INSTRUCTION MANUAL

KEPCO An ISO 9001 Company.

MSP 24-3
MSP 25-3
MSP 26-3
MSP 27-3

TEST POINT PAIRS, ADJUSTABLE TRIMMERS AND LEDS FRONT PANEL COMPONENT

SCOPE OF MANUAL. This instruction manual covers the installation and operation of the Kepco Front Panel Component, Models MSP 24-3, MSP 25-3, MSP 26-3 and MSP 27-3.

DESCRIPTION. Kepco Models MSP 24-3 through 27-3 are 3/8 rack panels containing four (MSP 24-3), five (MSP 25-3), six (MSP 26-3) or seven (MSP 27-3) sets of test point pairs, adjustable trimmers and LEDs. They provide front panel monitoring and adjustment of DC Output voltage and a power ON indication for four to seven power supplies installed in the rack assembly.

INSTALLATION. To make this unit functional, components have to be mounted on the PC Board and the PC Board/Panel assembly has to be attached to the rack adapter with supplied hardware. See Figure 2 for wiring information.

1. Separate PC board from panel (see Figure 1) by removing two 6-32 X 5/16 screws (P/N 101-0015) and associated washers (P/N 103-0015).
2. Table 1 contains variable resistor values (R1A through R7A, Figure 3) to be used with different types of power supplies. For power supplies not listed in the table, consult factory. Refer to Figure 2 and install selected variable resistors.

TABLE 1. VARIABLE RESISTORS

MODEL	DESCRIPTION	KEPCO PN	MODEL	DESCRIPTION	KEPCO PN
RAX SERIES	5K, 10%, 1W	115-2724 *	ERX 5-6	1K, 10%, 1W	115-2725 *
FAW 5-10K	200, 10%, 1W	115-2734 *	ERX 12-2.5	10K, 10%, 1W	115-2727 *
FAW 12-4.2K	1K, 10%, 1W	115-2725 *	ERX 15-2	10K, 10%, 1W	115-2727 *
FAW 15-3.4K	1K, 10%, 1W	115-2725 *	ERX 24-1.3	20K, 10%, 1W	115-2735 *
FAW 24-2.1K	2K, 10%, 1W	115-2726 *	ERX 5-12	5K, 10%, 1W	115-2724 *
FAW 48-1K	2K, 10%, 1W	115-2726 *	ERX 12-5	20K, 10%, 1W	115-2735 *
FAW 5-20K	200, 10%, 1W	115-2734 *	ERX 15-4	20K, 10%, 1W	115-2735 *
FAW 12-8.3K	1K, 10%, 1W	115-2725 *	ERX 24-2.5	25K, 10%, 1W	115-2736 *
FAW 15-6.6K	1K, 10%, 1W	115-2725 *	ERX 5-24	5K, 10%, 1W	115-2724 *
FAW 24-4.2K	2K, 10%, 1W	115-2726 *	ERX 12-10	20K, 10%, 1W	115-2735 *
FAW 28-3.5K	2K, 10%, 1W	115-2726 *	ERX 15-8	20K, 10%, 1W	115-2735 *
FAW 48-2K	2K, 10%, 1W	115-2726 *	ERX 24-5	25K, 10%, 1W	115-2736 *
FAW 5-30K	200, 10%, 1W	115-2734 *	ERX 5-48	5K, 10%, 1W	115-2724 *
FAW 12-12K	1K, 10%, 1W	115-2725 *	ERX 12-20	20K, 10%, 1W	115-2735 *
FAW 15-10K	1K, 10%, 1W	115-2725 *	ERX 15-16	20K, 10%, 1W	115-2735 *
FAW 24-6K	2K, 10%, 1W	115-2726 *	ERX 24-10	25K, 10%, 1W	115-2736 *
FAW 28-5K	2K, 10%, 1W	115-2726 *			
FAW 48-2.8K	2K, 10%, 1W	115-2726 *			
* BOURNS, INC.,TYPE 3252W					

