

Power Supply

SECTION 1.0 INTRODUCTION

1.1 PHYSICAL DESCRIPTION. The Model 515 Power Supply is enclosed in a weatherproof, corrosion-resistant case. The electrical terminals are screw type and there are 3/4 inch conduit openings in the bottom and side of the case. Wiring is accomplished by removing two screws which secure the cover to the base and attaching the wiring to the terminals.

1.2 FUNCTIONAL DESCRIPTION. The Model 515 Power Supply is a source of + 24 Vdc power for two-wire transmitters. The power supply contains two separate power sources and will drive the transmitters and provide output signals to most commercial electronic recorders, receivers, or central processing units. The two output sections of the power supply are completely isolated from each other by virtue of the dual secondary windings of the power transformer. Two transmitters can be powered with one model 515. TB1 (Figure 4) is the line power input. TB2 and TB3 can each provide the 24Vdc from pins 1 and 2. If the transmitter is the only device connector, pins 3 and 4 need to be jumpered. If a recorder is to be simulated, a 600 ohm resistor needs to connect pin 3 to pin 4 (see insert in Figure 1). If the transmitter(s) will be used in an AMS/HART environment, a 250 ohm resistor needs to be connected across pins 3 and 4.

Either or both TB2 and TB3 can be used to drive five transmitters by using a terminal box (see Figure 5).

Up to ten blind, analog, or LCD digital display transmitters (with any combination of input parameters) can be powered from this power supply. The maximum load of each section of the power supply can not exceed 200 milliamps.

1.3 SPECIFICATIONS.

Enclosure: Molded ABS Plastic

Temperature: -30°C to +55°C (-22°F to +131°F)

Power Requirement: 115 VAC ±10 %, 50/60 Hz, 0.5A
230 VAC ±10%, 50/60 Hz, 0.25A

Dimensions: 127 mm H x 210 mm W x 102 mm D
(5 in. x 8 1/4 in x 4 in)

Weight/Shipping Weight: 1.0 kg/1.4 kg (2.2 lb/3.0 lb)

Ripple at Full Load: 1.0V peak to peak max.

Voltage: +24 Vdc ±10%, nominal, dual section supply
At 20 mA: 28 Vdc ±10%, ripple 0.5V peak to peak max. At No Load: 30 VDC+10%

Output Current: 200 mA/supply section (up to ten blind, analog or LCD display transmitters per section)

SECTION 2.0 INSTALLATION

2.1 UNPACKING AND INSPECTION. Unpack the Model 515 Power Supply and inspect the case for evidence of damage. If damage is indicated, contact the carrier immediately.

2.2 MOUNTING. Refer to Figure 2 and mount the power supply in a convenient location.

2.3 ELECTRICAL INSTALLATION. Refer to Figure 1 and connect the power supply wiring as indicated. A junction box (P/N 2002188) is available for powering more than two transmitters from the power supply. Refer to Figure 5 for wiring instructions

NOTE:

For best EMI/RFI protection, it is recommended that the power supply/signal cable be twisted pairs. The cable should also be shielded and grounded. To ground the power supply/signal cable, connect the cable's outer shield to earth ground via Terminal 3 of TB1, Figure 1.

2.3.1 For 230 VAC operation, remove W1 and W2 and install W3.

SECTION 3.0 MAINTENANCE

3.1 MAINTENANCE. Maintenance of the power supply consists of replacing defective components. Use good shop practices during maintenance of the power supply and be extremely careful when replacing electronic components.

