

Bailey® network 90®

Module Power Supplies NPSMO □

WARNING

DO NOT INSTALL, MAINTAIN OR OPERATE THIS EQUIPMENT WITHOUT READING, UNDERSTANDING AND FOLLOWING PROPER Babcock & Wilcox Bailey Controls INSTRUCTIONS AND MANUALS, OTHERWISE INJURY OR DAMAGE MAY RESULT

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Description

Module Power Supplies mount in the Module Power Panel (Product Instruction E93 909 2). These power supplies provide +5 V dc, +15 V dc and -30 V dc which are used to power system components such as the Controller Module and Logic Master Module.

The nomenclature for Module Power Supplies is given in Table A.

Nomenclature

Description

NPSM01	120 V ac 50/60 Hz - 375 W
NPSM02	120 V ac 50/60 Hz - 750 W
NPSM03	240 V ac 50/60 Hz - 375 W
NPSM04	240 V ac 50/60 Hz - 750 W

TABLE A Nomenclature and Description of Module Power Supplies

Product Instruction

E93-909-4

Bailey®

Seamless, Real Time
Process Management
Solutions

Receiving, Handling and Storage

Upon receipt, the unit should be examined for possible damage. In transit, if damage is found or if there is any evidence of rough handling, a damage claim should be filed with the responsible transport company and the nearest Bailey Sales Office should be notified.

Storage should make use of original packing material and container. The storage environment should be protected and should be free of environmental extremes including temperature, moisture and air quality conditions.

Installation and Operation

Follow procedures outlined in the section of Product Instruct on E93 909 2 for the Module Power Panel (NMPP01 or NMPP02) used in the system.

NOTE If the Module Power Supply is not connected to the Module Power Panel, a 50 watt load is required on the 5 V output. This provides for proper regulation of the +15.28, 15.28 and 30.5 V outputs.

The input of each supply is fused as shown below. Replacements are:

Nominal Voltage	Type	Rating
120 V ac	ABC 20	20A ¹
240 V ac	ABC 20	20A ¹
120 V ac	ABC 20	20A ²
240 V ac	ABC 12	12A ²

¹ Pioneer Magnetics Supply Bailey P/N 1947319F □

² Power Supply (ACDC) Bailey P/N 1947509 □

Service and Replacement

If a supply goes out of specification on parameters, adjust it using the following procedures:

NOTE When not powered from a Power Entry Panel (PEP) an external insert on the filter (CDE NF21091 3 or equivalent, Bailey Part No. 1946820 1) is required on power input leads of the 1947509 supplies. (This is a VDE 0875 Level N requirement to prevent misoperation of other line-operated equipment from conducted EM.)

Minor Voltage Adjustment

Ascertain that a 50 watt or specified minimum load is connected to the primary channel on a minor voltage adjustment. If necessary, rotate VOLTAGE ADJUSTMENT pots to proper level (see front panel Figures 1 and 2). Do not go through complete adjustment procedure.

Completed Voltage Adjustment (all steps must be completed)

CHANNEL 1

A Voltage Adjustments

1 Connect input and output leads to proper terminals. Place a digital voltmeter across the output terminals. Do not install a load.

2 Rotate VOLTAGE ADJUST pot fully counter clockwise.

3 Turn on power to unit. If voltage appears, set the correct level by turning VOLTAGE ADJUST pot clockwise. If voltage level drops as pot is rotated clockwise, rotate OVERVOLTAGE pot (See Fig. 1 and 2) fully counter clockwise temporarily. Set VOLTAGE ADJUST pot to specified voltage. Turn off power.

4 Even if no voltage appears, continue adjustment procedures as problem may involve CURRENT LIMIT adjustment.

B Current Limit Adjust

1 Remove screw for access to CURRENT LIMIT adjustment pot (See Fig. 1 and 2).

2 Rotate CURRENT LIMIT adjustment pot fully clockwise. Turn on unit. Voltage should appear on voltmeter, if not, disconnect power. Unit is defective if voltage appears, verify 'A' (Voltage Adjustments).

