



Model ABC 10-10DM

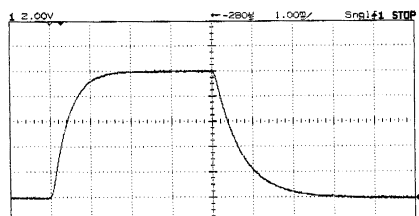
## ABC MODEL TABLE

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%

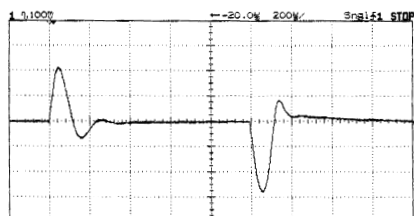
Kepco's ABC bench power supply embodies the latest features: keyboard data entry, interactive digital display, integral GPIB support, software calibration, high frequency switch-mode conversion, wide range input (85-264V a-c) and power factor correction. It meets the EN61000-3-2 harmonic limits. A built-in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

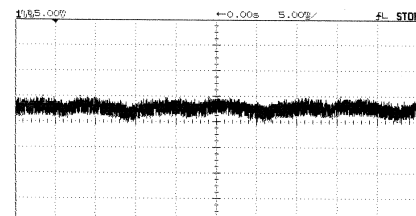
*\*Virtual Instrumentation Software Architecture*



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 <sup>(1)</sup>	Maximum at 100W output
	120V a-c	1.3A <sup>(1)</sup>	
	240V a-c	0.65A <sup>(1)</sup>	
	264V a-c	0.60A <sup>(1)</sup>	
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 <sup>(1)</sup>	
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 $\mu$ 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 <sub>O</sub> max
		+50°C to +70°C	Linear derating to 40% P <sub>O</sub> 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	



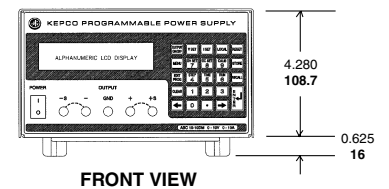
Inside View of Model ABC 10-10DM

## ABC PHYSICAL CHARACTERISTICS

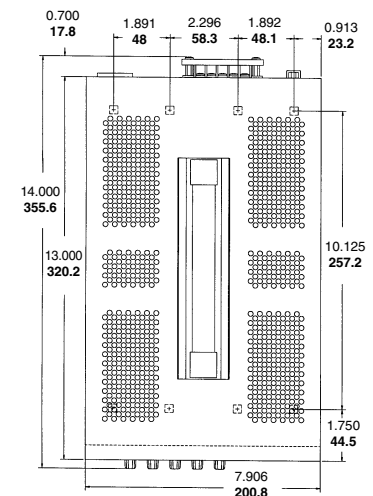
SPECIFICATIONS		RATING/DESCRIPTION	CONDITION
Dimensions	English	7.9" x 4.9" x 14"	±1/32"
	Metric	200.8 x 124.6 x 355.6 mm	±0.8 mm
Weight	English	15 lbs.	Packed for shipping
	Metric	6.8 Kg	
a-c Input Connections	Front	Panel ON/OFF switch	3 wire fused
	Rear	Detachable IEC 320 type connector	
Output Local 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



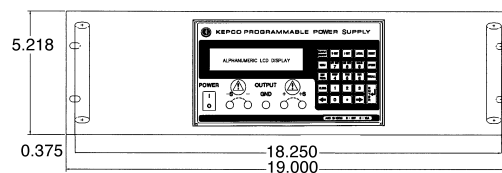
FRONT VIEW



TOP VIEW

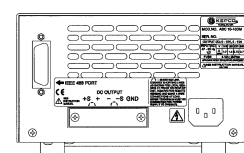
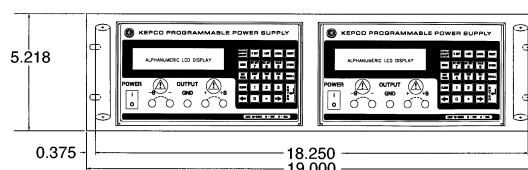
### RA 71

19" rack adapter  
for single ABC  
power supply



### RA 72

19" rack adapter  
for two ABC  
power supplies



REAR VIEW

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