

Total Access® 750 AC/DC Power Supply and Battery Charger Installation and Maintenance

Contents

1. GENERAL	1
2. DESCRIPTION	1
3. INSTALLATION	2
4. SPECIFICATIONS	3
5. MAINTENANCE	3
6. WARRANTY AND CUSTOMER SERVICE	3

Figures

Figure 1. TA 750 PS/BC, Front and Back	1
Figure 2. AC/DC Power Supply Battery Charger Layout ..	2
Figure 3. Alternate Mounting Arrangements	3

Tables

Table 1. Alarm Relay Operation	2
Table 2. LED Indication	2
Table 3. Specifications	3

1. GENERAL

This practice provides installation and maintenance procedures for the ADTRAN Total Access 750 Power Supply/Battery Charger. **Figure 1** is a front and back illustration of the PS/BC.

Revision History

This is the second release of this document. Revisions were made to correct the screening in Figure 1.

Features

The TA 750 PS/BC, part number 1175043L1, features include the following:

- Compact design.
- Versatile mounting arrangements.
- All mounting hardware included.
- Built-in circuit breaker.
- Multi-feature status LED.
- Modular connections.
- Positive ground.
- Uninterrupted power output if battery backup connected.
- FCC, NEBS Level 3, and UL 1950 compliant.

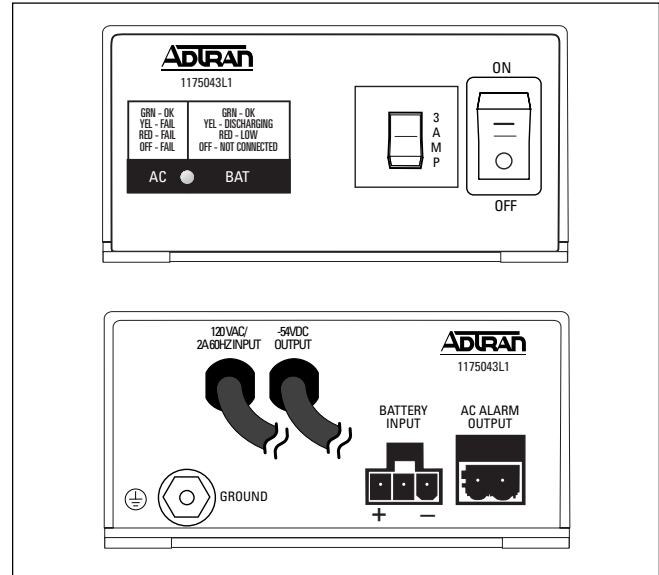


Figure 1. TA 750 PS/BC, Front and Back

2. DESCRIPTION

The AC/DC Power Supply/Battery Charger provides -54 VDC to the Power Supply Unit in the TA 750 Chassis. The PS/BC receives 115 VAC through a standard plug and wall socket. The unit works in conjunction with an optional ADTRAN backup battery pack, p/n 1175044L1. In this arrangement, the PS/BC maintains the battery at peak charge of -54V. If AC power is lost, the unit automatically transfers power from the battery pack without interrupting service. When AC power returns, the unit switches back to AC power and recharges the battery to peak charge.

Alarm and Battery Disconnect Relays

Two relays support Power Supply operation:

- Alarm relay
- Battery disconnect relay

ALARM RELAY

The Alarm relay is provided for customer use. In normal operation the dry contact alarm relay is open. If an AC power failure occurs and the unit defaults to the battery back-up, the relay will cycle open/closed

once per second. This indicates the battery is discharging in support of the load. If battery voltage decreases to 45 V the relay stays closed to indicate the battery is becoming depleted. The relay will open automatically when normal AC voltage is restored.

Table 1 summarizes alarm relay operation.

Table 1. Alarm Relay Operation

Condition	Alarm Relay
Normal	Open
AC Power Failure/Battery Backup engaged	Cycles open/closed once per second
Battery voltage is less than 45v	Stays closed

BATTERY DISCONNECT RELAY

The battery disconnect relay disconnects the battery pack from the system if the battery voltage falls below 40 Vdc. This feature prevents damage to the batteries. The batteries will be recharged when normal AC voltage is restored and the relay will close when the battery voltage exceeds 40V.

Circuit Breaker

A 3-amp circuit breaker on the front panel protects the unit from over current. The circuit breaker isolates the AC input from the power supply in the event of a fault. When tripped, a rocker button extends out from the front panel for a visual indication. The breaker is reset by pushing in on the rocker button which emits a click sound when reset.

