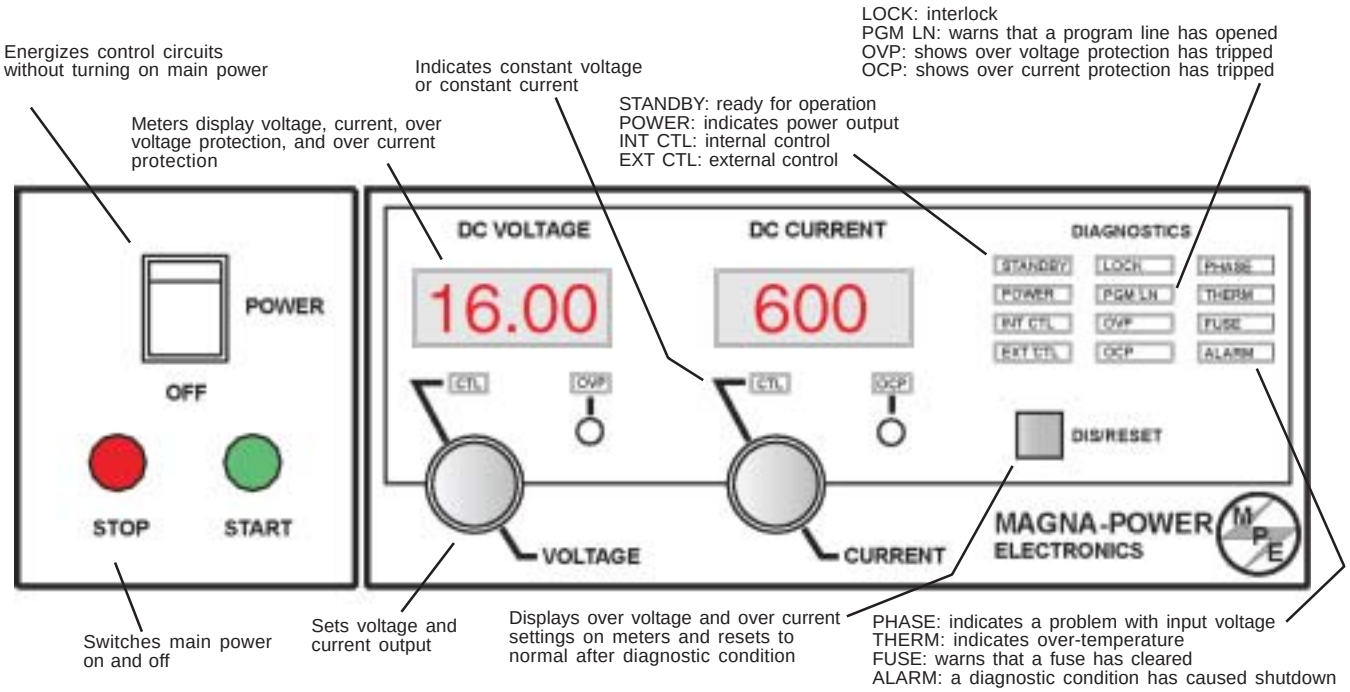
SQ SERIES can operate as a voltage source or current source depending on the control settings and load conditions. If the power supply is operating as a voltage source and the load increases to a point beyond the current command setting, the power supply automatically crosses over to current mode control and operates as a current source at that setting.

Differential feedback amplifiers allow remote load sensing at any distance from the power supply. Additional differential amplifiers are provided for master/slave series or parallel operation.

Diagnostic functions are contained directly within the supply's control loop. Exclusive circuitry eliminates guesswork about which function has control -- voltage, current, or a fault condition. If the fault condition requires user attention, main power is disconnected and the diagnostic condition is latched into memory. Pressing the reset switch clears the memory. All diagnostic functions are monitored with optical isolators that can be paralleled for master/slave operation. Furthermore, control functions are also set through optical isolators to allow simultaneous control of one or more **SQ SERIES** units. Programming switches in the rear of the supply enable internal operation of controls, external operation, or both.

SQ SERIES supplies have three levels of over voltage/current protection: shutdown of controlling insulated gate bipolar transistors (IGBT's), disconnect of main power, and optional SCR crowbar. After an over voltage/current condition, the supply must be reset. Pressing the reset switch causes the over voltage/current settings to be displayed on the front meters.

SQ SERIES have push button start/stop controls. These controls are tied to a mechanical contactor which operate with the electronic switches to break the ac mains when stop is commanded. Unlike competing products, an off means both an electrical and mechanical break in the power circuit — not a break in an electronic switch. Safety comes first at Magna-Power Electronics.



