

INSTRUCTION MANUAL



KEPCO An ISO 9001 Company.

**KIT
219-0654**

PARALLEL CONNECTION KIT FOR THREE BOP LINEAR POWER SUPPLIES (100W, 200W, 400W)

1. DESCRIPTION.

This KIT allows three identical BOP units to operate in master/slave configuration. The Master unit can be set to operate in either voltage mode or in current mode, with any type of control (local, digital or analog) presented in the BOP 100W, 200W, 400W Operator manual (see PAR. 2, step 1 to download), while the Slave units - set always in current mode - will repeat the Master's output current. The use of this KIT also ensures that if the circuit breaker of one BOP trips, the other units in parallel will trip as well.

The cable supplied has three rear programming connectors. These connectors have been marked MASTER, SLAVE 1 and SLAVE 2 to indicate which one is connected to the master and which ones are for the slaves. They are PC 15 connectors that have been modified as follows:

- The connection between pin 26 and pin 36 is interrupted on the PC 15 for all three units (MASTER, SLAVE 1 and SLAVE 2).
- The connection between pin 4 and pin 13 and between pin 15 and 27 is interrupted on the SLAVE 1 and SLAVE 2 PC 15 connectors.
- The MASTER, SLAVE 1 and SLAVE 2 PC 15 connectors are wired as shown in Figure 1.

2. INSTALLATION AND OPERATION

1. Connect three BOP's units in parallel as shown in Figure 3-27 of the BOP Operator's manual (R1 through R4 shown on Figure 3-27 are pre-installed in the PC 15 connectors in this Kit). The manual can be downloaded from the Kepco web site at:
www.kepcopower.com/support/opmanls.htm#bop

NOTE: The BOP units should be stacked vertically, with the Master unit on top. Leave 1U spacing between units. The wire length between two adjacent PC15 is 12 inches.

2. Set the master and slave BOP's as specified in the notes of Figure 3-27 of the BOP Operator's Manual
3. Connect the PC 15 labeled MASTER to the rear programming connector of the master BOP.
4. Connect the PC 15 labeled SLAVE 1 to the rear programming connector of the designated slave BOP.
5. Connect the PC 15 labeled SLAVE 2 to the rear programming connector of the designated slave BOP.
6. Set Slave 1 and Slave 2 MODE switches to CURRENT mode, with the CURRENT CONTROL switch to OFF; do not apply any signal at the CURRENT PROGRAMMING. INPUT terminals.

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7. Set Slave 1 and Slave 2 for local sensing; Links must only be at the rear panel (not at the front panel) between COMMON and COMMON SENSE and between OUTPUT and OUTPUT SENSE terminals; remove link between GROUND and GROUNDING NETWORK terminals.
8. The Master unit can be set in either voltage mode or current mode. Control can be either 1) local control from the front panel, 2) analog remote control, or 3) digital control (using a BIT card in the Master unit)). When using digital control, the BIT card will report the BOP voltage of the parallel-connected trio, but only its own current; multiply by three to get a very good approximation of the load current.
9. If the load is close to the BOP units, the Master unit can remain in local sensing, with links only at the rear panel (not at the front panel) between COMMON and COMMON SENSE and between OUTPUT and OUTPUT SENSE terminals. Verify that the link between GROUND and GROUNDING NETWORK terminals at the rear panel is installed.
10. If the load is far from the BOP units, and the Master unit is set to Current Mode, at the Master, remove the link between COMMON and COMMON SENSE terminals, then add a #22AWG wire between the COMMON SENSE terminal and the COM wire at the Load. This will ensure stable operation with precise current sharing between units.
11. If the load is far from BOP units, and the Master unit is set in voltage mode, then remote sensing is recommended (for details see Figure 3-27 of the BOP Operator's Manual). At the Master unit, remove both links between COMMON and COMMON SENSE terminals and between OUTPUT and OUTPUT SENSE terminals, then add #22AWG wires between 1) the COMMON SENSE terminal and the COMMON wire at the load and 2) between OUTPUT SENSE terminal and OUTPUT wire at the corresponding load; twist together the OUTPUT SENSE and COMMON SENSE pair wires
12. It is recommended that each BOP output terminal (OUTPUT and COMMON) be connected to the load directly (do not daisy chain); twist or tie together the OUTPUT and COMMON pair wires; the wires must be rated for the BOP nominal current