Status LED

A single multi-feature LED on the front panel provides AC operation or battery operation power status. Refer to **Table 2** for indication descriptions.

Table 2. LED Indication

AC Power Operation		Battery Operation	
Green	OK	Green	OK (charging)
Yellow	Power Fail	Yellow	Discharging
Red	Power Fail	Red	Low (<40V)
Off	Power Fail	Off	Disconnected

3. INSTALLATION



CAUTION!
SUBJECT TO ELECTROSTATIC DAMAGE
OR DECREASE IN RELIABILITY.
HANDLING PRECAUTIONS REQUIRED.

After unpacking the unit, inspect it for damage. If damage is noted, file a claim with the carrier then notify ADTRAN Customer Service.

There are three installation arrangements:

- Wall mount (standard).
- Mounted to TA 750 chassis.
- Mounted to backup Battery Pack.

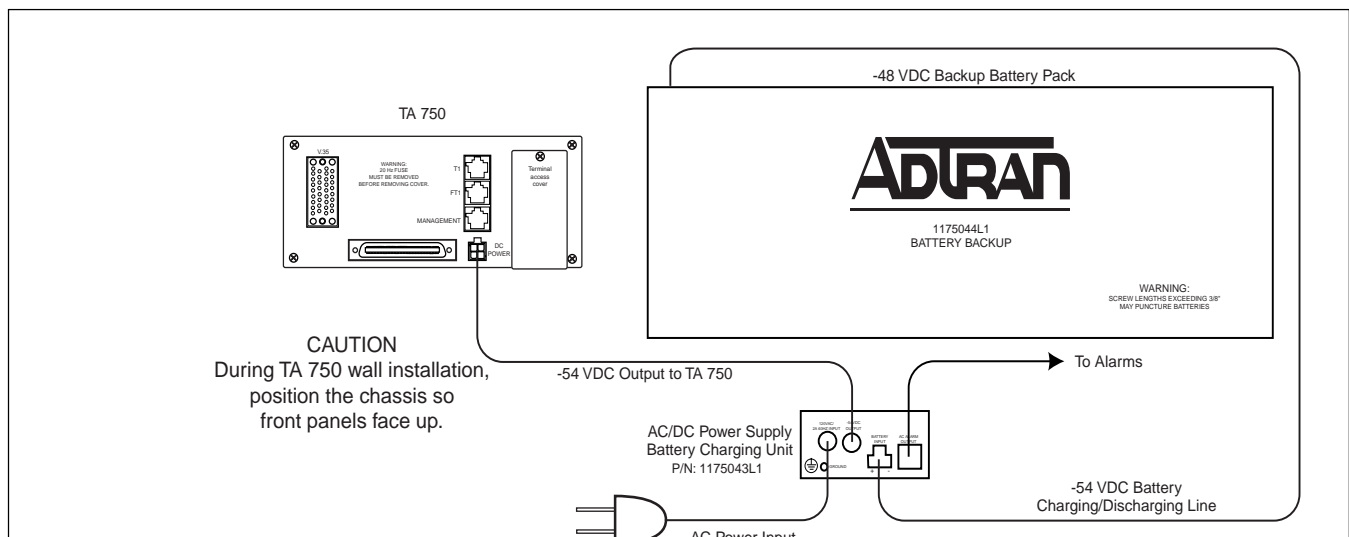


Figure 2. AC/DC Power Supply Battery Charger Layout

Wall Mounting

For the wall mount arrangement, the PS/BC is normally installed on the same plywood foundation as the TA 750 chassis and backup battery pack using four #8 by 3/4-inch pan-head wood screws. Refer to **Figure 2**. Installation is as follows:

1. Determine the preferred layout and ensure the socket-outlet is located near the equipment and easily accessible.
2. Ensure the unit is plumb then mark through the four screw holes to identify where the pilot holes will be drilled.
3. Using a 1/16-inch bit, drill pilot holes at the marked locations.
4. Mount the unit using the pan-head screws.
5. Route and connect all cabling to the appropriate device. Use cable tie-downs as needed.
6. Connect the ground stud using the most direct route to a known equipment ground source.

Optional Mounting Locations

As an optional installation arrangement, the PS/BC unit can mount on either side of the TA 750 chassis, or the top of the battery pack (wall or rack orientation) which has space for two PS/BCs. These locations all have pre-threaded inserts designed for the PS/BC. For installation, four #6-32 by 3/8-inch machine screws are provided.

