

## T400 SINGLE ENVIRONMENTAL HOUSING INSTALLATION/MAINTENANCE

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## 1. GENERAL

This practice provides installation and maintenance information for the ADTRAN T400 Single Environmental Housing, part number 1150087L1. Figure 1 is a view of the T400 Single Environmental Housing.

### Features

The basic features of the T400 Single Environmental Housing, part number 1150087L1, include the following:

- Houses one of the following circuit packs: FNID, BRIDLE-R, HTU-R, HRE, or Total Reach
- Seals the T400 circuit packs from the environment
- Allows separate, unsealed access to the customer and network wiring
- Mounts above ground to a pole or wall
- Compact T400 Environmental Housing - 9" High x 3 3/4" Deep x 8 5/8" Wide, 2.6 lb. with mounting bracket
- Four replaceable gas-tube surge arrestors that provide primary lightning protection

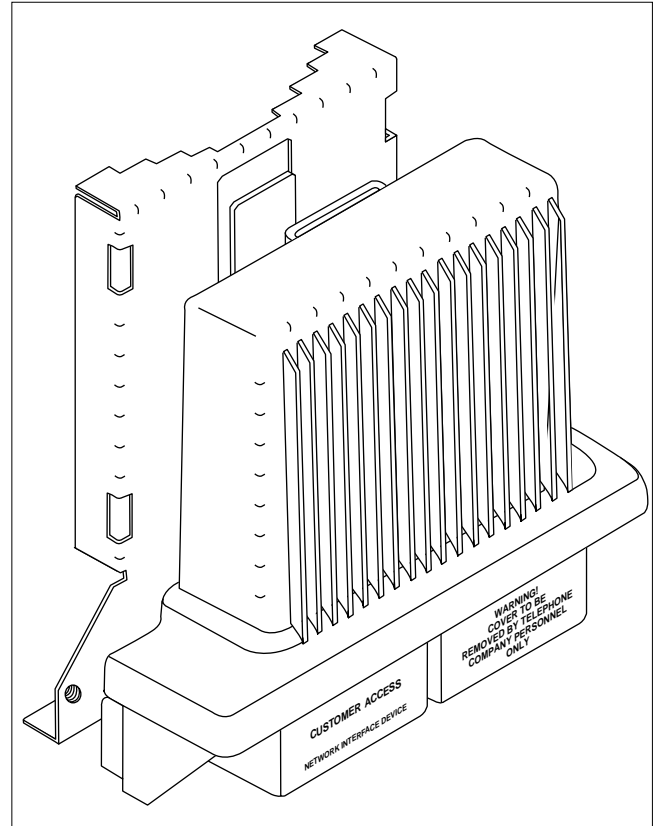


Figure 1. T400 Single Environmental Housing

## 2. INSTALLATION

The T400 Environmental Housing consists of a base, cover, O-ring, mounting bolts for the base, mounting bracket, lag screws and spacers for the mounting bracket. See Figures 2, 3, 4 and 5.

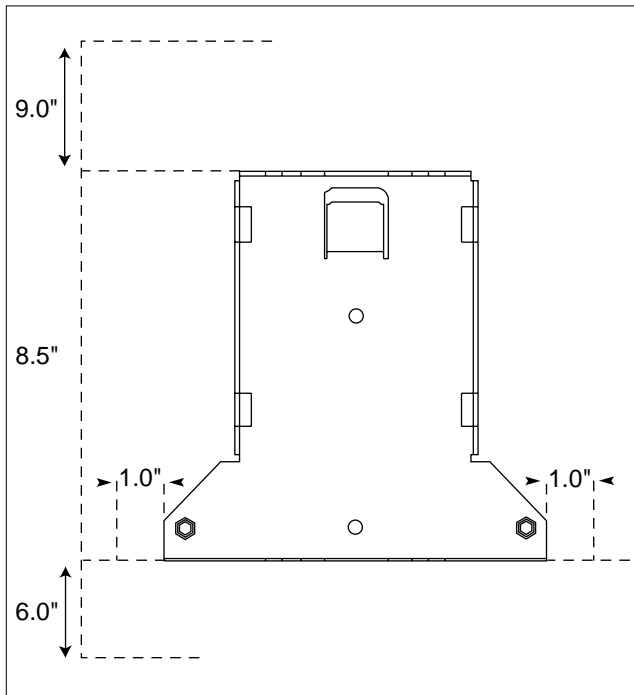
**WARNING** *The T400 Single Environmental Housing is designed for above ground only mounting. Never install telephone wiring during a lightning storm.*

### Install Mounting Bracket

1. Clearances between the T400 Environmental Housing and adjacent structures must be observed

for access during maintenance. Note clearances required for removing the Environmental Housing. See Figure 2 for mounting clearances.