3.2 REPLACEMENT PARTS LIST. Refer to Figures 3 and 4 for components.

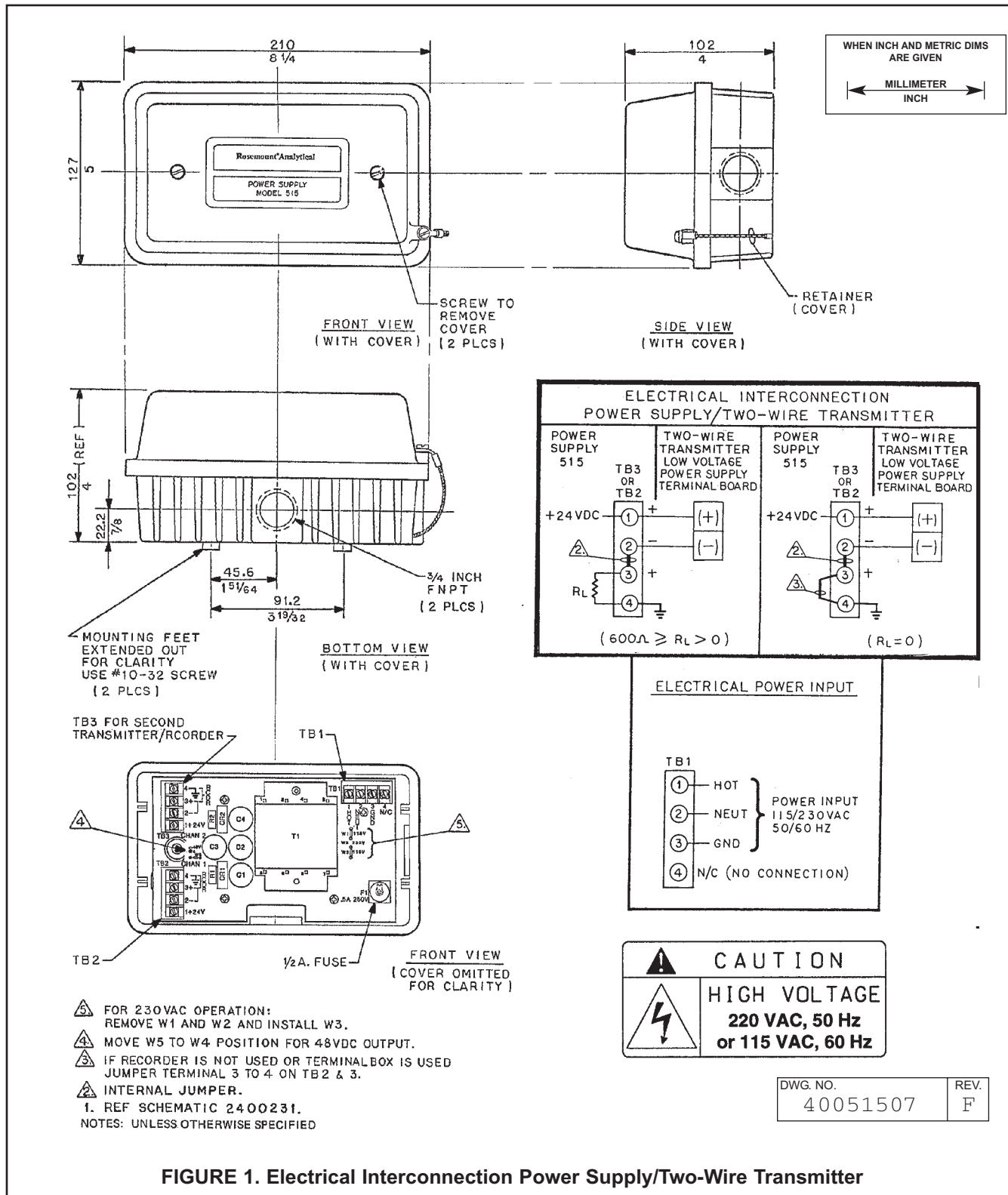


FIGURE 1. Electrical Interconnection Power Supply/Two-Wire Transmitter

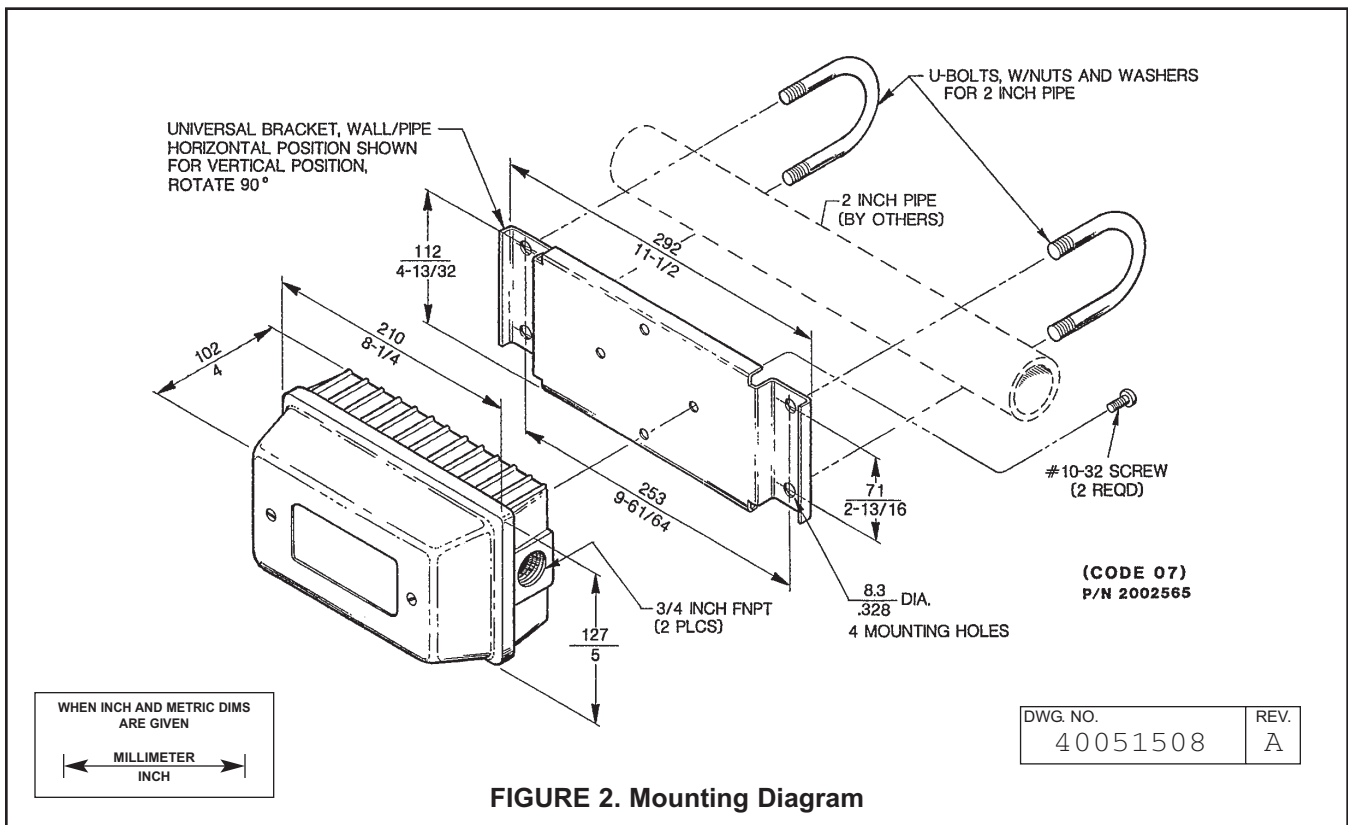


FIGURE 2. Mounting Diagram

Part Number	Description
23156-00	Power Supply PCB
8042202	R1/R2 - CF .50W 10% K22
9000055	C1-C4, UF 1000 35V ELCTL
9080048	Rect. Bridge, 1 A
9080096	XFMR, 36V DUAL PRI
9100082	F1 - Fuse, .25A
9100134	Fuhr, Cap. 031.1666
9100136	Fuse holder, PCB vert.
9120206	Block, Term. 4 sec.
9120275	Conn. RCPT PCB
9581025	STDF, 4-40X .375 PCB

