

**NEW FROM
KEPCO**

SERIES BOP

4-QUADRANT POWER SUPPLIES
OPTIMIZED FOR DRIVING SOLAR
CELLS/PANELS, PIEZO-ELECTRIC
DEVICES AND GENERAL

CAPACITIVE LOADS UP TO 10 MILLI-FARADS

Kepeco introduces 200 Watt and 400 Watt BOP models, optimized for driving capacitive loads, as an option to the standard line of BOP power supplies. This option makes the BOP suitable for a wide variety of applications such as solar cell/panel testing, driving and testing piezo-electric devices, capacitor testing, driving and testing capacitive transducers, and power for industrial or lab applications with capacitive or capacitive-resistive loads.



These BOP units are designed to operate in a stable manner in voltage or voltage limit mode for capacitive loads up to 10mF. They are also stable when driving any R-C parallel combination where load R is \geq nominal value and C is \leq 10mF. Load R (nominal value) = nominal output Voltage/nominal output Current (e.g., BOP 36-6MC, $R = 36/6 = 6$ Ohms). To prevent current limit mode operation, the equivalent impedance of the R-C parallel load circuit must be greater than the nominal R value at the working frequency.

Static specifications representing accuracy for various influence parameters are identical to the standard BOP models. Ripple and noise specifications are better (approximately 50% lower) for the C option units compared to the the standard BOP.

BOP CAPACITIVE LOAD SPECIFICATIONS				
MODEL / SPECIFICATION (1)	BANDWIDTH (DC TO F-3dB)		RISE/FALL TIME (4)	RECOVERY TIME AT STEP LOAD (5)
	RESISTIVE LOAD, NOMINAL(2)	CAPACITIVE LOAD, 10 μ F (3)		
BOP 20-20MC 0 to \pm 20V, 0 to \pm 20A	11.8 KHz	>20 KHz	35 μ S	105 μ S
BOP 36-6MC 0 to \pm 36V, 0 to \pm 6A	12.7 KHz	13.8 KHz	32 μ S	95 μ S
BOP 36-12MC 0 to \pm 36V, 0 to \pm 12A	15.2 KHz	>20 KHz	24 μ S	70 μ S
BOP 50-4MC 0 to \pm 50V, 0 to \pm 4A	12.8 KHz	14 KHz	30 μ S	90 μ S
BOP 72-6MC 0 to \pm 72V, 0 to \pm 6A	7.1 KHz	13 KHz	56 μ S	170 μ S
BOP 100-4MC 0 to \pm 100V, 0 to \pm 4A	6.4 KHz	9 KHz	62 μ S	180 μ S

For digital meters, substitute the letter D for M when ordering - example: BOP 20-20DC.
For GPIB control of the BOP, add the suffix 4886 after the letter C in the model name - example: BOP 20-20MC4886.

- (1) All specifications listed are for capacitive load models in Voltage Mode.
- (2) 20V model only: Variation of the frequency response creates a larger 3-dB bandwidth when driving a resistive load than for the standard model.
- (3) Variations of the frequency response for the standard 10 μ F load create a larger 3-dB bandwidth than for a resistive load.
- (4) 10% - 90%, with nominal resistive load.
- (5) Load between infinity and nominal resistive values.

KEPCO SERIES BOP CAPACITIVE LOAD MODELS



4-QUADRANT POWER SUPPLIES FOR **SOLAR CELLS/PANELS** AND **PIEZO-ELECTRIC** **DEVICE APPLICATIONS**

In voltage mode, with a resistive load, the bandwidth of the BOP Capacitive Load is reduced versus the standard model, while the response time is increased (except the 20V model: see Specifications Chart). The frequency response variations can be practically eliminated by reducing the bandwidth in voltage mode in a predictable manner using an internal user-installed component to increase the internal compensation capacitance (see Bandwidth Correction Chart).

In Current Mode the dynamic specifications are almost identical for all BOP C option models: 3-dB bandwidth of 4.9kHz and rise/fall time of 72 μ sec (lower bandwidth and higher rise/fall time than the standard BOP models).

BOP CAPACITIVE LOAD - BANDWIDTH CORRECTION							
MODEL	EXTERNAL CAPACITOR (ADDED TO INTERNAL COMPENSATION CAPACITANCE)						
	1 nF	2.2 nF	4.7 nF	15 nF	33 nF	47 nF	100 nF
BOP 20-20MC	10.8 KHz	9.9 KHz	7.5 KHz	3 KHz	1.5 KHz	1 KHz	0.5 KHz
BOP 36-6MC	11 KHz	9 KHz	7 KHz	3.2 KHz	2 KHz	1.3 KHz	0.5 KHz
BOP 36-12MC	7 KHz	6.5 KHz	5.8 KHz	3 KHz	1.5 KHz	1 KHz	0.5 KHz
BOP 50-4MC	11 KHz	9 KHz	7 KHz	3 KHz	1.5 KHz	1 KHz	0.5 KHz
BOP 72-6MC	7.2 KHz	6.5 KHz	5.8 KHz	3 KHz	1.5 KHz	1 KHz	0.5 KHz
BOP 100-4MC	6.5 KHz	5.8 KHz	4.9 KHz	2.9 KHz	1.7 KHz	1.2 KHz	0.5 KHz

The listed bandwidth values are for C option units in voltage mode, nominal resistive load.

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



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