AlphaDOC for XM3 Power Supply Installation Instructions

This procedure details the installation process for an Alpha Dual Output Controller (AlphaDoc) in an XM3 Power Supply.

✓ **NOTICE**:

Only qualified personnel should install the AlphaDOC. To install the AlphaDOC you must completely shut down the power supply. To maintain output to the load, consider using either the APP9015S or APP9022S Service Power Supply during installation.

⚡ **WARNING! ELECTRICAL HAZARD**

To avoid exposing the technician to potentially lethal voltages, before you proceed you must remove all power from the power supply; unplug the power supply from the AC power source, remove all front panel connections and disconnect the battery connector.

Tools Required:

- 3mm slotted screwdriver
- #2 Phillips-head screwdriver
- 5/16" wrench or nut driver

Installation Procedure:

1. Completely shut down the power supply; verify all power is removed. Ensure utility power is off and battery power is safely secured (or not installed) in the enclosure assembly. All connections and cables must be removed from the power supply. To maintain output to the load, consider using the APP9015S or APP9022S Service Power Supply when installing the AlphaDOC.

2. To remove the transformer module's front panel, remove the three front panel screws (one from the bottom left on the transformer's panel, two from the top), see Fig. 1.

3. Remove the inverter module to access the output voltage terminal block.

4. Remove the output voltage wires from the terminal block, see Fig. 2.

5. Lift the front panel up and away from the chassis.

6. Remove the ribbon cable if replacing an existing AlphaDOC option.

7. Remove the 6-32 KEPS nut securing the single-output wire harness and output connector bracket.

8. Replace with the AlphaDOC board and dual output wire harness assembly.

9. Attach the insulating Nomex® sheet to the back of the PCB using the two 3/8" circuit board supports.

10. Install the output connector bracket using the 6-32 KEPS nut that was removed in Step 6 on the PEM stud that is farthest from the connectors.

11. Install the PCB using two 6-32 screws, routing the wires under the PCB and Nomex® sheet.

12. Connect the dual output voltage wires, to the output voltage terminal block as shown, see Fig. 2. Torque terminal block screws to 7in-lbs (0.79N-m).

13. Attach the ribbon cable to the AlphaDOC board.

14. Replace the front panel.

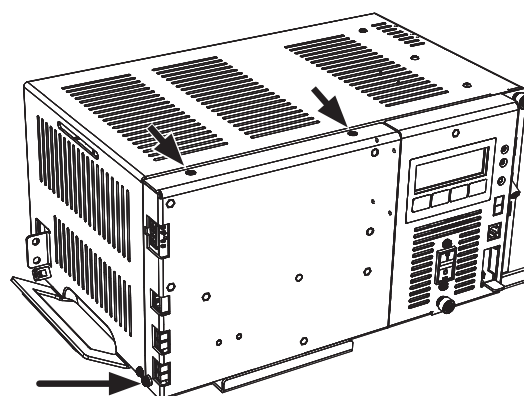15. Replace output connections and return the unit to service.
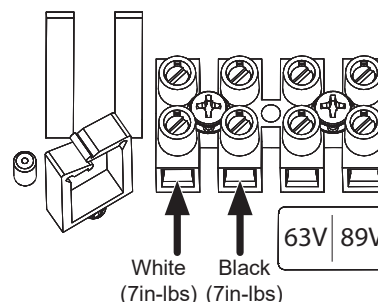

Fig. 1, Front Panel Screw Locations

White (7in-lbs) Black (7in-lbs) 63V 89V

Fig. 2, Output Voltage Terminal Block
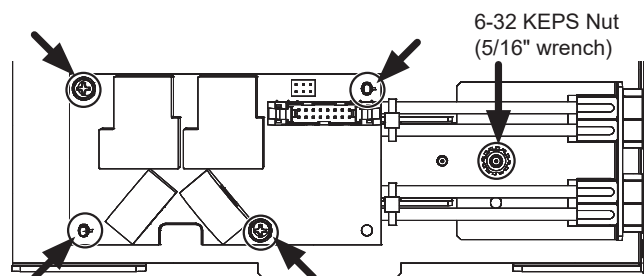

6-32 KEPS Nut (5/16" wrench)

Fig. 3, AlphaDOC Standoff and Screw Locations

NOTICE:

For XM3-910E-HP and XM3-615CE-HP models, a 5-position terminal block is included, see Fig. 4.

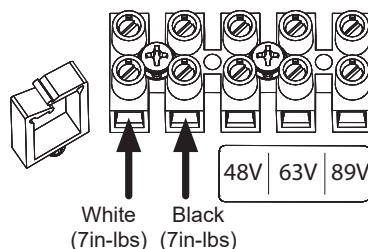48V | 63V | 89V

White (7in-lbs) Black (7in-lbs)

Fig. 4, 5-Position Output Voltage Terminal Block

Programming the AlphaDOC

The AlphaDOC programmable parameters may be adjusted via the XM3 Smart Display. Pressing the **PWR** (Power) softkey while in the OPERATION NORMAL screen opens the Power Info Menu display (the first letter of the top line will blink indicating it is the active line). Pressing **ENTR** from this screen opens the PWR CNFG Menu. Cycling through each menu item and following the prompts on the lower line will enable the user to configure the parameters shown in the menu.
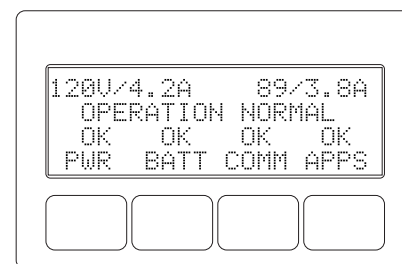


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120V/4.2A    89/3.8A
  OPERATION NORMAL
  OK   OK   OK   OK
 PWR  BATT COMM APPS
```

Fig. 5, Smart Display

Programmable parameters with AlphaDOC installed are:

Channel 1 Overcurrent Limit (1.0 – 25.0 Amps): The RMS current level that causes the Output 1 protection relay to trip after a specified delay (overcurrent tolerance period).

Channel 2 Overcurrent Limit (1.0 – 25.0 Amps): The RMS current level that causes the Output 2 protection relay to trip after a specified delay (overcurrent tolerance period).

Retry Delay (5 - 301 Seconds): The time between each attempt to restart an output in the event of an overcurrent event.

Retry Limit (0 - 40): The number of times the power supply attempts to restart an output connection. Once the RETRY LIMIT is exceeded, standard models attempt to restart the output connection every 30 minutes. Set this parameter to "zero" to disable the "automatic retry" function.

Overcurrent Tolerance Period (20-9900ms): In the event of an overcurrent episode, the amount of time an output overcurrent condition is permitted on either output connection. Once this time expires, the output protection relay disables its output feeder.

Output 1 Reset/Output 2 Reset: This manually resets corresponding tripped output. These are not displayed if the corresponding output is not tripped.

NOTICE:

Programming any of the above parameters will reset the "trip/retry" counters.

Read Only AlphaDOC Menu Items:
AlphaDOC Option: Automatically senses and indicates whether the AlphaDOC is installed.
AlphaDOC FW: Firmware version installed in the AlphaDOC.
DOC ##########: Serial number of the AlphaDOC.

NOTICE:

If the optional AlphaDOC is not installed, the values shown under the "AlphaDOC OPTION" line of the Smart Display are hidden.

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