FIGURE 3. Replacement Parts List

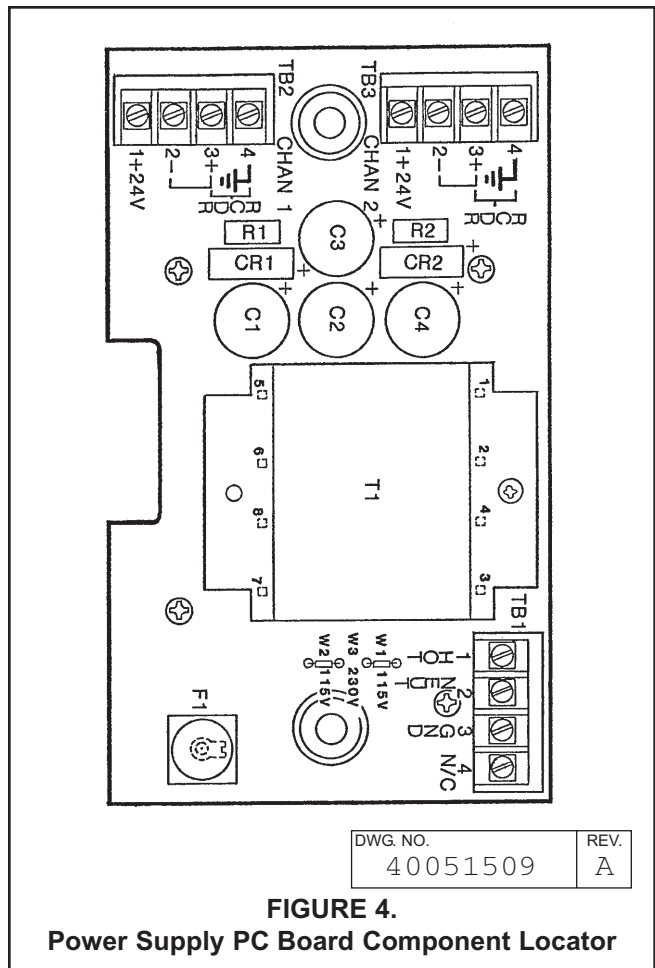


FIGURE 4. Power Supply PC Board Component Locator

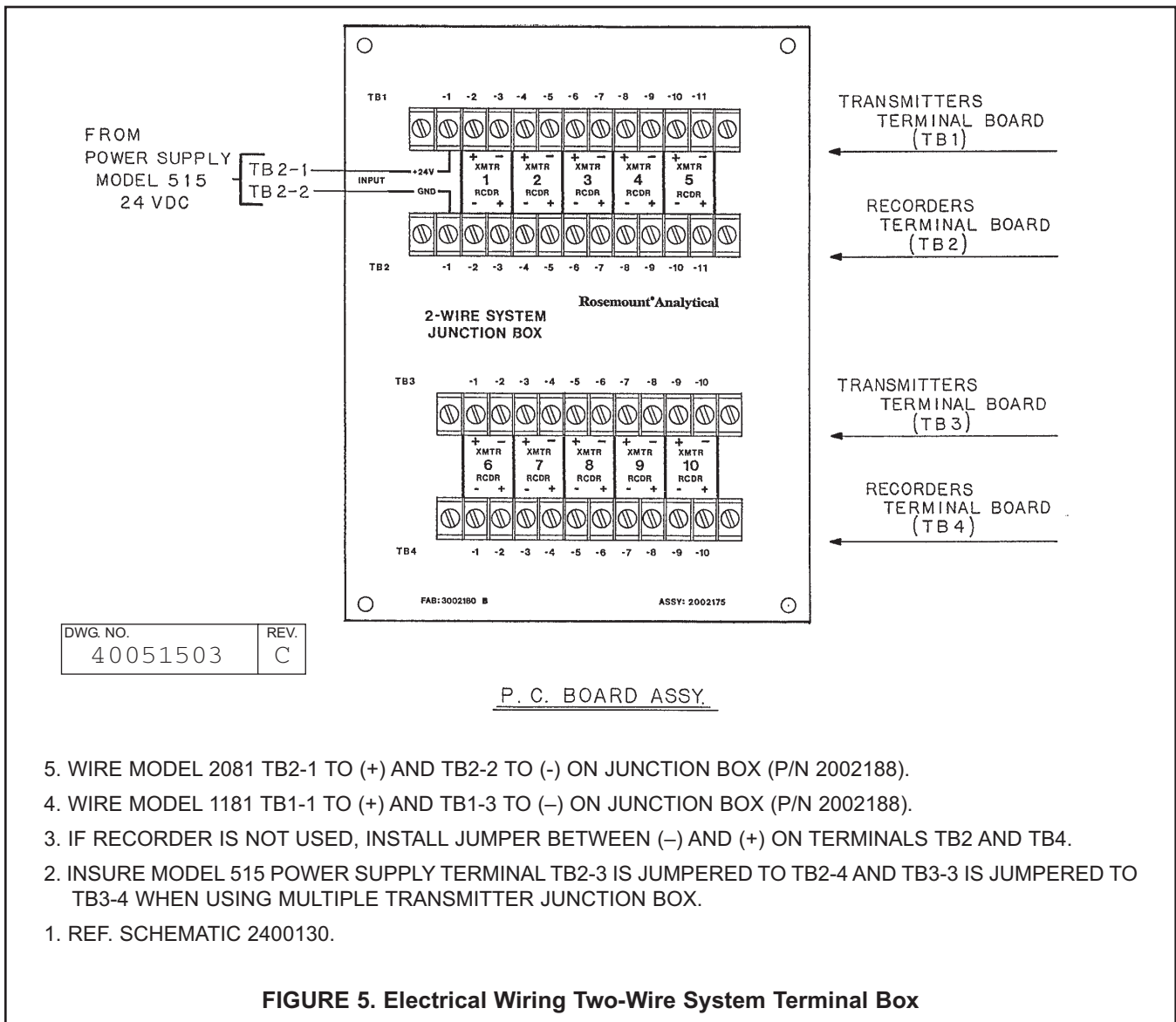
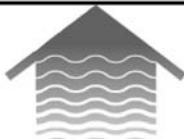


FIGURE 5. Electrical Wiring Two-Wire System Terminal Box



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