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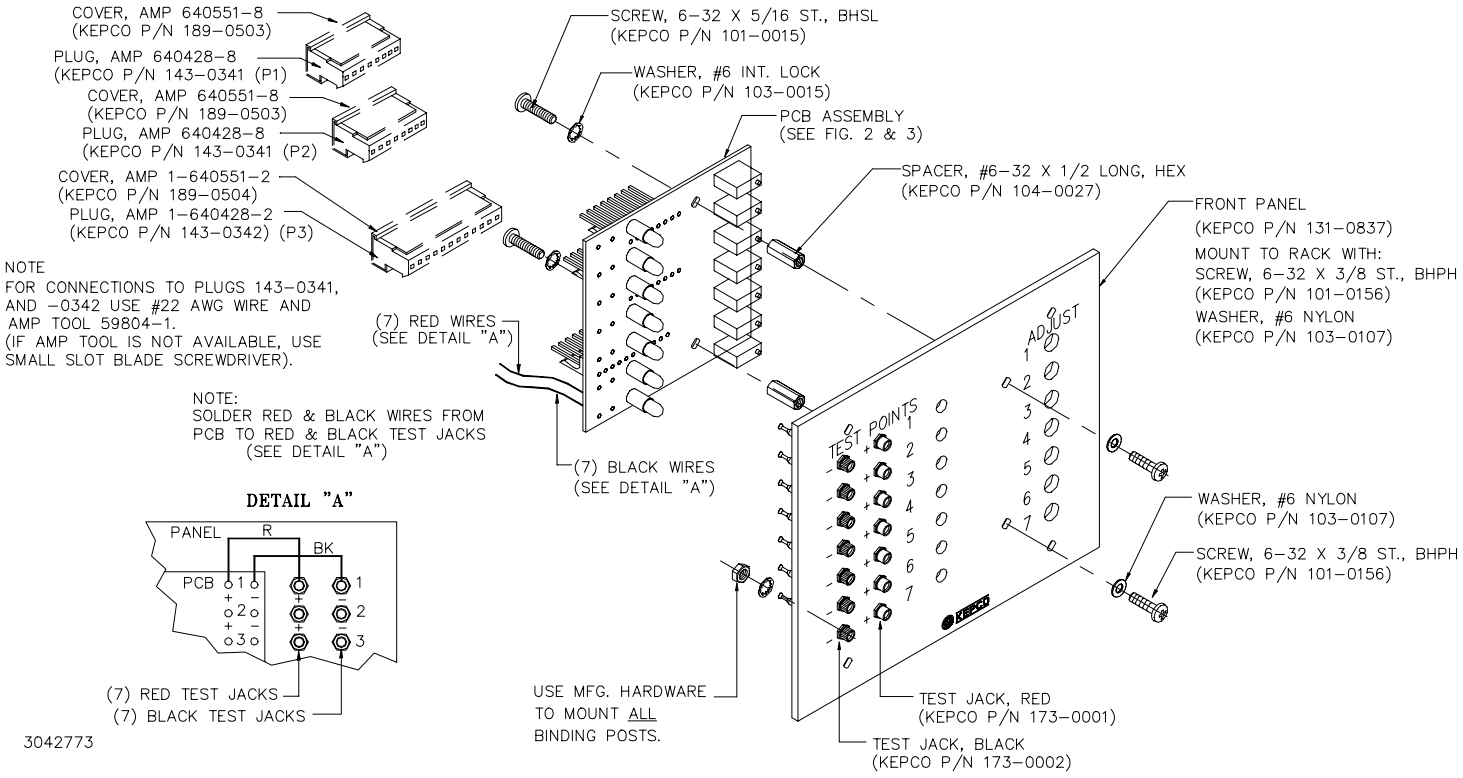


