



"The Right Control
for your Application"

SUBJECT: MODIFICATION OF KBMD-240D DUAL VOLTAGE CAPABILITY

**NOTE: THIS MODIFICATION APPLIES TO "SMT" MULTI-DRIVES.
SC# 9370A AND NEWER**

The dual voltage switch allows the Multi-Drive to power a 90 VDC motor from 115 VAC, or a 180 VDC motor from 230 VAC. There are two modifications to the dual voltage switch which can make the control more versatile.

The first modification will allow a standard Multi-Drive to become a step down control. In this mode of operation the customer can use the control with either 115 or 230 VAC 50/60Hz input. However, the output will always be for a 90 volt motor. This allows the customer to use only one motor, regardless of whether control is used in the United States or overseas. **A word of caution: Please check with the motor manufacturer before using step down mode if the motor is smaller than 1/8 HP. On a 230 VAC line, the motor is being subjected to the peak voltages of the AC line, even though the average voltage is limited to 90 VDC.**

To modify the control for step down, first remove the front cover and locate the dual voltage switch. On the **outside** surface of the switch you will see three terminals, with red, black and white wires connected to them. The modification consists of removing the red and black wires from the switch, and connecting them together with a wire nut. After this modification, the dual voltage switch should be set to the proper line voltage. The output will always be for 90 VDC motors. See the drawing on the following page.

The second modification allows customers to use the control on a 230 VAC 50/60Hz line only, with either 180 or 90 VDC motors. To perform this modification, locate the dual voltage switch. On the **inside** of this switch are an additional three wires, running to the J1 connector on the PCB. Simply remove the connector from the board. Now, with the dual voltage switch set for 230 VAC, the control will power 180 VDC motors. With the dual voltage switch set at 115 VAC, the control will step down to power 90 volt motors. The same caution regarding sub-fractional motors still applies.

Caution: When using 90 VDC *shunt wound* motors with a control powered from a 230 VAC line, half wave connections must be used. Wire the motor field using the 100 VDC winding connected to the drives L1 and F+ terminals.

The above modifications will allow the Multi-Drive to be used in even more applications. If you have any questions regarding these modifications, please do not hesitate to contact us.

Sincerely,

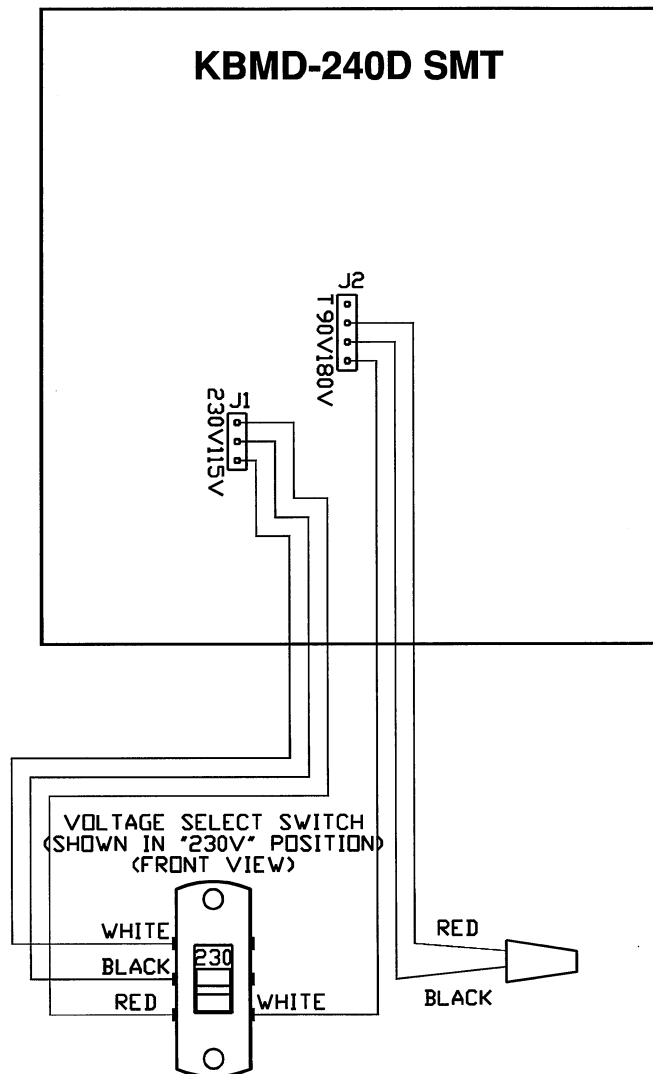
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Instructions to use KBMD-240D (SMT) in Stepdown Mode



To set control for "stepdown" output:

- 1) Cut black and red wires from right side of the dual voltage switch.**
- 2) Connect black and red wires together with wire nut.**
- 3) The control will now output 0-90VDC with either 115 or 230 VAC input.**

Note that the dual voltage switch still needs to be set for the appropriate input voltage.