3 Turn off power.

4 Connect a 110% load to the supply via an ammeter within range to be checked.

$$\text{Load Resistance} = \frac{\text{Voltage}}{\text{Current}}$$

For example: For 110% load for 50 ampere 5 volt supply

$$R = \frac{5}{.55} = 909 \text{ ohms}$$

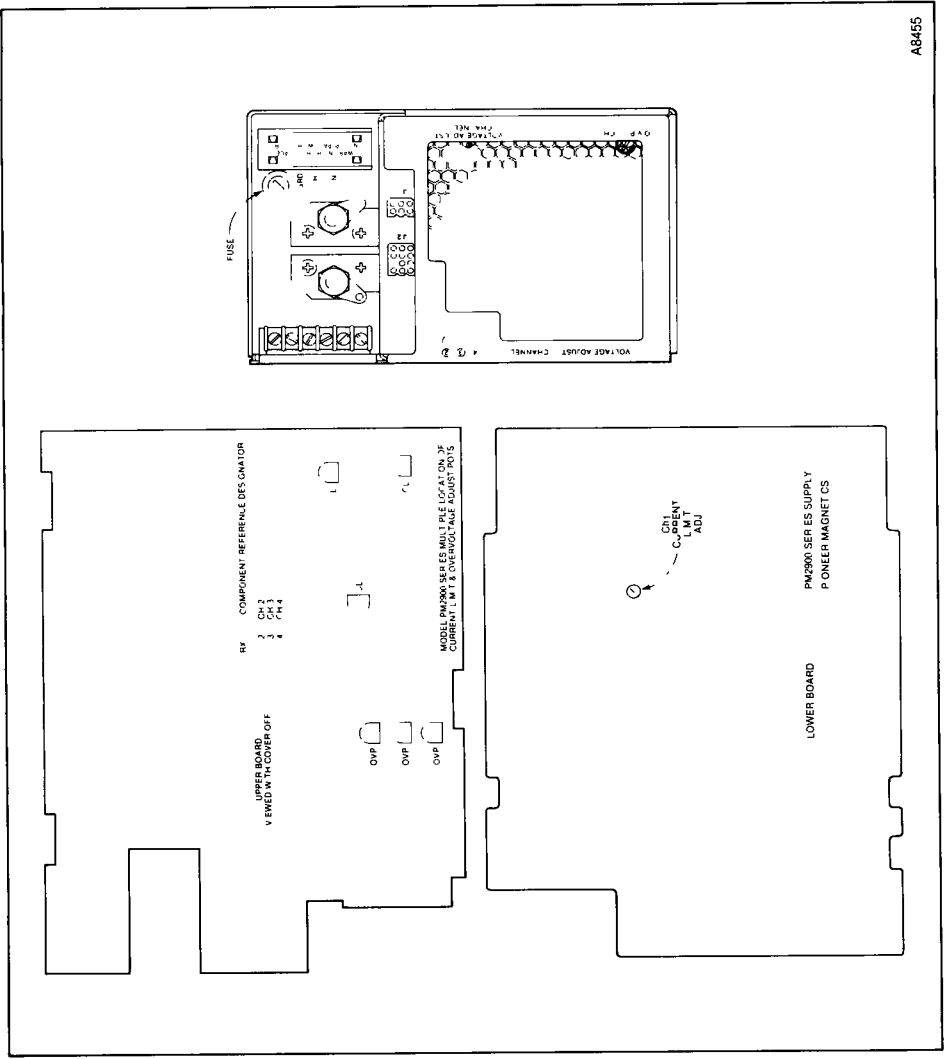


FIGURE 1 Adjustment Location on PMI Power Supplies (P/N 1947319 □)

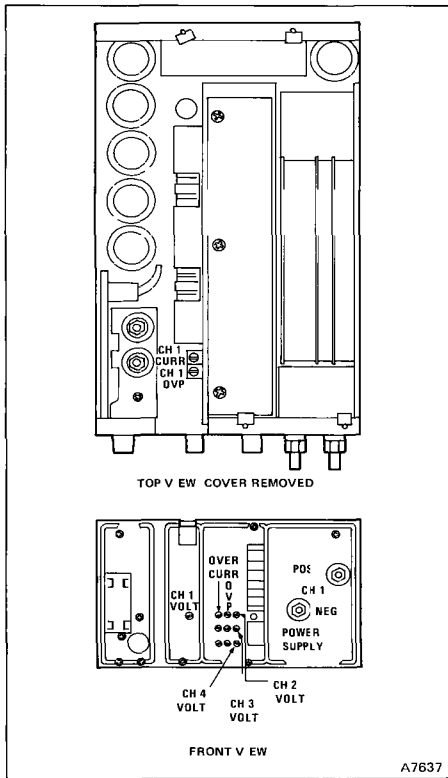


FIGURE 2 Adjustment Locations on ACDC Power Supplies (P/N 1947509 □)

Load resistor wattage required is voltage x current or in this case, 275 watts minimum. Resistor must be rated at the operating temperature stable under continuous load.

