NEW FROM KEPCO

SERIES BOP

4-QUADRANT POWER SUPPLIES OPTIMIZED FOR DRIVING

INDUCTIVE LOADS TO 1 HENRY

Kepco introduces 200W (except BOP 200-1M) and 400W BOP models optimized for driving inductive loads as an option to their standard line of BOP power supplies. This option makes the BOP 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.

These BOP units are 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. The specifications listed in the table to the right are for inductive load models in Current Mode. All other specifications are identical to the standard BOP.

In current mode the bandwidth of the BOP is reduced modestly when operating with a resistive load. Correspondingly, the rise and fall time of the unit is increased somewhat (model dependent). Further, it is possible to reduce the bandwidth in current mode in a predictable way, using one customer installed component on the rear programming connector of the BOP.

BOP INDUCTIVE LOAD SPECIFICATIONS

MODEL / SPECIFICATION (1)	BANDWIDTH (2) (DC TO F-3dB)		RISE/FALL TIME (3)	RECOVERY AT STEP LOAD (4)	LOAD EFFECT RESISTIVE LOAD, NOMINAL (5)
	RESISTIVE LOAD, NOMINAL	INDUCTIVE LOAD, 2mH			
BOP 20-10ML 0 to ±20V, 0 to ±10A	11.6 KHz	4.3 KHz	30µS	30µS	10 ppm/Hz
BOP 20-20ML 0 to ±20V, 0 to ±20A	13 KHz	2 KHz	30µS	25µS	3 ppm/Hz
BOP 36-6ML 0 to ±36V, 0 to ±6A	16 KHz	6 KHz	28µS	30µS	6 ppm/Hz
BOP 36-12ML 0 to ±36V, 0 to ±12A	11 KHz	5.6 KHz	40µS	40µS	6 ppm/Hz
BOP 50-4ML 0 to ±50V, 0 to ±4A	11.4 KHz	7.7 KHz	26µS	38µS	9 ppm/Hz
BOP 50-8ML 0 to ±50V, 0 to ±8A	10.6 KHz	4.9 KHz	29µS	30µS	8 ppm/Hz
BOP 72-3ML 0 to ±72V, 0 to ±3A	4.5 KHz	4.5 KHz	80µS	200µS	28 ppm/Hz
BOP 72-6ML 0 to ±72V, 0 to ±6A	2.6 KHz	3.0 KHz	120µS	600µS	63 ppm/Hz
BOP 100-2ML 0 to ±100V, 0 to ±2A	3.6 KHz	4.7 KHz	90µS	350µS	50 ppm/Hz
BOP 100-4ML 0 to ±100V, 0 to ±4A	2.2 KHz	2.5 KHz	150µS	650µS	70 ppm/Hz

For digital meters, substitute the letter D for M when ordering - example: BOP 20-10DL.

For GPIB control of the BOP, add the suffix 4886 after the letter L in the model name - example: BOP 20-10ML4886.

(1) All specifications listed are for inductive load models in Current Mode. All other specifications are identical to the standard BOP.
(2) Bandwidth specifications for units with GPIB control are somewhat reduced. Consult factory for details.
(3) 10% - 90%, Short-circuit.
(4) Short-circuit, Nominal Resistive Load.
(5) 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.

AN ISO 9001 COMPANY
KEPCO®
THE POWER SUPPLIER™
SINCE 1946

KEPCO SERIES BOP INDUCTIVE LOAD MODELS

4-QUADRANT POWER SUPPLIES FOR MAGNET AND MOTOR APPLICATIONS

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). The table 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).

BOP INDUCTIVE LOAD - BANDWIDTH CORRECTION

MODEL	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
BOP 20-10ML	3.9 KHz	2.3 KHz	1.0 KHz	0.56 KHz	0.29 KHz	0.11 KHz	0.06 KHz
BOP 20-20ML	2.1 KHz	1.8 KHz	1.1 KHz	0.6 KHz	0.3 KHz	0.12 KHz	0.06 KHz
BOP 36-6ML	3.7 KHz	2.4 KHz	1.0 KHz	0.6 KHz	0.3 KHz	0.12 KHz	0.06 KHz
BOP 36-12ML	4 KHz	3 KHz	1 KHz	0.5 KHz	0.25 KHz	0.1 KHz	0.06 KHz
BOP 50-4ML	3.9 KHz	2.5 KHz	1.1 KHz	0.6 KHz	0.29 KHz	0.12 KHz	0.06 KHz
BOP 50-8ML	3.4 KHz	2.3 KHz	1.1 KHz	0.6 KHz	0.31 KHz	0.12 KHz	0.06 KHz
BOP 72-3ML	2.4 KHz	1.7 KHz	0.8 KHz	0.52 KHz	0.27 KHz	0.12 KHz	0.06 KHz
BOP 72-6ML	1.7 KHz	1.3 KHz	0.7 KHz	0.45 KHz	0.26 KHz	0.11 KHz	0.06 KHz
BOP 100-2ML	1.8 KHz	1.2 KHz	0.7 KHz	0.46 KHz	0.25 KHz	0.11 KHz	0.06 KHz
BOP 100-4ML	1.5 KHz	1.1 KHz	0.65 KHz	0.45 KHz	0.25 KHz	0.10 KHz	0.06 KHz

For information on the BOP Inductive Load Models visit **www.kepcopower.com/bop-ind.htm** or for full specs on the standard BOP Models visit **www.kepcopower.com/bop.htm**

AN ISO 9001 COMPANY
KEPCO®
THE POWER SUPPLIER™
SINCE 1946

KEPCO, INC. • 131-38 Sanford Ave. • Flushing, NY 11355 USA
Tel: (718) 461-7000 • Fax: (718) 767-1102 • Email: hq@kepcopower.com • **www.kepcopower.com**