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Test & Measurement

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Complimentary Reference Material

This PDF has been made available as a complimentary service for you to assist in evaluating this model for your testing requirements.

TMG offers a wide range of test equipment solutions, from renting short to long term, buying refurbished and purchasing new. Financing options, such as Financial Rental, and Leasing are also available on application.

TMG will assist if you are unsure whether this model will suit your requirements.

Call TMG if you need to organise repair and/or calibrate your unit.

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Model ABC 10-10DM

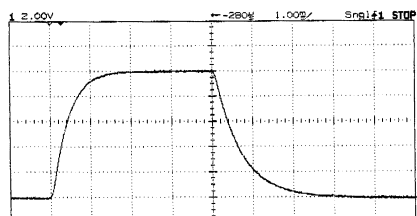
ABC MODEL TABLE

MODEL	d-c OUTPUT			RIPPLE AND NOISE (mV) p-p						EFFICIENCY
	RANGE		POWER	2x SOURCE FREQUENCY		SWITCHING FREQUENCY		SPIKE (50 MHz)		100% LOAD 85-264V a-c
	VOLTS	AMPS	WATTS	TYP	MAX	TYP	MAX	TYP	MAX	% MIN
ABC 10-10DM	0-10	0-10	100	2	4	2	4	3	20	65%
ABC 15-7DM	0-15	0-7	105	3	7	3	8	4	20	66%
ABC 25-4DM	0-25	0-4	100	5	10	5	10	5	20	66%
ABC 36-3DM	0-36	0-3	108	7	15	7	15	7	20	67%
ABC 60-2DM	0-60	0-2	120	12	24	12	24	12	24	68%
ABC 125-1DM	0-125	0-1	125	25	50	25	50	25	50	70%

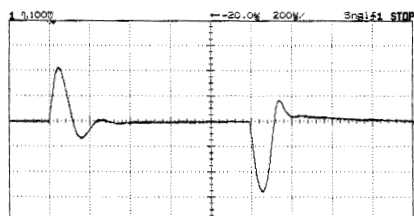
Kepco's ABC bench power supply embodies the latest features: keyboard data entry, interactive digital display, integral GPIB support, software calibration, high frequency switch-mode conversion, wide range input (85-264V a-c) and power factor correction. It meets the EN61000-3-2 harmonic limits. A built-in EN55022 Class B input EMI filter is provided.

Six different models are available from 0-10V at 10A to 0-125V at 1A. The built-in GPIB interface allows ABC to integrate easily into a test system. The ABC is shipped with an instrumentation software driver using VISA* I/O to facilitate integration.

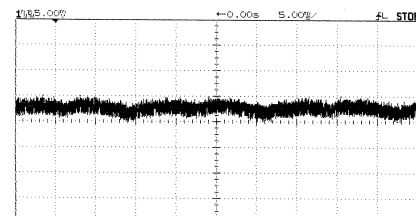
**Virtual Instrumentation Software Architecture*



Trace showing typical programming speed for 0-100% voltage, full load
Vertical 2.00V/division
Horizontal 1 ms/division



Trace showing typical recovery of output voltage when load is step-changed 50-100%
Vertical 100 mV/division
Horizontal 200 μs/division



Trace showing typical output ripple at full load
Vertical 5 mV/division
Horizontal 5 ms/division

FEATURES

- Direct entry of voltage and current from the keypad with up-down slew buttons.
- A two-line, sixteen character back-lit display prompts you for settings and reports back what the ABC is delivering to the load.
- All full scale and zero adjustments are made with the keypad and are stored in non-volatile memory. Calibration is password protected.
- Kepco's ABC is controlled over the GPIB and supports SCPI and IEEE 488.2. VISA driver provided.
- ABC are automatic crossover voltage/current stabilizers with full control in both modes.
- Overvoltage and overcurrent protection are standard and fully programmable.
- The high efficiency switching topology used in ABC requires no forced air mechanical cooling.
- A highly effective multi-stage output filter keeps the output ripple and noise down to linear levels...without the heavy metal.
- A non-volatile memory stores 40 different combinations of voltage, current, overvoltage, overcurrent and time interval. They may be recalled individually or in a step sequence.



ABC are CE marked per the Low Voltage Directive (LVD), EN61010-1 and the EMC Directives.



ABC INPUT CHARACTERISTICS

SPECIFICATIONS		RATING/DESCRIPTION	CONDITION
a-c Voltage	nominal	100-240V a-c	Single phase
	range	85-264V a-c	Wide range
Frequency	nominal	50-60Hz	>63Hz Input leakage current exceeds spec
	range	47-63Hz (400Hz)	
Current	85V a-c	1.8A ⁽¹⁾	Maximum at 100W output
	120V a-c	1.3A ⁽¹⁾	
	240V a-c	0.65A ⁽¹⁾	
	264V a-c	0.60A ⁽¹⁾	
Initial Turn-on Surge		5A peak for less than 150 μsec	85-264V a-c 0-100% load
Power Factor	min	120V 0.97 240V 0.93	100% load
EMC Immunity To:			
	Radiated RF	EN61000-4-3	Level 3
	Magnetic Field	EN61000-4-8	Level 4
	Electrostatic discharge	EN61000-4-2	Level 2 4KV contact Level 3 8KV air discharge
	Conducted RF	EN61000-4-6	Level 3
	Electrical Fast Transient	EN61000-4-4	Level 3
	Surges	EN61000-4-5	Level 4
EMC Emissions:			
Conducted		EN61000-3-2	Harmonics (0-2 KHz)
		EN61000-3-3	Fluctuation & Flicker
		EN55022 Class B	0.15~30 MHz
	Radiated	EN55022 Class B	30~1000 MHz
Leakage Current	120V a-c	<0.25mA	Source frequency in 47-63Hz range
	240V a-c	<0.5mA	

(1) Input current for 100W output. For the 120W ABC 60-2M and 125W ABC 125-1M the output current is proportionally higher.

