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ABC

REGULATED DC SUPPLY

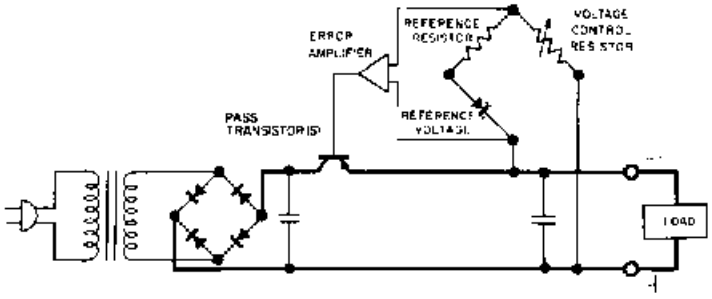
TRANSISTORIZED

ALL-TRANSISTOR GROUP

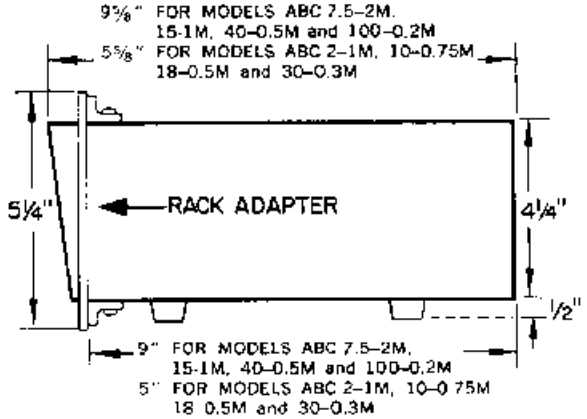
- *voltage/current regulation*
- *full range programming*
- *10-turn voltage control*
- *laboratory or systems use*
- *versatile, compact design*

0.05% REGULATION and STABILITY

MODEL	DC OUTPUT RANGE		RIPPLE RMS	OUTPUT IMPEDANCE OHMS MAX.			MAX. INPUT AMPS AT 125 V AC
	VOLTS	AMPS	MV	DC to 100 CPS	100 CPS to 1 KC	1 KC to 100 KC ± μH	
ABC 2–1M	0–2	0–1	0.25	0.001	0.01	0.1 ± 0.5	0.3
ABC 7.5–2M	0–7.5	0–2	0.25	0.002	0.01	0.05 ± 0.5	0.5
ABC 10–0.75M	0–10	0–0.75	0.25	0.007	0.02	0.1 ± 1	0.3
ABC 15–1M	0–15	0–1	0.25	0.008	0.01	0.05 ± 0.5	0.5
ABC 18–0.5M	0–18	0–0.5	0.25	0.02	0.02	0.1 ± 1	0.3
ABC 30–0.3M	0–30	0–0.3	0.25	0.05	0.02	0.1 ± 1	0.3
ABC 40–0.5M	0–40	0–0.5	0.25	0.04	0.02	0.05 ± 0.5	0.5
ABC 100–0.2M	0–100	0–0.2	0.25	0.25	0.05	0.05 ± 1	0.5



All models are designed for continuous operation without de-rating under all specified line, load and temperature conditions.



SPECIFICATIONS, Voltage Regulation Mode

REGULATION: *Line:* Less than 0.05% or 1 mv output voltage change, whichever is greater, for 105-125V AC or 210-250V AC line variation, at any output voltage within the specified range.

Load: Less than 0.05% or 1 mv output voltage change, whichever is greater for *no load* to *full load* change at any output voltage within the specified range.

STABILITY: Output voltage varies less than 0.05% or 3 mv, whichever is greater, over a period of 8 hours after warmup. Measured at constant line voltage, load and ambient temperature.

TEMPERATURE COEFFICIENT: Output voltage changes less than 0.05% per °C.

RIPPLE: Less than 0.25 mv rms.

RECOVERY TIME: 50 microseconds.

OUTPUT IMPEDANCE: Specified for each model within the load frequency range shown in the table. Above 10 kc include the reactive impedance of the effective series inductance as indicated.

SPECIFICATIONS, Current Regulation Mode

External Sensing

OUTPUT RANGE: Current regulation from 1 ma to 100% of the maximum rated current.

COMPLIANCE: Voltage compliance range is zero to 100% of the maximum output voltage.

For any selected current value, the output voltage is automatically varied throughout the compliance range as required to regulate the output current through a variable load.