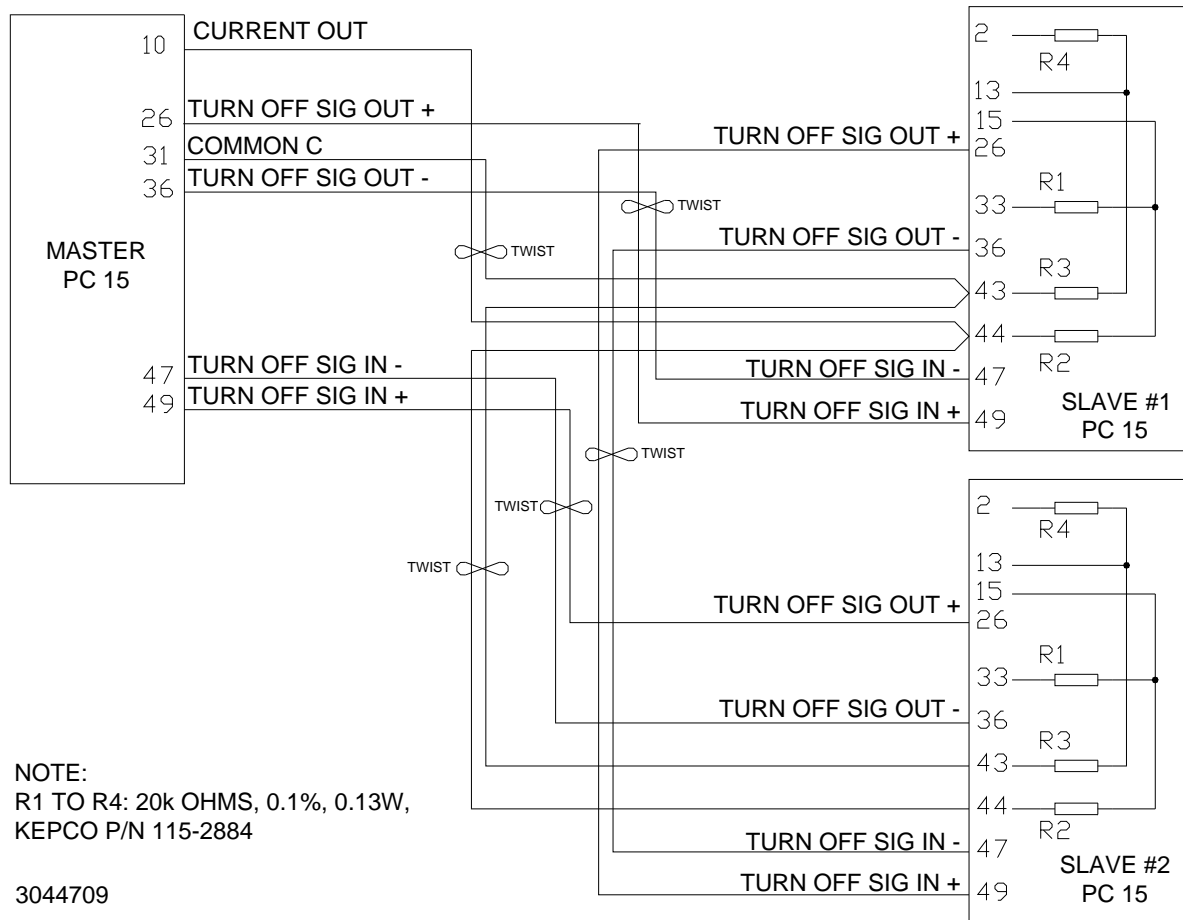


FIGURE 1. PARALLEL CONNECTION CABLE FOR LOCAL CONTROL OF MASTER/SLAVE TRIO