

SECTION V
SPECIFICATIONS

INPUT

Three-phase, three-wire system.

Line Voltage, phase-to-phase:

2.5 KW and 5 KW units: 188-242V.

10 KW units: 432-528V.

Optional voltages, all units: 188-242V, 342-418V, 432-528V.

Line Frequency: 47-63HZ

Line Currents: (Typical) 2.5 KW, 10 Amp; 5 KW, 20 Amp; 10 KW, 18 Amp.

Line: Regulation is measured over a $\pm 10\%$ change from nominal line.

Load: Regulation is measured for a no load to full load or full load to no load change.

GENERAL

Ripple: Measured as maximum with either positive or negative terminal grounded.

Transient Response: Output returns to within 2% in 50 MS for a step change from full load to $\frac{1}{2}$ load or $\frac{1}{2}$ load to full load for units rated up to 250 amperes.

Stability: 0.05% \pm mV listed in regulation table, for 8 hours after temperature equilibrium is reached, under fixed line, load and temperature conditions.

Ambient Temperature:

Operating: 0°C to 50°C .

Non-Operating: -40°C to 85°C .

Temperature Coefficient: .05% per degree C at maximum voltage setting.

Remote Sensing: Compensates for IR drops of power leads.

Remote Programming:

Voltage Mode:

1667 ohms per volt for 6-600V units.

1333 ohms per volt for $7\frac{1}{2}$ -300V units.

1250 ohms per volt for 40V and 80V units.

1000 ohms per volt for 10V, 20V, 30V, 50V, 100V and 500V units.

833 ohms per volt for 120V units.

625 ohms per volt for 160V units.

400 ohms per volt for 250V units.

Current Mode: 1 ohm per 1% of current rating.

OUTPUT

Constant Voltage Mode

Regulation:

Line - .1% over input range specified.

Load - .1% over current range specified.

Constant Current Mode

Regulation:

Line - .1% over +40ma input range specified.

Load - .1% from +40ma from no load to full load.

Transient Response

Output returns to within 2% of any voltage setting within 30% of the maximum voltage rating of the supply in 50ms for a step change from full load to 1/2 load or 1/2 load to full load for units rated up to 250A.

Remote Microprogramming:

Voltage Mode:

- 1.2 micromhos per 1% of max. voltage for 6.0V units.
- 1.5 micromhos per 1% of max. voltage for 7.5V units.
- 1.6 micromhos per 1% of max. voltage for 40V and 80V units.
- 2 micromhos per 1% of max. voltage for 10, 20, 30, 50, 100 and 500V units.
- 2.4 micromhos per 1% of max. voltage for 120V units.
- 3.2 micromhos per 1% of max. voltage for 160V units.
- 5 micromhos per 1% of max. voltage for 250V units.

Protection:

- Constant current with automatic crossover.
- Thermal overload with automatic reset.
- Input lines fused.

Termination: Separate AC and DC barrier strips mounted in rear of unit. Output terminals are 1/4 - 20 studs with nuts for units rated at 60A and below; 1" x 3/8" bus bars drilled for a 3/8" bolt for higher current units.

Cooling: Forced Air.

Options: (Refer to schematic diagram.)

Built-in overvoltage crowbar, front panel adjustable from 4V to 110% of rated voltage.

Remote turn-on by application of an external voltage.

Inductive load stabilization either by modified internal circuitry or external stabilizer Model 3032 for high L/R loads.

Input filter to limit noise reflected to the AC line to 10V P-P.

Output filter to limit noise on DC output to 15mV P-P, DC-20MHz.

Mode indicator on front panel lights when power supply is operating in the constant current mode.

Panel-mounted circuit breaker in place of line fuses.

