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TEXAS INSTRUMENTS INCORPORATED
Semiconductor Group



TM 990/518
DC POWER SUPPLY

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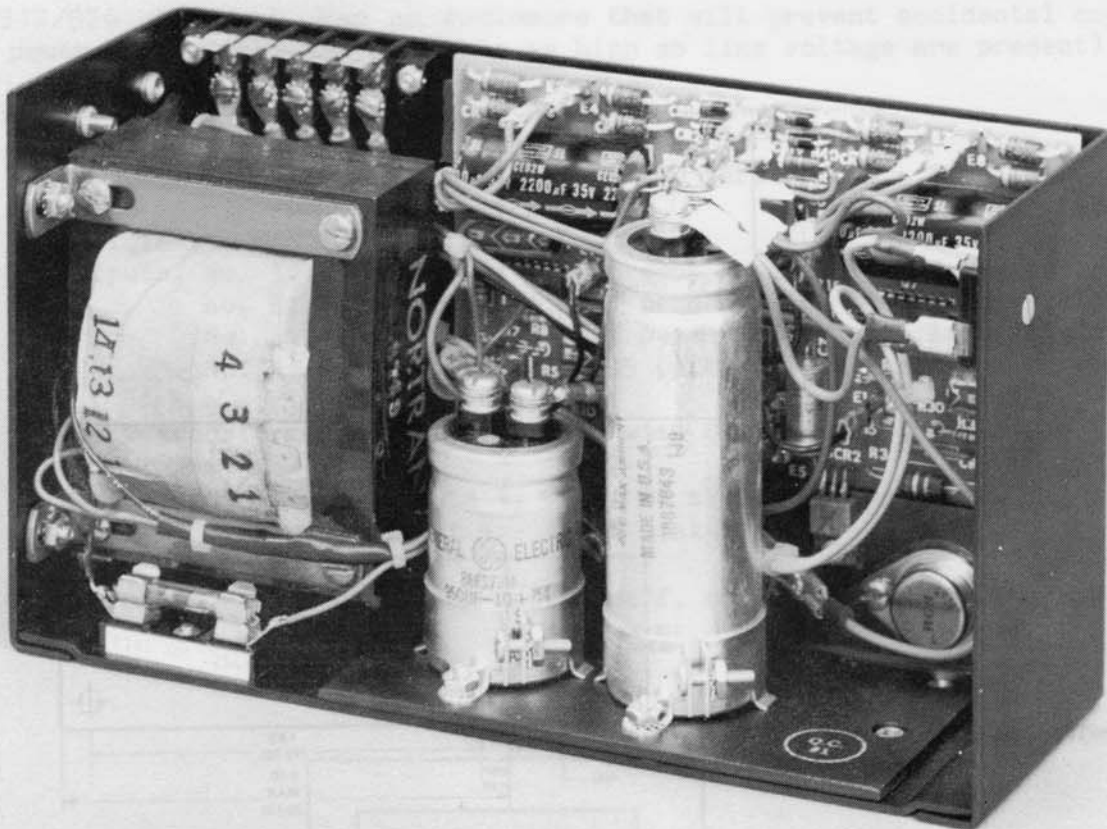
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TM 990/518
DC POWER SUPPLY

1. GENERAL

The TM 990/518 Power Supply has the following features:

- DC power outputs of +12 V (0.9 A), -12 V (0.9 A), +5 V (6.0 A), and +45 V (0.1 A).
- Input voltages of either 115 Vac or 230 Vac with proper connections to transformer terminals; frequency of 47 to 63 Hz.
- Overvoltage on + 5 V only. Current limiting on + 5 V and \pm 12 V.
- The power supply rating is specified at +40 degrees C (+104 degrees F) ambient air (at supply), derating linearly to +65 degrees C (+149 degrees F).

CAUTION

The TM 990/518 power supply is an open-frame OEM power supply which is intended to be used in a user-supplied enclosure, with appropriate cooling, and with an external line fuse and ac power switch. It is important that an enclosure be employed which will prevent accidental contact with power supply components as dangerous voltages (120 Vac) can appear on power supply components.