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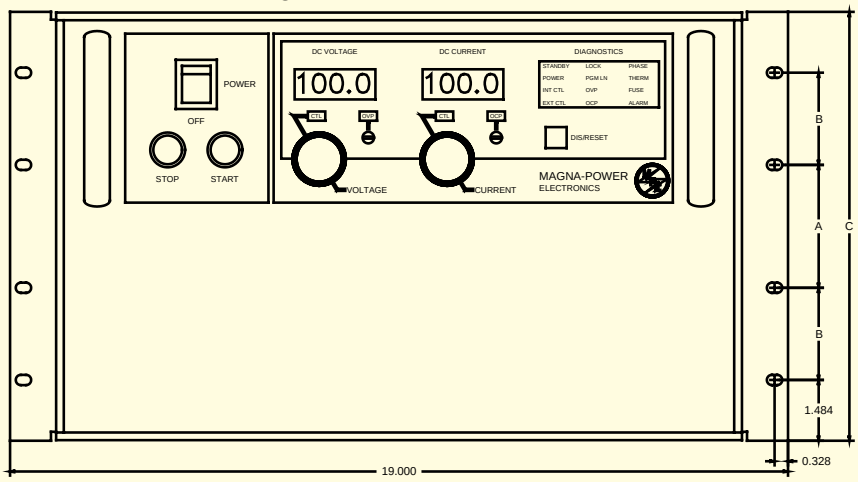
SQ SERIES

MODULAR SIMPLICITY!

OUTLINE DRAWINGS AND ELECTRICAL INTERFACE

FRONT PANEL



CONNECTOR JS1

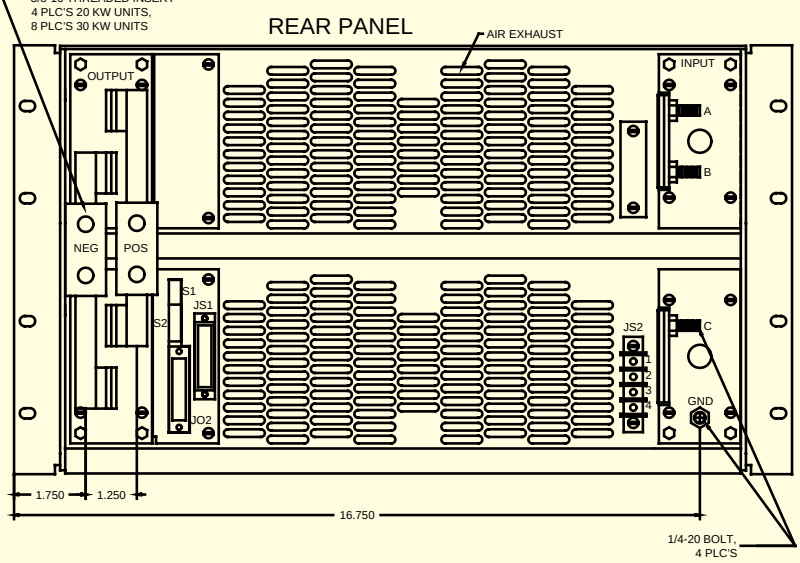
TERM	PARAMETER
1	ISOLATED RTN
2	CUR CTL
3	INTERLOCK
4	THERMAL
5	POWER
6	FUSE
7	EXT CTL
8	ALARM
9	START
10	INTERLOCK SET
11	NC
12	NC
13	NC
14	+5
15	VOLT CTL
16	PHASE LOSS
17	STANDBY
18	PGM LINE
19	OVP
20	INT CTL
21	OCP
22	STOP
23	RESET
24	NC
25	NC

CONNECTOR J02

TERM	PARAMETER
1	IO1+
2	IOMS
3	IO2REM-
4	REF GND
5	REF GND
6	TVREF
7	VREF
8	RV
9	RI
10	RTV
11	RTI
12	NC
13	NC
14	IO1-
15	VOMS
16	IO2REM+
17	REF GND
18	TIREF
19	IREF
20	IVREF
21	IIREF
22	ITVREF
23	ITIREF
24	NC
25	NC

3/8-16 THREADED INSERT
4 PLC'S 20 KW UNITS,
8 PLC'S 30 KW UNITS

REAR PANEL



DIMENSION SCHEDULE

CODE	13.3 T0 20 KW	26.6 T0 30 KW
A	3.000	4.750
B	2.250	4.000
C	10.469	15.719

CONNECTOR JS2

TERM	PARAMETER
1	VO1REM-
2	VO1REM+
3	VO2REM-
4	VO2REM+

The SQ Series uses two dip switches to configure the unit for custom applications. Switch S1 sets the power supply for remote sense, remote interlock protection, external control, or internal control. External control allows the SQ unit to be remotely controlled via start, stop, and reset commands. Enabling both internal and external controls allows control both internally and externally.

Switch S2 configures the four analog control lines: output voltage, output current, output voltage trip, and output current trip. The switches enables the SQ Series power supplies to be controlled via voltage, current, resistance, or optional IEEE488/RS232.

To connect the SQ power supply to the SBC488, the IEEE488/RS232 interface, attach two DB25 male to female cables and set all elements of switch S2 to 0. It is that easy.

SIDE PANEL