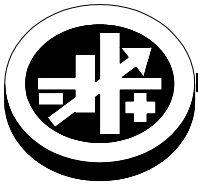


INSTRUCTION SHEET



KEPCO An ISO 9001 Company.

**CABLE
KIT
219-0480**

CABLE KIT NO. 219-0480 BOP 1000W MODELS 2 X 2 COMBINATION

I. DESCRIPTION.

This kit contains the cables and terminations required to operate a multiple unit combination consisting of two parallel branches each comprised of two identical 1000 Watt BOP High Power models in series, effectively doubling the output voltage and doubling the output current capacity. Only identical models may be configured to operate in parallel and series.



This kit can be used with all 1000W BOP models that have revision levels as shown in Table 1. Earlier models that have been upgraded to permit multiple unit configurations must include the letter "A" following the revision number. **CAUTION: Failure to install the ground cables supplied can result in damage to the power supply.**

Refer to the associated technical manual supplied with the 1000W BOP power supply for all instructions regarding installation and operation of multiple units in parallel.

TABLE 1. REVISION LEVELS APPLICABLE TO THIS KIT

MG Model	Revision	Revisions for previously Upgraded Units (Must include "A")	GL Model	Revision
BOP 6-125MG	All	All		
BOP 10-75MG	5 or higher	3A or 4A		
BOP 20-50MG	8 or higher	5A, 6A or 7A	BOP 20-50GL	All
BOP 25-40MG	All	All		
BOP 36-28MG	11 or higher	8A, 9A or 10A		
BOP 50-20MG	7 or higher	5A or 6A	BOP 50-20GL	All
BOP 72-14MG	7 or higher	6A		
BOP 100-10MG	6 or higher	2A or 4A		

II. SPECIFICATIONS

Table 3 lists the model parameters unique to a 2 X 2 multiple unit combination of identical 1000W BOP Power Supplies (two series-connected units X two parallel branches). Table 4 lists the general specifications applicable to all 2 X 2 multiple unit combinations listed in Table 3. For specifications not listed in Table 3, refer to the General Specifications provided in the associated technical manual supplied with each 1000W BOP power supply.

TABLE 2. EQUIPMENT SUPPLIED

Item	Quantity	Purpose	Kepeco Part Number
Common power cable, **	1	Connects the COMMON terminal of Master to the COMMON terminal of Slave #3.	118-1155
Output/Series Power cable	3	Connects the OUTPUT terminal of Master to the COMMON terminal of Slave #1, OUTPUT terminal of Slave #1 to the OUTPUT terminal of Slave #2, and COMMON terminal of Slave #2 to the OUTPUT terminal of Slave #3	118-1112
Configuration Control cable	1	Connects the PAR/SER CONTROL - IN ports of the Master and Slave #3 together to provide control signals needed to establish a series-parallel configuration	118-1158
Series Control cable,	2	Provides control signals required for series operation.	118-1120
Digital Control (Bitbus) Cable	1	Provides communication between master and three slaves comprised of two series-connected units arranged in 2 parallel branches.	118-1149

** For GL units: Unclamp and remove ferrite from cable before installation. For MG units: Unclamp and remove the ferrite from cable if the BOP-Load system is oscillating.

KEPCO, INC. ● 131-38 SANFORD AVENUE ● FLUSHING, NY. 11355 U.S.A. ● TEL (718) 461-7000 ● FAX (718) 767-1102
<http://www.kepcopower.com> ● email: hq@kepcopower.com

TABLE 2. EQUIPMENT SUPPLIED (CONTINUED)

Item	Quantity	Purpose	Kepeco Part Number
Protection Cable	3	Provides interlock protection signals required for multiple unit operation.	118-1126
Protection - OUT Termination (Slave)	1	Provides proper termination for the slave connection to the Protection Cable.	195-0108
Protection - IN Termination (Master)	1	Provides proper termination for the master connection to the Protection Cable.	195-0117
Chassis Ground Cable	2	Connects chassis ground terminals of all units.	118-1272
Ground Cable mounting hardware	4 sets	Each set consists of eight parts, mounted in the following order: No. 10 star lockwasher P/N 103-0106 (at chassis), No. 10 flat washer P/N 103-0031, No. 10 split lockwasher P/N 103-0033, 10-32X3/8 nut P/N 102-0008, No. 10 flat washer P/N 103-0031, [lug(s) from ground cable], No. 10 flat washer P/N 103-0031, No. 10 split lockwasher P/N 103-0033, and 10-32X3/8 nut P/N 102-0008.	(See Purpose at left for part numbers)
Output Sense Cable	2	Connects Output sense terminal to Common sense terminal of next unit.	118-1271
Nut	2	Overcomes tight space for output cable connections. After securing bottom cable to output terminal stud using one nut, additional cables can be oriented for best layout and secured with separate nut.	102-0046
Instruction Manual	1	Lists material supplied and specifications for multiple unit combination.	228-1524

TABLE 3. MODEL PARAMETERS FOR 2 X 2 CONFIGURATION OF FOUR (4) IDENTICAL BOP 1000W UNITS (2 SERIES-CONNECTED UNITS X 2 PARALLEL BRANCHES)

(4) Identical Models (2 Series x 2 Parallel)	d-c Output Range		Closed Loop Gain	
	E _O Max	I _O Max	Voltage Channel (V/V)	Current Channel (A/V)
BOP 6-125MG	±12V d-c	±250A d-c	1.2	25.0
BOP 10-75MG	±20V d-c	±150A d-c	2.0	15.0
BOP 20-50MG	±40V d-c	±100A d-c	4.0	10.0
BOP 25-40MG	±50V d-c	±80A d-c	5.0	8.0
BOP 36-28MG	±72V d-c	±56A d-c	7.2	5.6
BOP 50-20MG	±100V d-c	±40A d-c	10.0	4.0
BOP 72-14MG	±144V d-c	±28A d-c	14.4	2.8
BOP 100-10MG	±200V d-c	±20A d-c	20.0	2.0

TABLE 4. GENERAL SPECIFICATIONS FOR BOP 1000W 2 X 2 CONFIGURATION (2 IN SERIES, 2 PARALLEL BRANCHES)

SPECIFICATION	RATING/DESCRIPTION		CONDITION
INPUT CHARACTERISTICS			
Current	176 Va-c	38A a-c	maximum
	264 Va-c	25.6A a-c	maximum
Leakage current	14.0mA a-c		230V a-c, 47-63 Hz
OUTPUT CHARACTERISTICS			
Programming resolution/accuracy	Voltage	14 bits / 0.2%	2% accuracy for Ext Ref Level. Unit gain adjustable between 0 and E _{ONOM} /10 (voltage) or I _{ONOM} /10 (current).
	Current	14 bits / 0.5%	
	Voltage Limit	12 bits / 0.5%	
	Current Limit	12 bits / 0.5%	
Readback resolution/accuracy	Voltage	16 bits / 0.2%	main or limit channel
	Current	16 bits / 0.5%	main or limit channel