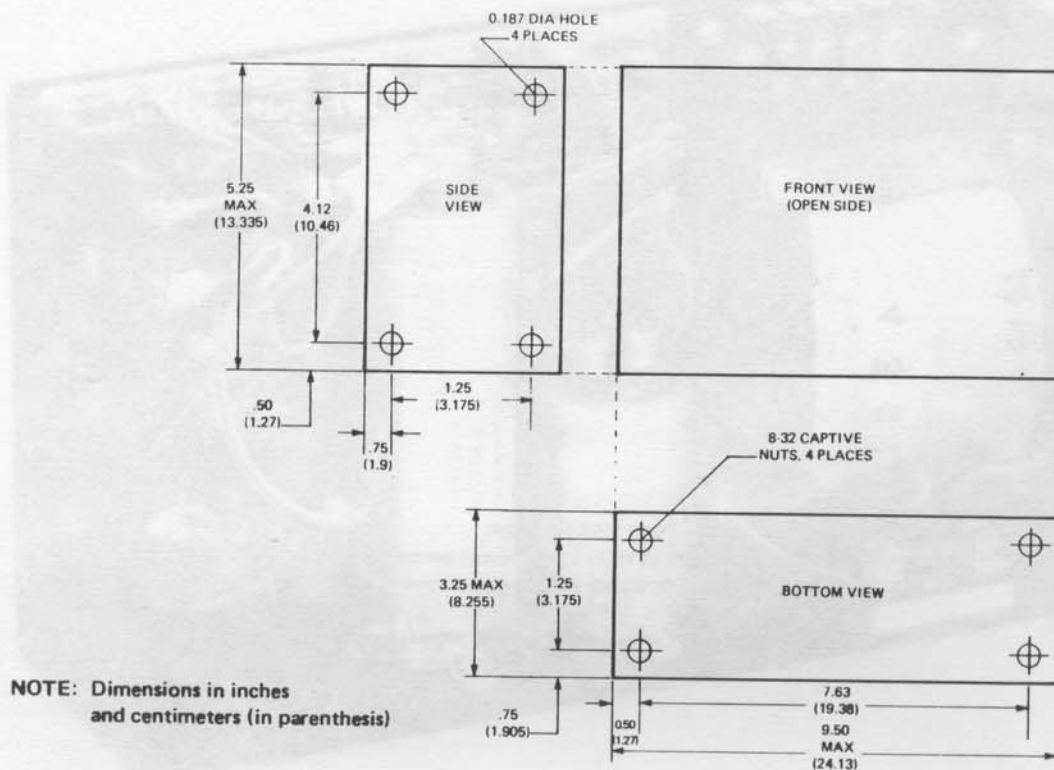


FIGURE 1. MOUNTING DIMENSIONS (IN INCHES)

2. INSTALLATION

Mounting hole dimensions are shown in Figure 1. Connect line voltages to the transformer input terminals as shown in Figures 2 and 3. Line voltages attach to the outside transformer terminals 1 and 4. Jumpers are attached as shown:

- Transformer jumpers for 115 Vac line are shown in Figure 2.
- Transformer jumpers for 230 Vac line voltage are shown in Figure 3.

Note that 115 Vac operation connects the two primary windings in parallel while 230 Vac operation ties the primary windings in series.

CAUTION

1. Check primary connections with Figures 2 and 3 before applying power.

2. Do not attach output voltages to equipment before checking output voltages between output terminal taps and the common output tap. Voltages should be ± 3 percent for all voltages except 45 Vdc which is ± 15 percent. Voltages are shown in Figure 4 and on the back of the power supply chassis.

After checking connections and output voltages, remove power. Attach output voltages as shown in Figure 4 (this figure shows connections for a TM

990/510/520 chassis). Use an enclosure that will prevent accidental contact with power supply voltages (voltages as high as line voltage are present).

3. SPECIFICATIONS

- Input power: 115 Vac and 230 Vac, \pm 10 percent
- Efficiency, minimum : 25 percent
- Outputs: No. 1: +5 Vdc, 6 A, \pm 3 percent line plus load regulation
No. 2: +12 Vdc, 0.9 A, \pm 3 percent line plus load regulation
No. 3: -12 Vdc, 0.9 A, \pm 3 percent line plus load regulation
No. 4: +45 Vdc, 0.1 A, \pm 15 percent line plus load regulation
- +45 V transformer output protected with 0.25 A fuse (3AG, F101)
- Ripple and noise: Outputs 1, 2, 3: 20 mV peak-to-peak max.
Output 4: 1.0 V peak-to-peak
- Overshoot: Zero on turnon and turnoff, or as the result of a power failure.

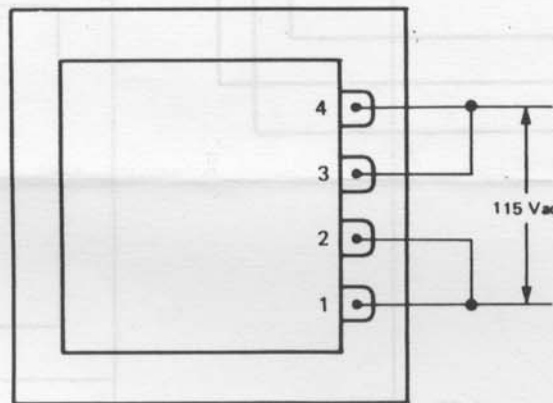


FIGURE 2. TRANSFORMER CONNECTIONS FOR 115 VAC OPERATION

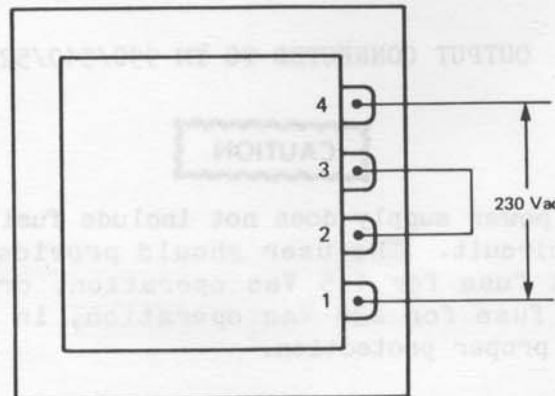


FIGURE 3. TRANSFORMER CONNECTIONS FOR 230 VAC OPERATION

- Overload protection provided on outputs 1, 2, and 3 (current limiting); output 4 fuse protected.
- Nonstandard voltage: Operation at reduced ac input voltage of 90 Vac with maximum output current of 50 percent of normal operating current.
- All input/output terminations are 1/4 inch Faston terminals.

