

Total Access™ 612, 616, 624, 750, and 850 Battery Backup Unit Installation and Maintenance

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1. GENERAL

This practice provides installation and maintenance procedures for the ADTRAN™ Total Access Battery Backup Unit. This pack may be used with the Total Access 612, 616, 624, 750, and 850. Figure 1 & Figure 2 are illustrations of the battery pack and connection arrangement.

Revision History

Revision E of this document includes information for the Total Access 612, 616, and 624.

Features

Features of the battery pack, P/N 1175044L1, include the following:

- No-spill battery design.
- Compact wallmount or rackmount box.
- Double battery pack rack mounting available.
- 7 amp/hr batteries provides up to 8 hours of backup depending on load.
- Modular plug provides quick and easy installation.
- Pre-threaded inserts provide multiple mounting locations for the ADTRAN AC/DC Power Supply.
- All mounting hardware included.

Description

The battery pack is designed as a backup power supply for the ADTRAN Total Access 612, 616, 624, 750, and 850. The battery pack connects to the AC power supply battery charging unit through a 6-foot charge/discharge, 2-conductor wire with a keyed modular plug.

CAUTION

The battery pack is designed to operate exclusively with the ADTRAN AC/DC Power Supply Battery Charging unit (P/N 1175043Lx). Do not use the battery pack for any other application.

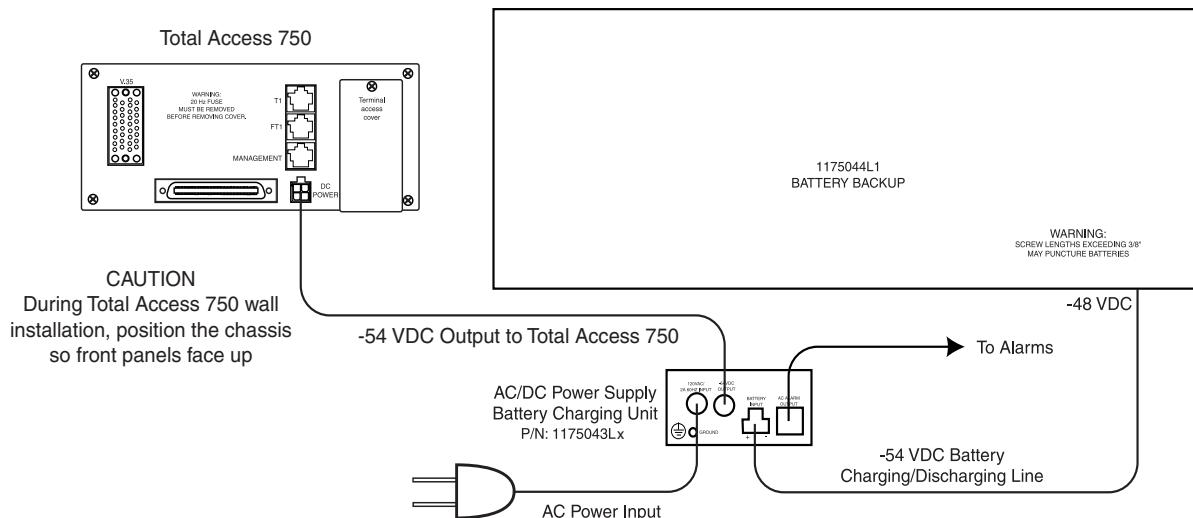


Figure 1. Total Access 750 Battery Pack Connections

Wall Mount Installation

For a wallmount installation, the battery pack installs on heavy plywood (3/4" minimum) using four #10 x 3/4" pan-head wood screws. Install the battery pack as follows:

1. Determine the preferred unit layout to ensure cable plugs reach their designated sockets.
2. Ensuring a plumb measurement, mark where the pilot holes are to be drilled according to the dimensions given in Figure 3.
3. Drill all four pilot holes using a size 1/16" drill bit.
4. Screw the top two pan-head screws that fit the keyhole openings. Let the head of each screw protrude 1/16" from the plywood to engage the keyhole slot.

WARNING

Do not let the weight of the battery pack rest on the two keyhole screws. Maintain support until the upper two screws are fully inserted.

5. With an assistant, lift the battery pack and position to engage the screw heads. Allow the pack to slide down until the slot end rests against the screws.
6. Insert the two lower screws through the tabs and tighten securely.
7. For the Total Access 750/850, route and insert the battery cable to the AC/DC Power Supply Battery Charging unit as shown in Figure 1 on page 1. Use cable tie-downs as appropriate. For the Total Access 612/616/624, the -48 V connection from the Battery Pack may be directly connected to the BATT port on the rear of the unit as shown in Figure 2.

Rackmount Installation

A set of two heavy duty brackets can be purchased separately for installation in a standard 19" rack (P/N 1175047L1) or a standard 23" rack (P/N 1175048L1). The brackets bolt to either side of the battery pack. In this installation, the battery pack lays flat as compared to the wall installation where it mounts upright. The brackets are long enough so two battery packs can be mounted back-to-back. Refer to Figure 4 for a rack mount arrangement ready for installation in a rack. In the illustration the AC/DC power supply is shown mounted to the battery pack.

NOTE

The external AC/DC power supply is not used with the Total Access 612/616/624.