REGULATION: *Line:* For 105-125V AC or 210-250V AC line variations, output current changes less than 0.1% when the specified voltage sample is maintained across the external sensing resistor.

Load: For the maximum change in load resistance, within the rated compliance range, output current changes less than 0.5% when the specified voltage sample is maintained across the external sensing resistor.

The sensing resistor is chosen to produce a one volt drop at the maximum operating current. A separate control is used externally to provide high resolution current adjustability.

STABILITY: Output current varies less than 0.1% or 1 ma, whichever is greater, over a period of 8 hours after warmup. Measured at constant line voltage, load and ambient temperature.

TEMPERATURE COEFFICIENT: Output current changes less than 0.1% per °C.

RIPPLE: Less than 0.1% of maximum current, rms.

SPECIFICATIONS, General

INPUT REQUIREMENTS: 105-125 or 210-250V AC, 50-440 cps single phase.

AMBIENT OPERATING TEMPERATURE: −20°C to +50°C maximum.

STORAGE TEMPERATURE: −40°C to −85°C maximum.

Data subject to change without notice
PATENT NOTICE: Applicable Patent Nos will be supplied on request.

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ISOLATION VOLTAGE: A maximum of 500 volts can be connected between the chassis and either output terminal.

SPECIFICATIONS, Performance

CONTROLS: Continuously adjustable 10-turn voltage control permits output settings from zero to the maximum voltage. Resolution: 0.05% of maximum output.

PROGRAMMING: Special terminals provide for remote resistive programming of voltage or current at 1000 ohms per volt. Programming terminals are also provided for programming by means of remotely located voltage or current signals.

CURRENT LIMIT CONTROL: A single turn control provides adjustable current limiting from 25% to 150% of rated full-load current.

SHORT CIRCUIT PROTECTION: Unique current limiting circuitry permits continuous operation into a short circuit without the aid of fuses, circuit breakers or relays. Output returns instantly to the operating voltage when the overload is removed.

REMOTE ERROR SENSING: Error sensing terminals enable specified voltage regulation to be maintained directly at the load by compensating for voltage drops up to 0.5 volts across each load supply lead.

SERIES/PARALLEL OPERATION: Current limiting capability permits series or parallel operation. In parallel, units operate automatically to share a load by means of the current limiting feature.

COOLING: Heat removal is by natural convection, without blowers.

OVERSHOOT: No output voltage overshoot from turn-on, turn-off or power failure for output settings above 25% of max. rated voltage. Below 25%, output overshoot is a function of load and is negligible for loads in excess of 10%.

SPECIFICATIONS, Physical

METERS: Model numbers in table include 2½" combination voltmeter, ammeter; 2% full scale accuracy. To specify an unmetered unit, delete the suffix "M" from the model no., e.g., ABC 40-0.5, for unit without meters.

ON FRONT PANEL: DC output and ground (5-way) terminals. 10-turn voltage control, short circuit current adjusting control, AC on-off switch, pilot light and fuse. Volt/amp meter and meter selector switch provided on metered units.

On Rear of Chassis: Barrier strip terminations are provided for DC output and ground connections, resistive or voltage programming, current regulator connections, and remote error sensing. Access is provided for the voltage calibration control. Output terminals are isolated from the chassis, either positive or negative terminal may be grounded.

DIMENSIONS: 4¼" H x 8$^{5}/_{32}$" W. See outline drawing for the depth dimensions of each model.

STANDARD FINISH: Panel etched aluminum — brushed and coated. Case, gray hammertone (special finishes to order).

RACK MOUNTING: Rack mounting adapters (5¼" high x 19" wide) available for single or dual rack mounting:
Model RA-5 for mounting single unit.
Model RA-4 for mounting two units side by side.

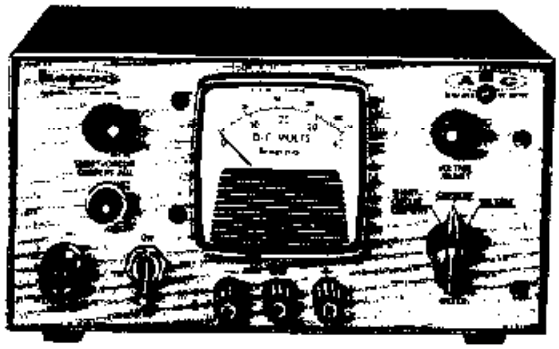
See Accessory Page 47 for outline dimensional drawings of rack adapters.