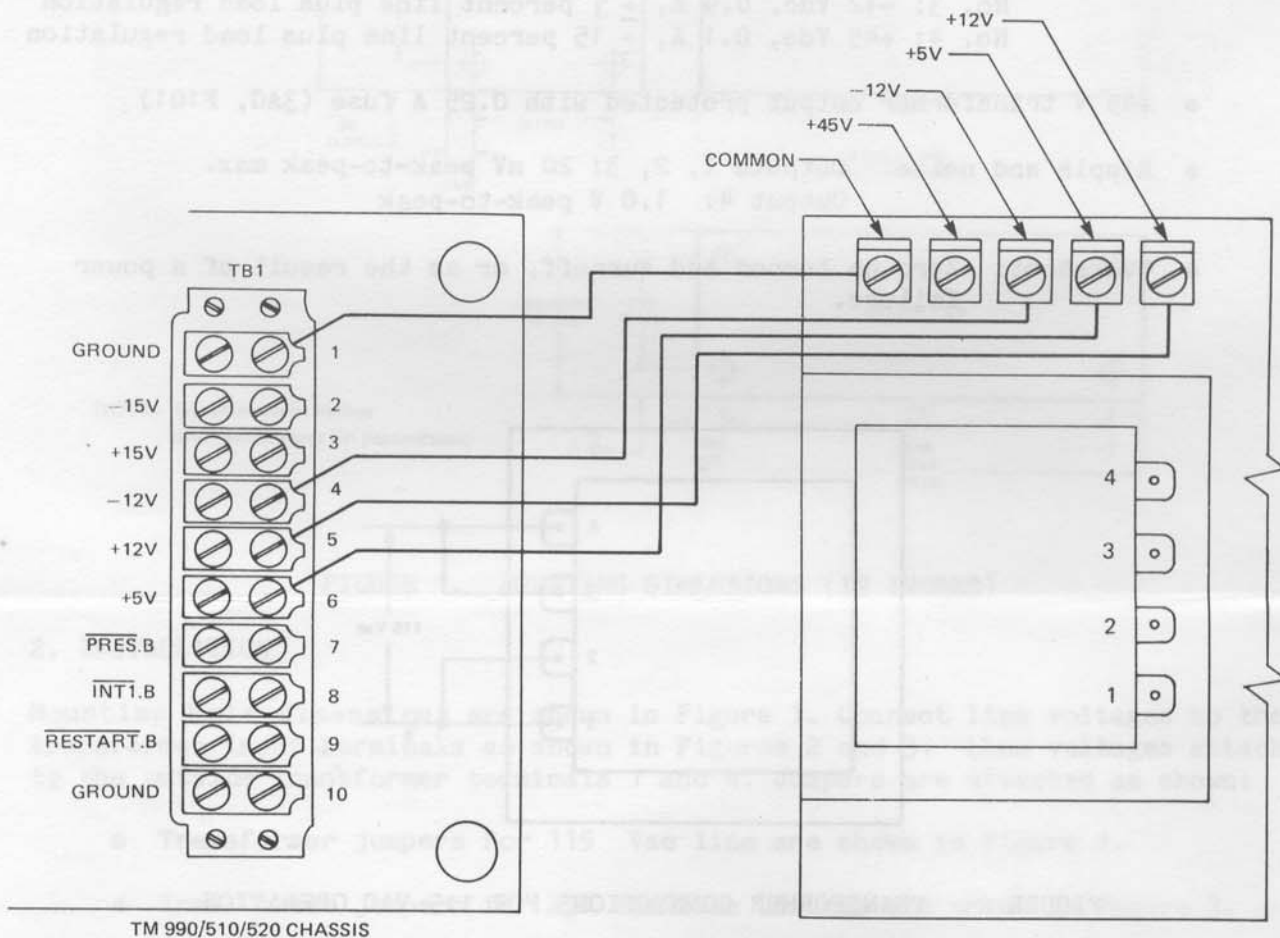


FIGURE 4. OUTPUT CONNECTED TO TM 990/510/520 CHASSIS

CAUTION

1. The power supply does not include fusing in the primary circuit. The user should provide a 1.0 A external fuse for 115 Vac operation, or a 0.5 A external fuse for 230 Vac operation, in order to maintain proper protection.

2. The +45 Vdc output is protected by a 0.25 A 3AG fuse (F101) mounted on the power supply. Replace only with the same type and rating fuse.



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