TABLE OF SPECIFICATIONS SCR UNITS

SCR MODEL	DC OUTPUT		REGULATION				RMS RIPPLE		% EFFICIENCY	SIZE			NET WGT LBS
	VOLTS	AMPS	CV LINE/LOAD		CC LINE/LOAD	MA**	VOLT MV	CURRENT MA		H	W	D	
			%	MV*									
6-600	0-6	600	0.1	3	0.1	180	10	300	65	8.75	19	20	210
7.5-300	0-7.5	300	0.1	3	0.1	90	10	150	65	7.0	19	20	155
10-500	0-10	500	0.1	3	0.1	150	10	250	65	8.75	19	20	210
10-250	0-10	250	0.1	3	0.1	75	10	125	70	7.0	19	20	155
20-500	0-20	500	0.1	6	0.1	150	10	120	75	12.25	19	20	340
20-250	0-20	250	0.1	6	0.1	75	10	60	75	8.75	19	20	185
20-125	0-20	125	0.1	6	0.1	40	10	30	75	7.00	19	20	140
30-200	0-30	200	0.1	8	0.1	60	10	60	75	8.75	19	20	180
30-100	0-30	100	0.1	8	0.1	30	10	30	75	7.0	19	20	140
40-250	0-40	250	0.1	12	0.1	75	10	125	75	12.25	19	20	330
40-125	0-40	125	0.1	12	0.1	40	10	30	75	8.75	19	20	175
40-60	0-40	60	0.1	12	0.1	20	10	10		7.0	19	20	140
50-200	0-50	200	0.1	16	0.1	60	10	60	80	12.25	19	20	330
80-60	0-80	60	0.1	30	0.1	20	10	10	85	8.75	19	20	175
80-30	0-80	30	0.1	30	0.1	10	10	10	85	7.0	19	20	140
100-100	0-100	100	0.1	35	0.1	30	10	30	85	12.25	19	20	320
120-40	0-120	401	0.1	40	0.1	12	10	10	85	8.75	19	20	175
120-20	0-120	20	0.1	40	0.1	8	10	3	85	7.0	19	20	135
160-60	0-160	60	0.1	50	0.1	15	10	10	80	12.25	19	20	330
160-30	0-160	30	0.1	50	0.1	10	10	3	80	8.75	19	20	175
160-15	0-160	15	0.1	50	0.1	5	10	3	80	7.0	19	20	140
250-40	0-250	40	0.1	75	0.1	12	10	10	85	12.25	19	20	320
250-20	0-250	20	0.1	75	0.1	8	10	3	85	8.75	19	20	175
250-10	0-250	10	0.1	75	0.1	4	10	3	85	7.0	19	20	140
500-10	25-500	10	0.1	150	0.1	4	10	3	85	8.75	19	20	175
500-5	25-500	5	0.1	150	0.1	2	10	3	85	7.0	19	20	140