5 Supply power to unit and rotate CURRENT LIMIT adjustment pot counter clockwise until ammeter just starts to indicate decreasing current. Turn off power.

Control Voltage Adjustments

1 Remove load from supply. Leave voltmeter connected.

2 Rotate OVERVOLTAGE pot fully counter clockwise. If not done in step A3.

3 Supply power to unit and rotate VOLTAGE ADJUST to level at which overvoltage meter should work (within range of mode to be adjusted).

4 Rotate OVERVOLTAGE adjust pot slowly clockwise until output voltage disappears.

5 Turn off power.

6 Rotate VOLTAGE ADJUST pot fully counter clockwise.

7 Apply power to unit.

8 Rotate VOLTAGE ADJUST pot clockwise to specified operating voltage.

Adjustments complete.

CHANNELS 2 and 3

1 Ascertain that a 50 watt or specified minimum load is connected to the primary channel for adjustments.

2 Repeat Channel 1 procedures except current limit and OVP adjust pots are accessed by removing the top cover.

System Checkout

After installation on a system, make a final voltage measurement and reset VOLTAGE ADJUST Pots if required.

Specifications

Physical Aspects	Width 17.25 (43.8 cm) Height 8.75 (22.22 cm) Length 19.75 (50.17 cm)
Bus Voltage	Set Point (at MPP Jacks) 5.15 V 15.28 V 15.28 V 30.5 V
Output Current Environmental Operating Range	Humidity 5 to 35% without condensation Temperature 0° to 70°C Refer to Table B
Output Voltage Range at Sense Point	Channel 1 4.5 V dc to 5.5 V dc Channel 2 13.5 V dc to 16.5 V dc Channel 3 13.5 V dc to 16.5 V dc Channel 4 27.5 V dc to 31.5 V dc

Performance	
Voltage	102 to 132 V ac or 204 to 264 V ac
Frequency	50/60 Hz ± 3 Hz
Harmonic Distortion	± 3%
Maximum Interruption	0.5 cycle
Maximum Line Noise	+ 100% of the amplitude for 2 usec once every half cycle
System AC Power Data	Refer to Table C

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

Supply	(+) 5 V @ __A					(+) 15 V () 15 V each @ __A					() 30 V @ __A				
	0-50	0-55	0-60	0-65	0-70	0-50	0-55	0-60	0-65	0-70	0-50	0-55	0-60	0-65	0-70
NPSM02 using 1947319-2 or NPSM04 using 1947319-4	100.0	95.24	90.48	85.71	80.95	7.00	6.67	6.33	6.00	5.67	1.00	0.95	0.90	0.86	0.81
NPSM02 using 1947509-2 or NPSM04 using 1947509-4	110.0	102.14	94.29	86.43	78.57	5.00	4.64	4.29	3.93	3.57	1.00	0.93	0.86	0.79	0.71
NPSM01 using 1947319-1 or NPSM03 using 1947319-3	50.00	47.62	45.24	42.86	40.48	3.00	2.86	2.71	2.57	2.43	1.00	0.93	0.86	0.79	0.71

TABLE B Maximum Output Current Over Temperature Range °C Auctioneered Operation Using NMPP02

Nomen.	Supply Part Number	Size	Line Voltage	Input Current RMS	Inrush Current	Power Factor
NPSM01	1947319-1	375W	120 V ac	7.0A	60A*	8
NPSM02	1947319-2	750W	120 V ac	13.9A	100A*	8
NPSM03	1947319-3	375W	240 V ac	3.5A	80A*	8
NPSM04	1947319-4	750W	240 V ac	7.0A	80A*	8
NPSM02†	1947509-2	750W	120 V ac	13.6A	100A*	8
NPSM04‡	1947509-4	750W	240 V ac	6.8A	80A*	8

NPSM frequency range 48-62 Hz

†Alternate vendor ACDC Electronics Style RE754 0.3 sec soft start

*Approximate first cycle peak values stated. This inrush decays within 10 cycles at the line frequency. These inrush values are dependent upon capacity of the distribution system.

TABLE C System AC Power Data

For a complete list of licensees, representatives and affiliates in over 50 countries worldwide, contact

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