- Place the mounting bracket  $\frac{3}{4}$ " spacers between the rear of the mounting bracket and the mounting surface. The spacers are required to insure the mounting bracket is not warped during installation or use.
- Insert the  $\frac{1}{4}$ " x  $1\frac{1}{2}$ " Hex head lag screws through the mounting holes of the mounting bracket and spacers. Tighten securely with a  $\frac{7}{16}$ " nut driver.



**Figure 2. Clearances**

### Install the T400 Environmental Housing

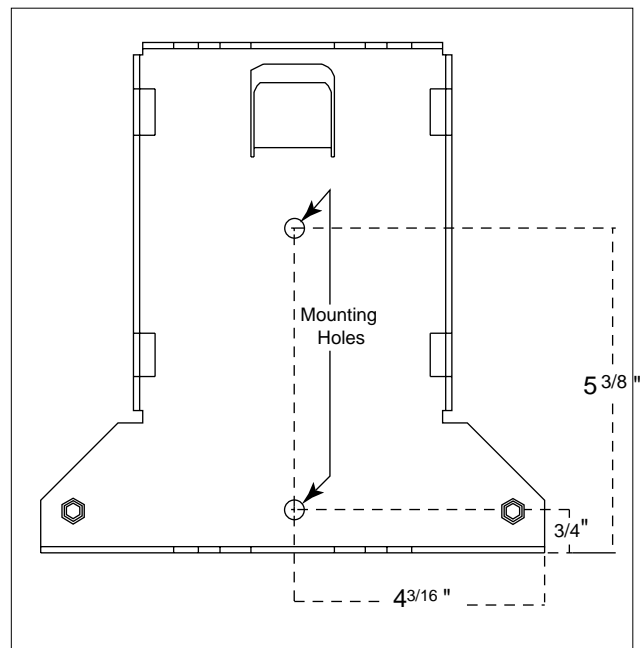
- Fasten the Environmental Housing to the mounting bracket using the two mounting bracket bolts.
- Tighten the two bolts using a  $\frac{7}{16}$ " nut driver to 25 in-lbs.



*Power Modules in the central office should be removed or de-energized prior to installation and maintenance of the T400 Single Environmental Housing. Appropriate Methods and Procedures should be followed to insure personal safety.*

### Network Wiring

- Remove the network cover on the base using a  $\frac{7}{16}$ " nut driver.
- Connect the wiring in the terminal blocks as shown in Table A. The terminal block will accommodate a #6 Spade Lug.

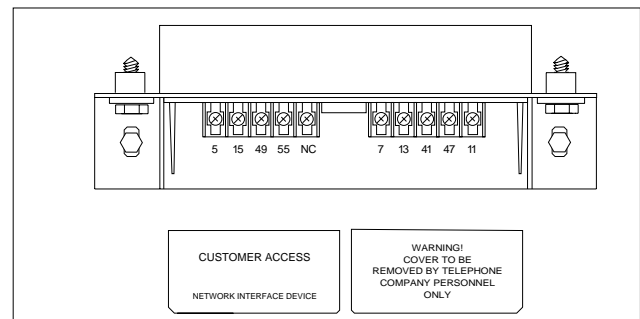


**Figure 3. Mounting Holes**

- Connect the ground cable to an appropriate ground. (Surge arrestors work only when the ground cable is connected.)
- Replace the network cover on the base using a  $\frac{7}{16}$ " nut driver. Tighten to 20 in-lbs.

### Customer Wiring

- Remove the customer cover on the base using a flat-head screwdriver.
- Connect the wiring in the terminal blocks as shown in Table A. The terminal block will accommodate a #6 Spade Lug. The terminal blocks are shown in Figure 4.
- Replace the customer cover on the base using a flat-head screwdriver.



**Figure 4. Wiring Terminals**

### Remove the Environmental Housing Cover

- Wipe any debris from the cover and base.
- Remove the two housing cover bolts using a  $\frac{7}{16}$ " nut driver.

**Table A. Wiring**

Pins	ISDN BRIDLE-R	ISDN TR-R	HDSL FNID	HDSL HRE	HDSL HTU-R
5, 15	Customer	NC	To Customer	Customer Loop 1	To Customer
7,13	Network Loop 1	NC	Network	Network Loop 1	Network Loop 1
11	GND	GND	GND	GND	GND
41, 47	Network Loop 2	Network	NC	Network Loop 2	Network Loop 2
49,55	NC	Customer NT1	From Customer	Customer Loop 2	From Customer