ABC OUTPUT CHARACTERISTICS

SPECIFICATIONS		RATING/DESCRIPTION	CONDITION
Type of Stabilizer		Automatic crossover	Voltage/Current
Adjustment Range		0 to 100% of rating	Voltage/Current
Source Effect	Voltage	<0.01% E_o max	Nominal \pm 15% of input voltage
	Current	<0.01% I_o max	
Load Effect	Voltage	<0.01% E_o max	0 to 100% load change
	Current	<0.02% I_o max	
Temperature Effect	Voltage	<0.01% E_o max	Per degree C (0 to 50°C)
	Current	<0.01% I_o max	
Time Effect	Voltage	<0.01% E_o max	0.5-8.5 hours
	Current	<0.01% I_o max	
Error Sense		0.5V per wire	Voltage allowance
Isolation Voltage		500V d-c or peak	Output to ground
Programming Time		2ms max	10%-90%
Programming Accuracy	Voltage	0.025% E_o max	
	Current	0.1% I_o max ⁽¹⁾	
Readback/Display Accuracy	Voltage	0.05% E_o max	
	Current	0.1% I_o max	
Transient Recovery to Load Change	Excursion	<5% E_o max	50%-100% load change return to 1% E_o max
	Recovery	<200 μ sec	
Overshoot		None	Turn ON/OFF
Data entry	Local	24 key keypad	Front panel
	Remote	GPIB (IEEE 488.2)	SCPI commands

(1) ABC 25-4DM: 0.05%; ABC 36-3DM, ABC 60-2DM and ABC 125-1DM: 0.025%.

ABC GENERAL (ENVIRONMENTAL) SPECIFICATIONS

SPECIFICATIONS		RATING/DESCRIPTION	CONDITION
Temperature	Operating	0° to +50°C	No derating 100% P _O max
		+50°C to +70°C	Linear derating to 40% P _O max
	Storage	-40° to +85°C	
Humidity		0 to 95% RH	Non condensing operating & storage
Shock		20g, 11msec ±50% half sine	3-axes 3 shocks each axis
Vibration	5-10Hz 10mm double amplitude		Non operating 1 hour each axis
	10-55Hz 2g		
Altitude		Sea level to 10,000 ft	
Cooling		Natural convection	



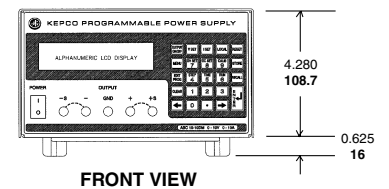
Inside View of Model ABC 10-10DM

ABC PHYSICAL CHARACTERISTICS

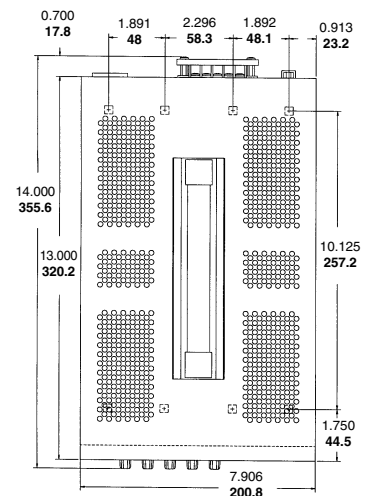
SPECIFICATIONS		RATING/DESCRIPTION	CONDITION
Dimensions	English	7.9" x 4.9" x 14"	±1/32"
	Metric	200.8 x 124.6 x 355.6 mm	±0.8 mm
Weight	English	15 lbs.	Packed for shipping
	Metric	6.8 Kg	
a-c Input Connections	Front	Panel ON/OFF switch	3 wire fused
	Rear	Detachable IEC 320 type connector	
Output Local Connections	Front	5 binding posts	±Output; ±Sense; Ground
	Rear	5 terminal barrier strips	
Remote Control Programming		One standard GPIB connector	Rear SCPI & IEEE 488-2 commands
Digital Display Front Panel		Voltage, current, mode, status, menu, program	2 x 16 character alphanumeric LCD with LED backlight
Rack Adapters		5 1/4" x 19"	RA 71: 1 ABC unit RA 72: 2 ABC units

OUTLINE DIMENSIONAL DRAWINGS

Fractional dimensions in light face type are in inches,
dimensions in **bold face type** are in millimeters.
Tolerance: ± 1/64" (0.4) between mounting holes
± 1/32" (0.8) other dimensions



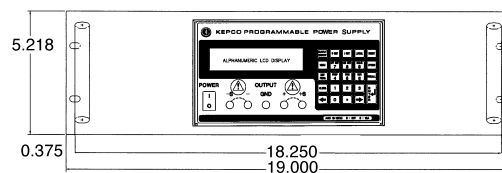
FRONT VIEW



TOP VIEW

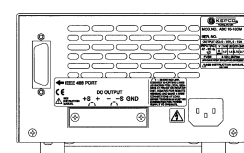
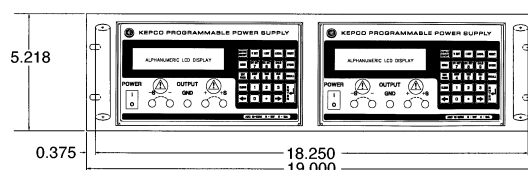
RA 71

19" rack adapter
for single ABC
power supply



RA 72

19" rack adapter
for two ABC
power supplies



REAR VIEW