CAUTION

When mounting to the battery pack, using screws longer than 3/8 inch could damage batteries.

Refer to **Figure 3** for optional mounting arrangements.

Grounding

The ground connector on the PS/BC provides an additional ground reference (the third prong of the AC plug is also grounded) and may be connected to “ground bus” or “ground wire” in a customer equipment room. 18 AWG ground wire is recommended.

4. SPECIFICATIONS

Refer to **Table 3** for specifications.

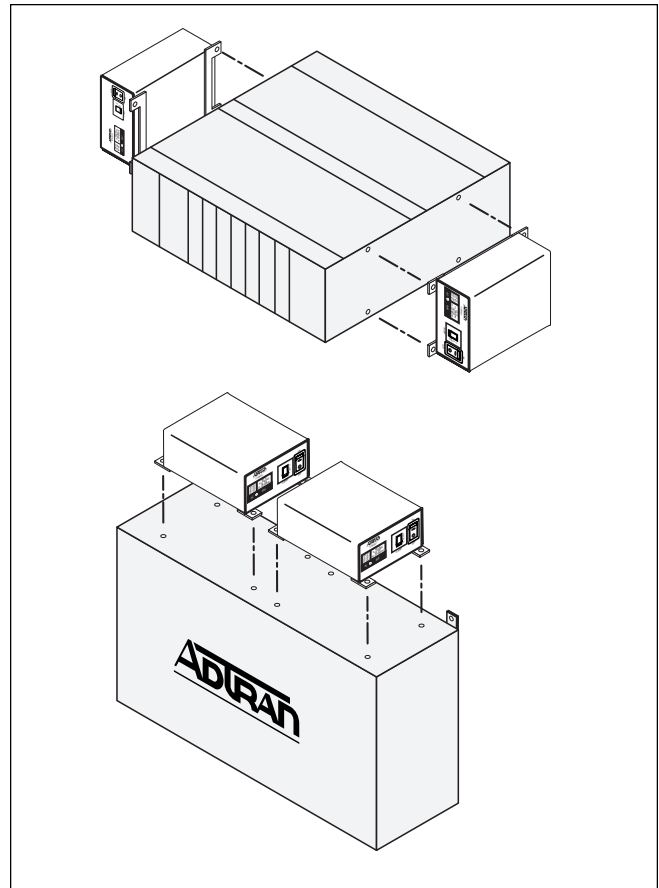


Figure 3. Alternate Mounting Arrangements

Table 3. Specifications

Electrical	
AC Input:	115 Volts nominal
Range:	88 to 132 VAC
DC Output:	-54 Volts, 60 Watts average 100 Watts peak
Battery charging:	16 hr nominal, 24 hr maximum
Battery discharge:	Up to 8 hours
Physical	
Dimensions:	3 1/2" W x 1 3/4" H x 7" L (including mounting tabs)
Weight:	1 lb. 8 Oz.
Environmental	
Operating temperature:	0° to 50° C (32° to 122° F)
Storage temperature:	-40° to 85° C (-40° to 185° F)
Relative humidity:	95% non-condensing

5. MAINTENANCE

The AC/DC Power Supply/Battery Charger does not require routine maintenance for design operation.

ADTRAN does not recommend that repairs be attempted in the field. Repair services are obtained by returning the defective unit to ADTRAN Customer Service.

6. WARRANTY AND CUSTOMER SERVICE

ADTRAN will replace or repair this product within 10 years from the date of shipment if it does not meet its published specifications or fails while in service (see: *ADTRAN Carrier Networks Equipment Warranty, Repair, and Return Policy and Procedure*, document: 60000087-10A).

Contact Customer And Product Service (CAPS) prior to returning equipment to ADTRAN.

For service, CAPS requests, or further information, contact one of the following numbers:

ADTRAN Sales

Pricing and availability
(800) 827-0807

ADTRAN Technical Support

Presales Applications / Post-sale Technical Assistance
(800) 726-8663

Standard support hours:
Monday-Friday, 7 a.m. - 7 p.m. CST

Emergency support: 7 days/week, 24 hours/day

ADTRAN Repair/CAPS

Return for repair / upgrade
(256) 963-8722

Repair and Return Address:

ADTRAN, Inc.
Customer and Product Support (CAPS)
901 Explorer Boulevard
Huntsville, Alabama 35806-2807