3. Remove the cover from the housing base.

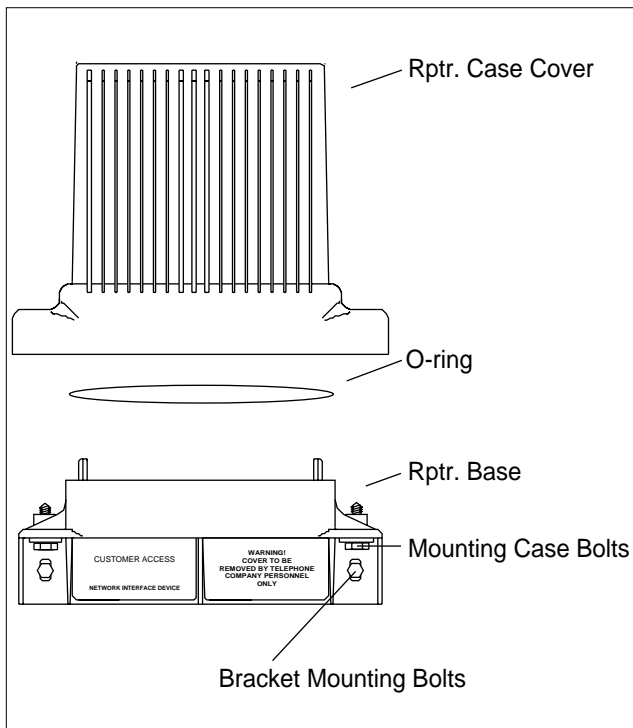


*Handle the circuit packs only by the front panel handle. Take care to avoid the sharp exposed pins on the front and back sides of the circuit packs during installation and maintenance.*

Insert the circuit pack (aligning the goldfingers on the circuit pack with the connector inside the environmental housing) in the wired slot.

**Place the Cover on the Base**

1. Verify that the cover assembly O-ring is properly placed around the cover and is free of debris before replacing the cover.

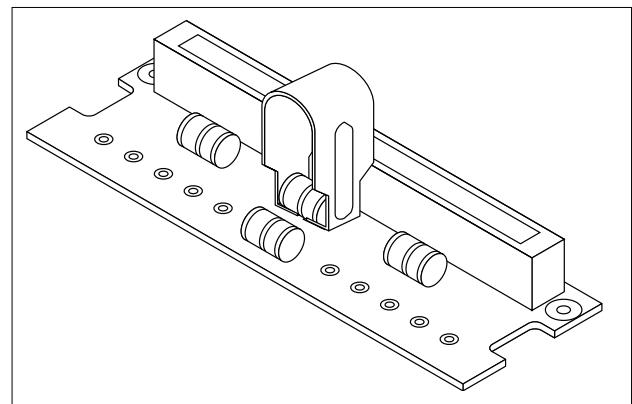


**Figure 5. T400 Environmental Housing Assembly**

2. Place the cover on the base.
3. Tighten the two bolts using a  $\frac{7}{16}$ " nut driver to 20 in-lbs.

**To Replace Surge Arrestors**

1. Unseat the appropriate powering modules (located in the central office) before replacing surge arrestors inside the T400 single environmental housing. This removes power from the wires and pins.
2. After cleaning debris from the cover and base, remove the environmental housing cover.
3. Remove the circuit pack.
4. Using the insertion/extraction tool, grasp and remove a surge arrestor (see Figure 6).



**Figure 6. Surge Arrestors and the Insertion/Extraction Tool**

5. Place a replacement surge arrestor in the same position.
6. Replace the remaining surge arrestors in the same manner.
7. Reseat the powering modules at the central office.

8. Perform a circuit test to verify proper circuit operation.
9. Replace the cover assembly O-ring if it has not been replaced within the last 90 days.
10. Reattach the cover on the base.

### 3. REPLACEMENT PARTS

The environmental housing contains surge arrestors and an O-ring which can be ordered for replacement as follows:

Part number: 1150083L1    4 surge arrestors and the insertion/extraction tool

Part number: 3273.010    O ring

### 4. MAINTENANCE

The T400 Single Environmental Housing requires no routine maintenance to function properly.

**WARNING** *Electrical shock can occur if surge arrestor replacement is attempted before removing the powering modules.*

In cases where lightning is the suspected cause of circuit pack failure, ADTRAN recommends replacing all surge arrestors within the environmental housing. The surge arrestors are field replaceable as detailed in section 2.

The cover assembly O-ring should be replaced if entry is gained and the O-ring has been in place for 90 days or longer.

### 5. WARRANTY AND CUSTOMER SERVICE

ADTRAN will replace or repair this product within ten years from the date of shipment, if the product does not meet its published specifications or if it fails while in service. For detailed warranty, repair, and return information, refer to the ADTRAN Equipment Warranty and Return Policy and Procedure.

Return Material Authorization (RMA) is required prior to returning equipment to ADTRAN. ADTRAN does not recommend that repairs be performed in the field.

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

ADTRAN Customer Service:

Applications Engineering (pre-sales support and inquiries)	(800) 615-1176
Technical Support (post-sales; have unit serial number available)	(800) 726-8663
Sales	(800) 827-0807
RMA (Repair Service)	(205) 971-8722

Repair and Return Address:

ADTRAN, Inc.  
Customer Service Department  
901 Explorer Boulevard  
Huntsville, Alabama 35806-2807