FIGURE 1. ASSEMBLY INSTRUCTIONS

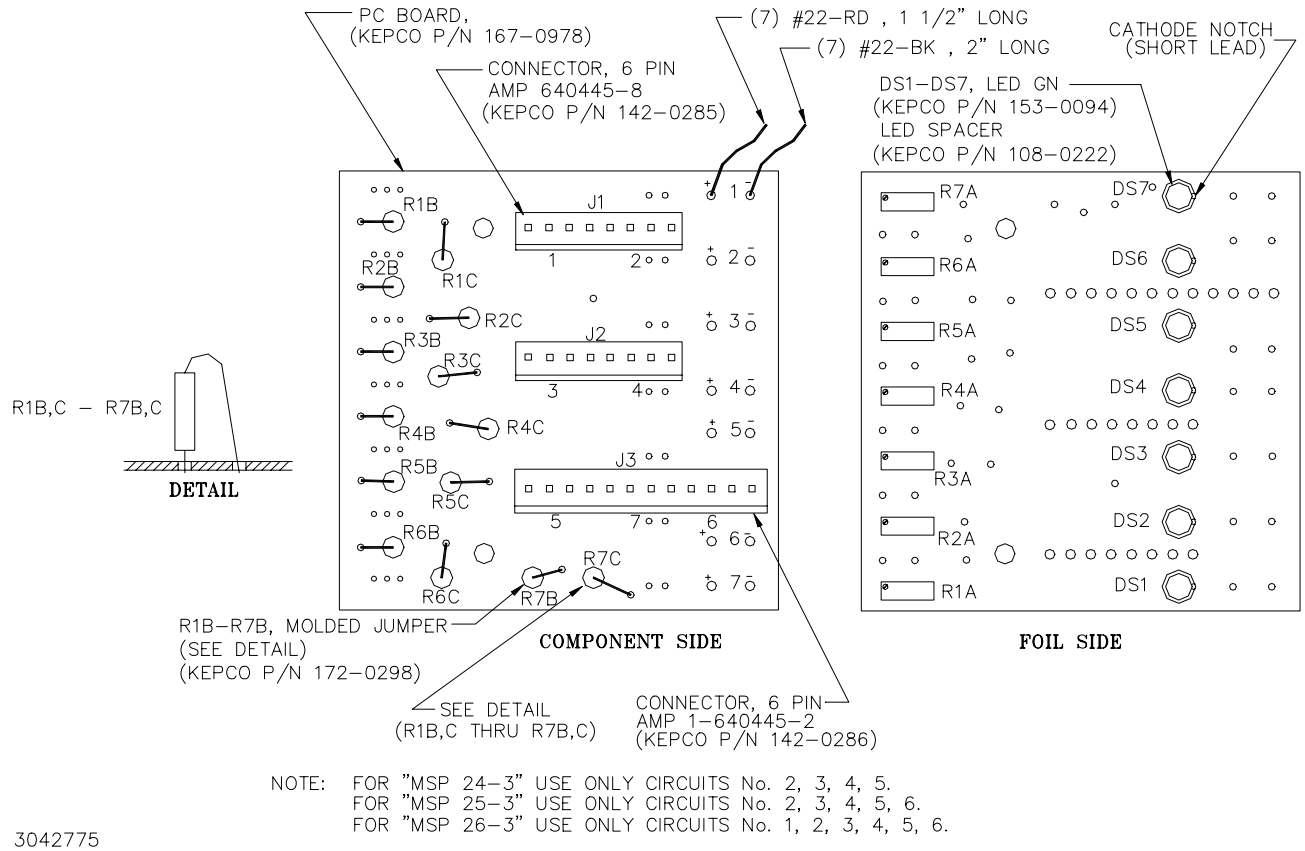


FIGURE 2. COMPONENT LOCATIONS

1. Calculate the value (in ohms) of resistors R1C through R7C, with respect to the power supply voltage (V_n) and the operating characteristics of the LED (DS1 through DS7). Refer to Table 2 for resistor values and Kepco part numbers associated with standard Kepco power supply output voltages.

   where V_n = voltage across resistor/LED network (power supply output voltage)

   where V_F = forward voltage across LED (approximately 2V)

   where I_F = forward current across LED (approximately 20mA)

   The following is an example for a resistor value associated with a 5 volt power supply:

   resistor value (in ohms) Rn = $R_n = \frac{V_n - V_F}{I_F} = \frac{5V - 2V}{20mA} = 150 \text{ ohms}$

   Calculate the power rating (in watts) as follows:

   $W_n = 2 \times I_F \times (V_n - V_F) = 2 \times 20mA \times (5V - 2V) = 0.12W^*$

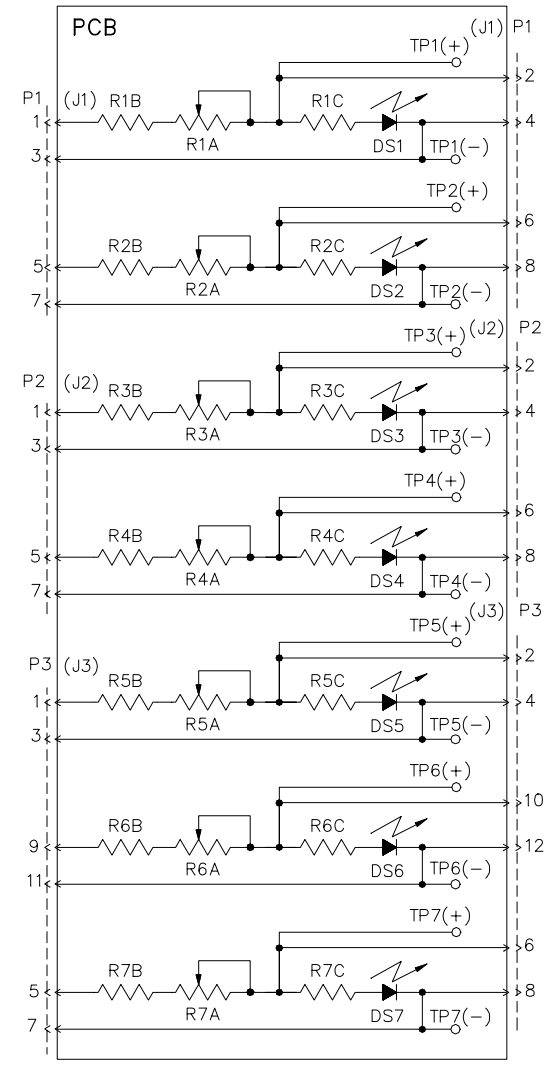
   * use nearest larger standard size (1/4 or 1/2 Watt).