38 SANFORD AVENUE • FLUSHING, N.Y. 11352 • Phone: (212) IN 1-7000
TWX #212-539-6623 • Cable Address: KEPCOPOWER, NEWYORK

TRANSISTORIZED

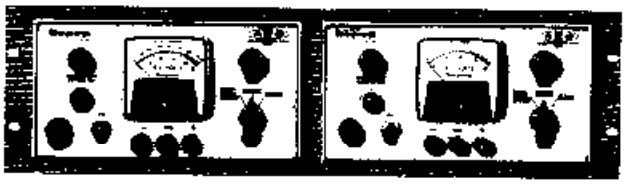
kepco ABC REGULATED DC SUPPLY

ALL-TRANSISTOR GROUP



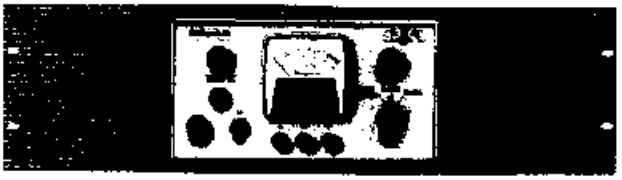
Model ABC 30-0.3M

ABC 40-0.5M ABC 15-1M

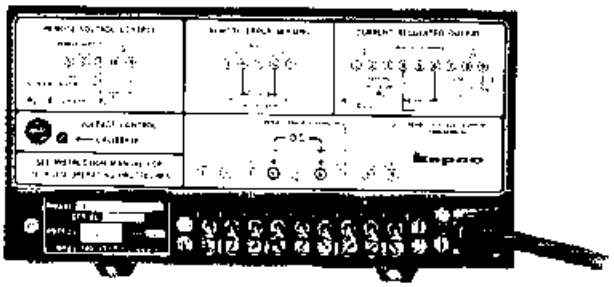


TYPICAL ASSEMBLY IN MODEL RA-4 RACK ADAPTER

ABC 7.5-2M



TYPICAL ASSEMBLY IN MODEL RA-5 RACK ADAPTER



TYPICAL REAR VIEW SHOWING ACCESSIBLE TERMINAL BLOCK WITH SIMPLIFIED CONNECTION GUIDE.

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ABC

REGULATED DC SUPPLY

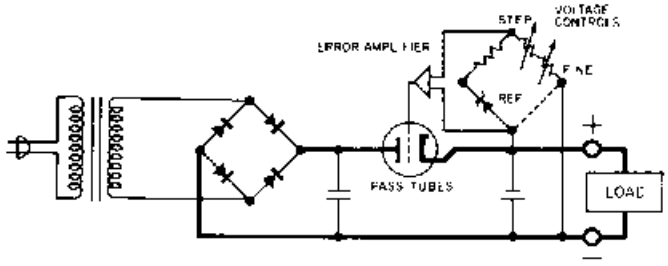
HYBRID

HYBRID GROUP

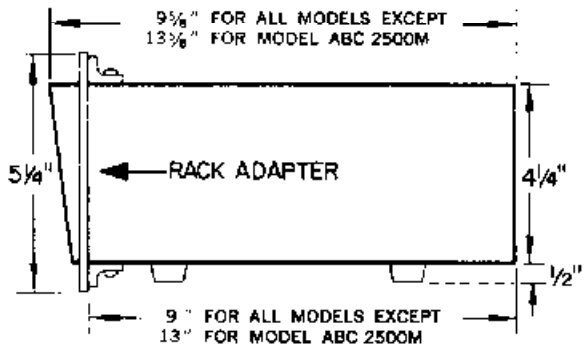
- *voltage/current regulation*
- *full range programming*
- *10-turn voltage control*
- *laboratory or systems use*
- *versatile, compact design*

0.05% REGULATION and STABILITY

MODEL	DC OUTPUT RANGE		RIPPLE RMS	OUTPUT IMPEDANCE OHMS MAX.			MAX. INPUT AMPS At 125 VAC
	VOLTS	MA.	MV	DC to 100 CPS	100 CPS to 1 KC	1 KC to 100 KC - μH	
ABC 200M	0—200	0—100	0.5	1	0.5	2.0 - 2.0	0.5
ABC 425M	0—425	0—50	0.5	4	0.5	2.0 - 2.0	0.5
ABC 1000M	0—1000	0—20	1.0	25	1.0	2.0 - 10.0	0.5
ABC 1500M	0—1500	0—10	1.0	75	1.0	2.0 - 10.0	0.3
ABC 2500M	0—2500	0—2	1.0	625	1.0	2.0 - 10.0	0.3



All models are designed for continuous operation without derating under all specified line, load and temperature conditions.