% or MV whichever is greater. *** and MA total at maximum output voltage

TABLE OF SPECIFICATIONS SCR UNITS

SCR MODEL	DC OUTPUT		REGULATION				RMS RIPPLE		% EFFICIENCY	SIZE			NET WGT LBS
	VOLTS	AMPS	CV LINE/LOAD %	MV*	CC LINE/LOAD %	MA**	VOLT	CURRENT MA ^{1/2}		H	W	D	
6-600	0-6	600	0.1	3	0.1	180	10	300	65	8.75	19	20	210
7.5-300	0-7.5	300	0.1	3	0.1	90	10	150	65	7.0	19	20	155
10-500	0-10	500	0.1	3	0.1	150	10	250	65	8.75	19	20	210
10-250	0-10	250	0.1	3	0.1	75	10	125	70	7.0	19	20	155
20-500	0-20	500	0.1	6	0.1	150	10	120	75	12.25	19	20	340
20-250	0-20	250	0.1	6	0.1	75	10	60	75	8.75	19	20	185
20-125	0-20	125	0.1	6	0.1	40	10	30	75	7.00	19	20	140
30-200	0-30	200	0.1	8	0.1	60	10	60	75	8.75	19	20	180
30-100	0-30	100	0.1	8	0.1	30	10	30	75	7.0	19	20	140
40-250	0-40	250	0.1	12	0.1	75	10	125	75	12.25	19	20	330
40-125	0-40	125	0.1	12	0.1	40	10	30	75	8.75	19	20	175
40-60	0-40	60	0.1	12	0.1	20	10	10		7.0	19	20	140
50-200	0-50	200	0.1	16	0.1	60	10	60	80	12.25	19	20	330
80-60	0-80	60	0.1	30	0.1	20	10	10	85	8.75	19	20	175
80-30	0-80	30	0.1	30	0.1	10	10	10	85	7.0	19	20	140
100-100	0-100	100	0.1	35	0.1	30	10	30	85	12.25	19	20	320
120-40	0-120	40	0.1	40	0.1	12	10	10	85	8.75	19	20	175
120-20	0-120	20	0.1	40	0.1	8	10	3	85	7.0	19	20	135
160-60	0-160	60	0.1	50	0.1	15	10	10	80	12.25	19	20	330
160-30	0-160	30	0.1	50	0.1	10	10	3	80	8.75	19	20	175
160-15	0-160	15	0.1	50	0.1	5	10	3	80	7.0	19	20	140
250-40	0-250	40	0.1	75	0.1	12	10	10	85	12.25	19	20	320
250-20	0-250	20	0.1	75	0.1	8	10	3	85	8.75	19	20	175
250-10	0-250	10	0.1	75	0.1	4	10	3	85	7.0	19	20	140
500-10	25-500	10	0.1	150	0.1	4	10	3	85	8.75	19	20	175
500-5	25-500	5	0.1	150	0.1	2	10	3	85	7.0	19	20	140

% or MV whichever is greater. **% and MA total $\frac{1}{2}$ at maximum output voltage

SPECIFICATIONS FOR EM MODEL POWER SUPPLIES

BASIC EM MODEL	EMCV OUTPUT		EMCC OUTPUT		RIPPLE (RMS)		MECHANICAL			WT. LBS
	VOLTS	AMPS	AMPS	VOLTS	EMCV MV*	EMCC MA*	SIZE			
							H	W	D	
6-600	1.5-6	600	50-600	6	300	33A	8.75	19	20	200
7.5-300	1.5-7.5	300	30-300	7.5	300	12A	7.0	19	20	145
10-250	1.5-10	250	50-250	10	300	8A	7.0	19	20	145
10-500	1.5-10	500	100-500	10	300	15A	8.75	19	20	200
20-125	2-20	125	25-125	20	300	12A	7.0	19	20	130
20-250	2-20	250	50-250	20	300	4A	8.75	19	20	175
20-500	2-20	500	100-500	20	300	8A	12.25	19	20	330
30-100	3-30	100	25-100	30	300	1000	7.0	19	20	130
30-200	3-30	200	50-200	30	300	2000	8.75	19	20	170
40-60	4-40	60	10-60	40	300	450	7.0	19	20	130
40-125	4-40	125	25-125	40	300	950	8.75	19	20	165
40-250	4-40	250	50-250	40	300	2000	12.25	19	20	320
50-200	5-50	200	40-200	50	300	1200	12.25	19	20	320
80-30	10-80	30	5-30	80	300	120	7.0	19	20	130
80-60	10-80	60	10-60	80	300	240	8.75	19	20	165
100-100	15-100	100	200-100	100	300	500	12.25	19	20	310
120-20	15-120	20	5-20	120	300	50	7.0	19	20	125
120-40	15-120	40	5-40	120	300	100	8.75	19	20	165
160-15	20-160	15	5-15	160	300	30	7.0	19	20	130
160-30	20-160	30	5-30	160	300	60	8.75	19	20	165
160-60	20-160	60	10-60	160	300	120	12.25	19	20	320
250-10	25-250	10	2-10	250	300	12	7.0	19	20	130
250-20	25-250	20	5-20	250	300	24	8.75	19	20	165
250-40	25-250	40	5-40	250	300	48	12.25	19	20	310
500-5	50-500	50	1-5	500	300	6	7.0	19	20	130
500-10	50-500	10	2-10	500	300	12	8.75	19	20	165

* At maximum output--Ripple is measured into a resistive load and is less at reduced power output.