KEPCO®
THE POWER SUPPLIER™

MODIFICATION OF STANDARD

KEPCO MODEL BOP 100-2ML
KEPCO MODEL BOP 100-2DL

The Kepco Models BOP 100-2ML and BOP 100-2DL have been modified from standard Kepco Models BOP 100-2M and BOP 100-2D, respectively, to be stable handling inductive loads up to 1 Henry.

INSTRUCTION MANUAL CORRECTIONS:

This modification makes the BOP more suitable for a wide variety of applications such as motor testing, testing of magnetic components (coils, speakers, etc.), industrial applications with inductive loads, driving CRT coils, cryogenic applications and powering correcting magnets for medical imaging applications or particle accelerators. The unit is designed to operate in a stable manner in Current or Current Limit Mode for loads up to 1 Henry. They are also stable with any R-L series load combination.

All specifications of the unit in voltage mode are unchanged from the standard model. Specifications listed in Table 1 are for BOP 100-2ML and BOP 100-2DL in Current Mode. All other specifications are identical to the standard BOP.

TABLE 1. BOP 100-2ML AND BOP 100-2DL SPECIFICATIONS

Bandwidth (DC to f-3dB)		Rise/Fall Time (2)	Recovery at Step Load Time Constant (3)	Load Effect Nominal Resistive Load (4)
Resistive Load, Nominal	Inductive Load, 2mH			
3.5 KHz	5.0 KHz	84μS	250μS	47 ppm/Hz

NOTES:
(1) Specifications listed are for Current Mode. All other specifications are identical to the standard BOP.
(2) 10%-90%, short-circuit.
(3) Short-circuit - Nominal Resistive Load.
(4) Load effect increases nonlinearly with frequency from the typical 0.5 mA in DC- full scale (same as the standard unit) with the average rate listed.

In current mode the bandwidth is reduced when operating with a resistive load. Correspondingly, the rise and fall time of the unit is increased.

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If the load impedance at the working frequency multiplied by the peak value of current equals the voltage limit setting, it is recommended that the output voltage be kept below the voltage limit setting to avoid inducing a large distortion of output current. If the voltage limit is reached, the unit's bandwidth can be reduced by connecting an external film capacitor between pins 16 and 18 of the unit's programming connector (PC 12). Table 2 below shows the effect that adding the external capacitor has on the 3dB bandwidth for resistive, resistive-inductive or inductive loads, with less than 10% tolerance (excluding the capacitor tolerance)

TABLE 2. BANDWIDTH CORRECTION

	EXTERNAL CAPACITOR (ACROSS PINS 16 AND 18 OF PC 12 PROGRAMMING CONNECTOR)						
	0.01 μF	0.02 μF	0.05 μF	0.1 μF	0.2 μF	0.5 μF	1 μF
CORRECTED BANDWIDTH	1.8 KHz	1.4 KHz	0.8 KHz	0.51 KHz	0.27 KHz	0.11 KHz	0.06 KHz