Data subject to change without notice

PATENT NOTICE: Applicable Patent Nos. will be supplied on request.

SPECIFICATIONS, Voltage Regulation Mode

REGULATION: *Line:* Less than 0.05% or 5 mv output voltage change, whichever is greater, for 105-125V AC or 210-250V AC line variation, at any output voltage within the specified range.

Load: Less than 0.05% or 5 mv output voltage change, whichever is greater, for *no load* to *full load* change at any output voltage within the specified range.

STABILITY: Output voltage varies less than 0.05% or 50 mv, whichever is greater, over a period of 8 hours after warmup. Measured at constant line voltage, load and ambient temperature.

TEMPERATURE COEFFICIENT: Output voltage changes less than 0.05% per °C.

RIPPLE: See table for maximum specification applicable to each model.

RECOVERY TIME: 50 microseconds.

OUTPUT IMPEDANCE: Specified for each model within the load frequency range shown in the table. Above 10 kc include the reactive impedance of the effective series inductance as indicated.

SPECIFICATIONS, Current Regulation Mode

External Sensing

OUTPUT RANGE: Current regulation from 1 ma to 100% of the maximum rated current.

COMPLIANCE: Voltage compliance range is zero to 100% of the maximum output voltage.

For any selected current value, the output voltage is automatically varied throughout the compliance range as required to regulate the output current through a variable load.

REGULATION: *Line:* For 105-125V AC or 210-250V AC line variations, output current changes less than 0.1% when the specified voltage sample is maintained across the external sensing resistor.

Load: For the maximum change in load resistance, within the rated compliance range, output current changes less than 0.1% when the specified voltage sample is maintained across the external sensing resistor.

The sensing resistor is chosen to produce a 10 volt drop at the maximum operating current. A separate control is used externally to provide high resolution current adjustability.

STABILITY: Output current varies less than 0.1% or 10μa, whichever is greater, over a period of 8 hours after warmup. Measured at constant line voltage, load and ambient temperature.

TEMPERATURE COEFFICIENT: Output current changes less than 0.1% per °C.

RIPPLE: Less than 0.1% of maximum current, rms.

SPECIFICATIONS, General

INPUT REQUIREMENTS: 105-125 or 210-250V AC, 50-440 cps single phase.

AMBIENT OPERATING TEMPERATURE: −20°C to +55°C maximum.

STORAGE TEMPERATURE: −40°C to +85°C maximum.

ISOLATION VOLTAGE: A maximum of 1000 volts can be connected between the chassis and either output terminal.

AUXILIARY OUTPUT: 6.5 V AC, unregulated, at 2 amperes available at the rear terminals of Models ABC 200M and ABC 425M.

SPECIFICATIONS, Performance

CONTROLS: Continuously adjustable voltage control permits output settings from zero to the maximum voltage. The

voltage control on Models ABC 200M and ABC 425M is a single 10-turn control: resolution: 0.05% of maximum output. The voltage control for Models ABC 1000M, ABC 1500M and ABC 2500M consists of a 10-position step switch with a 10-turn control interpolating between switch positions; resolution: 0.005% of maximum output.

PROGRAMMING: Special terminals provide for remote resistive programming of voltage or current at 1000 ohms per volt. Programming terminals are also provided for programming by means of remotely located voltage or current signals.

CURRENT LIMIT CONTROL: A single control provides adjustable current limiting from 25% to 150% of rated full-load current on Models ABC 200M and ABC 425M. Fixed current limiting, set to approximately 150% of rated maximum current is provided on Models ABC 1000M, ABC 1500M and ABC 2500M.

SHORT CIRCUIT PROTECTION: Unique current limiting circuitry permits continuous operation into a short circuit without the aid of fuses, circuit breakers or relays. Output returns instantly to the operating voltage when the overload is removed.

SERIES/PARALLEL OPERATION: Current limiting capability permits series or parallel operation. In parallel, units operate automatically to share a load by means of the current limiting feature. Series operation is limited to the 1000 volts of isolation.

HYBRID CIRCUIT: Unique design achieves high efficiency and reliability by using transistorized reference and amplification circuits for optimum regulation, stability and long life. Vacuum tubes are used for series pass elements for reliable high voltage operation.