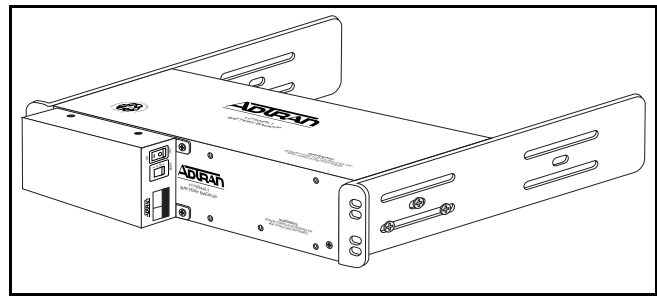


Figure 4. Battery Pack Rackmount Installation

Auxiliary Mounts

In either installation, the AC/DC Power Supply Battery Charging unit can mount directly to the battery pack on the front of the unit using pre-threaded inserts (see Figure 4).

NOTE

The external AC/DC power supply is not used with the Total Access 612/616/624.

CAUTION

To prevent battery damage, if using auxiliary mounts, do not use a screw length exceeding 3/8".

3. OPERATION

NOTE

This section does not apply to the Total Access 612/616/624 since the external AC/DC Power Supply/Battery Charger is not used with these units.

During operation, the AC/DC power supply battery charging unit provides power to the Total Access 750/850 PSU for distribution to channel bank elements. The power supply battery charging circuit maintains the battery at peak charge of -54 V. During an AC power failure, the power supply allows the battery pack to provide up to 8 hours of battery power to the Total Access 750/850 PSU for uninterrupted service. When AC power is restored, the power supply automatically switches to the AC supply and the battery charging circuit recharges the battery to peak voltage (-54 VDC).

Alarm Relay (AC Supply)

The alarm relay is provided for customer use. In normal operation the dry contact relay is open. If AC voltage is lost or decreases below 88 Vrms at full load and the battery backup is connected, the relay will start to 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. (See Table 1.)

Table 1. Alarm Relay Operation

Status	AC ALARM OUT	Alarm Signal to Total Access 750/850
Normal	Open	Open
AC Power Failure/ Battery Backup Engaged	Cycle open/ closed once per second	Cycle open/ ground once per second
Battery voltage is less than -45V	Stays closed	Stays grounded

Battery Disconnect Relay (AC Supply)

Excessive discharge decreases battery operational life. During battery operation, a relay will open when voltage is below -40 V, disconnecting the battery. The relay automatically closes when normal AC voltage is restored.

Thermal Overload

A current activated thermal overload opens the battery circuitry when the overload device reaches 125 °C. See Table 2.

Table 2. Compliance Codes

Code	Input	Output
Power Code (PC)	F	C
Telecommunication Code (TC)	--	--
Installation Code (IC)	E	--

4. MAINTENANCE

The Battery Pack does not require routine maintenance for normal operation. The life expectancy of the battery pack is 3 to 5 years on standby use when used at room temperature.

Excessive heat decreases battery power and life. Ideal ambient temperature for battery life and capacity is 68° F (20 °C). Extreme low temperature also decreases battery capacity.

Battery shelf life is extended in cooler temperatures.

Depleted and/or defective batteries need to be replaced in the field by qualified personnel. To order replacement batteries, please contact your distributor, VAR, or ADTRAN Inside Sales and provide them with the following part number: 1975044L1 (12 V replacement Battery).

ADTRAN is an environmental friendly company. Therefore, we encourage the proper recycling and handling of the batteries. Federal and State laws prohibit the improper disposal of all lead acid batteries. The customer is responsible for the handling of their batteries from the day of purchase through their ultimate disposal. For more information on battery replacement and recycling, reference 60000120-36A.

5. SPECIFICATIONS

Refer to Table 3 for battery pack specifications.

Table 3. Battery Pack Specifications

Battery	
Part Number	311212V02
Suppliers:	YUASA and Panasonic
Batteries:	7 Amp/hr per battey
Voltage:	-12 VDC per battery
Backup Time:	Up to 8 hours
Wire Gauge:	18 AWG
Environmental	
Operating Temperatures:	Charge: 5° to 122° F (-15° to 50° C)
	Discharge: -4° to 140° F (-20° to 60° C)
Preferred:	68° F (20° C)
Physical	
Dimensions:	17" W x 6.5" H x 3.5" D
Weight:	30 lb.

6. WARRANTY AND CUSTOMER SERVICE

All Total Access Battery Backup systems have a 10 year warranty coverage on the product. This includes cables, housings, PCBs, and any other ADTRAN-built components (excluding lead acid batteries).

Batteries have a 1 year warranty from their manufacturer. ADTRAN will replace any defective battery within 1 year of shipment. After the 1 year period, the customer will be responsible for replacement and disposal of the old batteries. The replacement part number for the 12V battery contained in this backup system is PN: 1975044L1 and can be ordered from distribution or ADTRAN Inside Sales.

Note: Nominal life expectancy for the battery is 3 to 5 years (according to the battery manufacturer) when used at room temperature.

ADTRAN will replace or repair the battery housing and cables within 10 years from the date of shipment if it does not meet its published specifications or fails while in service. (See: ADTRAN 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

Pre sales Applications/Post-sale Technical Assistance
(888) 4-ADTRAN

Standard hours: Monday-Friday, 7 a.m.-7 p.m. CST
Emergency hours: 7 days/week, 24 hours/day

ADTRAN Repair/CAPS

Return for repair/upgrade
(256) 963-8722

Repair and Return Address

ADTRAN, Inc.
CAPS
901 Explorer Boulevard
Huntsville, Alabama 35806-2807

