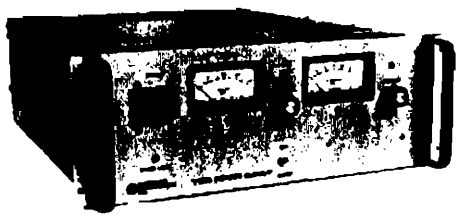
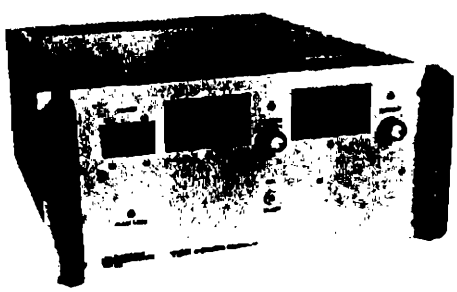
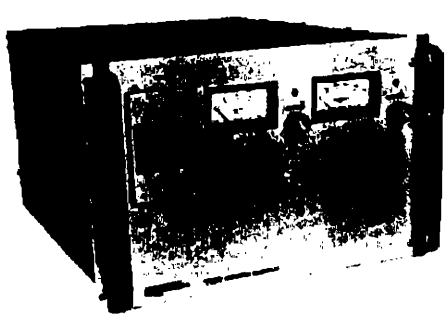
SCR-Type DC Power Supplies



2.5 KW 7" Panel



5 KW 8-3/4" Panel



10 KW 12-1/4" Panel

MAJOR FEATURES

- Combine optimum performance and reliability.
- Highest power-per-cubic-inch in industry.
- Reduction in line-conducted RFI by 1000 times over previous SCR models. (Complies with VDE 875 Level N and VDE 871 Level A.)
- High dielectric withstand ratings primary to secondary and chassis (2500 V rms).
- Low output ripple without the added cost of slow-acting electronic ripple eliminator circuitry.
- Fast and easy access to internal bias, control and SCR firing circuits.
- Series or parallel master/slave operation.
- Standard remote turn-on and interlock functions.
- Common programming with E/M's single-phase TCR models and its EMHP Series models.
- Five-year warranty.

APPLICATIONS

- CW lasers
- General industrial DC power
- Capacitor forming
- Focusing coils for accelerators
- Cryogenic magnet applications
- Electroplating
- Battery charging
- Semiconductor aging racks

The SCR power supply is a completely transistorized, regulated, DC source with a continuously variable output. The semiconductor circuitry insures instant startup and the use of silicon controlled rectifiers as the regulating element provides high efficiency in a compact unit. This power supply also has a dual-channel amplifier for both voltage and current control. The output can be programmed (remotely controlled) for either voltage or current, or both, and is short circuit protected.

ELECTRONIC MEASUREMENTS INC.

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SCR SINGLE PHASE POWER SUPPLY

SPECIFICATIONS

The following specifications describe the published operational characteristics of this series of power supplies.

Number of package ratings: (4) - 500W, 800W, 1600W and 2400W nominal output.

AC INPUT: 500W, 800W and 1600W models, 117VAC ± 10% 47-63 HZ; 208/220 VAC ± 10% 47-63 HZ optional. 500W and 800W units shipped with line cord and plug. 1600W and 2400W units have barrier strip AC input. 2400W models, 208/220VAC ± 10% 47-63 HZ standard.

REGULATION:

VOLTAGE MODE: For line voltage variations and load current variations within the rating of the supply, the output voltage will not vary more than .1% of the maximum voltage rating.

CURRENT MODE: For line voltage variations and load voltage variations within the rating of the supply, the output current will not vary more than .25% of the maximum current rating.

RIPPLE: Measured with either positive or negative grounded and 100% output voltage and current into a resistive load. (See Rating Chart.)

STABILITY: The output voltage or current will remain within 0.05% for 8 hours after warm-up, with constant external effects.

TRANSIENT RESPONSE: Upon instant application of loads up to 50% or the maximum rating of the supply, the output voltage will typically recover to within 1.0% of its final value within 50ms. Instantaneous line variations are corrected for within 50ms of their occurance.

TEMPERATURE COEFFICIENT: Output voltage T.C. is 0.02% per degree C of maximum rating. Output current T.C. is 0.03% per degree of maximum rating.

OPERATING TEMPERATURE: 0-50 C with no derating required. Consult factory for output ratings at higher temperatures.

STORAGE TEMPERATURE: -40 to +85 C.

RESOLUTION: The voltage control is a ten turn potentiometer. The current control is a one turn cermet type potentiometer.

INSTRUMENTATION: Voltmeter, ammeter and mode of operation indicator lights.

CONTROLS: Circuit Breaker on-off control voltage and current controls.

COOLING: All units are fan cooled and thermostatically protected. Air enters at sides of unit and exits at the rear. Consequently, no heat will be applied to other equipment above or below the power unit.

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		VOLT	CURRENT					
			%	MV*	%	MA**	MV	MA		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	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