COOLING: Heat removal is by natural convection.

OVERSHOOT: No output voltage overshoot from turn-on, turn-off or power failure for output settings above 25% of max. rated voltage. Below 25%, output overshoot is a function of load and is negligible for loads in excess of 10%.

SPECIFICATIONS, Physical

METERS: Model numbers in table include 2½" combination voltmeter, ammeter; 2% full scale accuracy. To specify an unmetered unit, delete the suffix "M" from the model no., e.g., ABC 200, for unit without meters. Models ABC 1000M, ABC 1500M and ABC 2500M include a voltmeter only.

TERMINALS AND CONTROLS: *On Front Panel:* DC output and ground (5-way) terminals. DC voltage control, AC on-off switch, pilot light and fuse. A volt/amp meter, meter selector switch and short circuit current adjusting control are provided on all models except ABC 1000M, ABC 1500M and ABC 2500M which contain a voltmeter only, plus the 10-position voltage step switch.

On Rear of Chassis: Barrier strip terminations are provided for DC output and ground connections, resistive or voltage programming and current regulator connections. Access is provided for the voltage calibration control. Output terminals are isolated from the chassis, either positive or negative terminal may be grounded.

DIMENSIONS: 4¼" H x 8$^{5}/_{32}$" W. See outline drawing for the depth dimensions of each model.

STANDARD FINISH: Panel, etched aluminum — brushed and coated. Case, gray hammertone (special finishes to order).

RACK MOUNTING: Rack mounting adapters (5¼" high x 19" wide) available for single or dual rack mounting:
Model RA-5 for mounting single unit.
Model RA-4 for mounting two units side by side.

See Accessory Page 47 for outline dimensional drawings of rack adapters.

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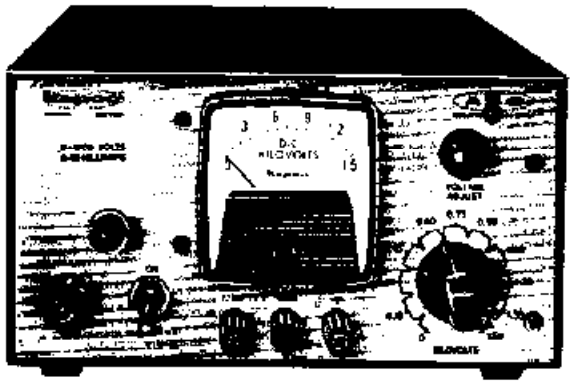
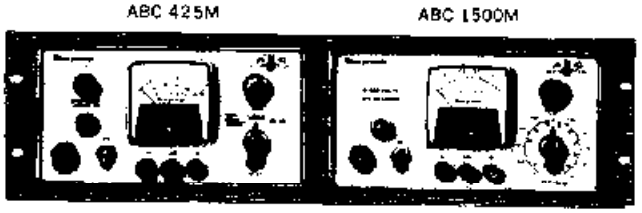


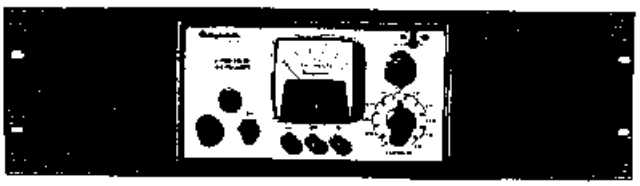
Model ABC 1500M

ABC 425M ABC 1500M

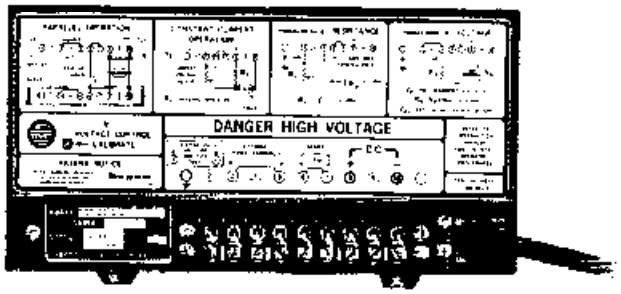


TYPICAL ASSEMBLY IN MODEL RA-4 RACK ADAPTER

ABC 2500M



TYPICAL ASSEMBLY IN MODEL RA-5 RACK ADAPTER



TYPICAL REAR VIEW SHOWING ACCESSIBLE TERMINAL BLOCK WITH SIMPLIFIED CONNECTION GUIDE.