TABLE 2. KEPCO MSP SERIES LED PANELS, RESISTOR SELECTION

OUTPUT VOLTAGE	RESISTOR	KEPCO P/N
2V	10Ω, 5%, 1/2W	115-2643
5V	150Ω, 10%, 1/2W	115-0543
9V	390Ω, 5%, 1/2W	115-0883
12V	560Ω, 5%, 1/2W	115-0888
15V	750Ω, 5%, 1W	115-2438
24V	1.1KΩ, 5%, 1W	115-0545
28V	1.5KΩ, 10%, 1W	115-0664
48V	2.7KΩ, 10%, 2W	115-2465

2. Install selected resistor in place (see Figure 2).
3. Solder all resistors installed.
4. Reassemble unit (see Figure 1).
5. Attach the PC Board/Panel assembly to the rack adapter with supplied hardware, four 6-32 x 3/8” screws (Kepco P/N 101-0156) and nylon washers (Kepco P/N 103-0107).

SCHEMATIC DIAGRAM



NOTE: FOR "MSP 24−3" USE ONLY CIRCUITS No. 2, 3, 4, 5.
FOR "MSP 25−3" USE ONLY CIRCUITS No. 2, 3, 4, 5, 6.
FOR "MSP 26−3" USE ONLY CIRCUITS No. 1, 2, 3, 4, 5, 6.

RECOMMENDED WIRING

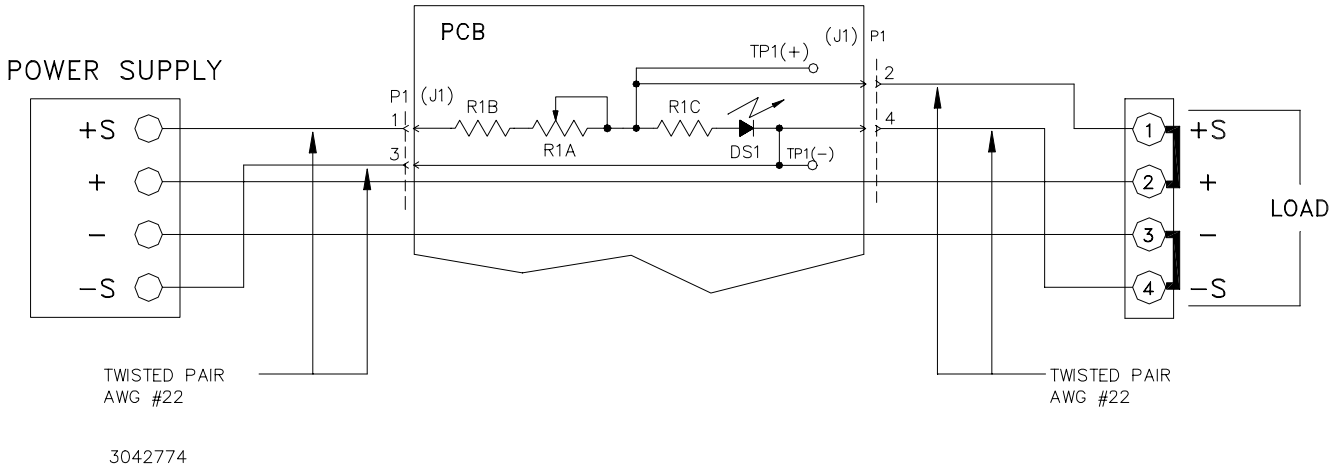


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FIGURE 3. SCHEMATIC/WIRING DIAGRAM