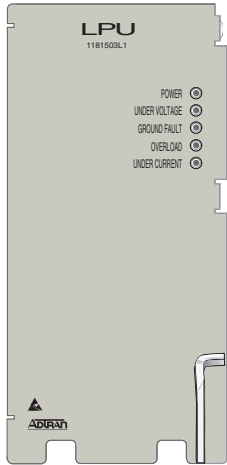


E220 LPU

P/N: 1181503L1
CLEI: SIPUNVDB_ _



GENERAL

This job aid provides information for the installation, function, and operational use of the ADTRAN® E220 Line Power Unit (LPU). The LPU (P/N 1181503L1) is designed to provide power for the Total Access® 1124/1148 Line Powered Digital Subscriber Line Access Multiplexer (DSLAM).

DESCRIPTION

Each LPU provides up to 90 watts of power to an associated DSLAM on a one-to-one basis. The LPU can reside either in a Central Office (CO) or be installed in a remote facility in close proximity to the associated DSLAM. This LPU provides ±135 VDC power and can span distances up to 60 kft (approximately 11 miles).

Each LPU occupies any two adjacent slots in an E220 chassis. Slots not occupied by an LPU can house standard channel cards. Total slot population is limited by the maximum input current of the E220 shelf.

The LPU receives -48 VDC at a maximum of 2.2 amps from the E220 chassis backplane and outputs to eight Tip and Ring power pairs. Voltage potential per pair is Tip +135 VDC and Ring -135 VDC (270 VDC combined).

The total power wiring pair requirement is based on transmission distance to the remote location. Power is present on all pairs which contact the LPU. For more information, refer to “Line Powering” in the specific Total Access 1124/1148 DSLAM Installation and Maintenance Practice.

WARNING: This unit utilizes pairs for powering that normally connect to the DSX TX and DSX RX of an E220 shelf. These pairs should not be connected to any DSX equipment. Connections of these pairs to DSX equipment may result in damage to the DSX equipment.

INSTALLATION

After unpacking the unit, inspect it for damage. If damage is noted, file a claim with the carrier and then contact ADTRAN. For more information, refer to the warranty.

The LPU installs in any two adjacent slots in a E220 chassis.

ADTRAN recommends dedicating an entire E220 shelf to power or otherwise taking action to redirect the power from a DSX panel.

WARNING: Adhere to static discharge precautions when handling circuit cards.

To install the LPU, perform the following steps:

1. If present, remove the blank panel from the appropriate module slot of the E220 chassis.
2. Pull the ejector latch, located on the lower right-hand side of the LPU front panel, from its closed position.
3. Hold the LPU by the front panel while supporting the bottom edge of the module with the ejector latch opened to engage the chassis edge.
4. Align the LPU card edges to fit in the lower and upper guide grooves for the access module slot.
5. Slide the LPU into the module slot. Simultaneous thumb pressure at the top (above the **POWER** LED) and at the bottom (below the electrostatic caution symbol) of the front panel ensures that the LPU is firmly positioned against the backplane of the E220 chassis.
6. Secure the LPU in place by pushing in on the ejector latch.

Upon installation, the LPU initiates a self-test. Once the power up self-test is completed, the front panel LEDs reflect the true state of the hardware.

LED INDICATION

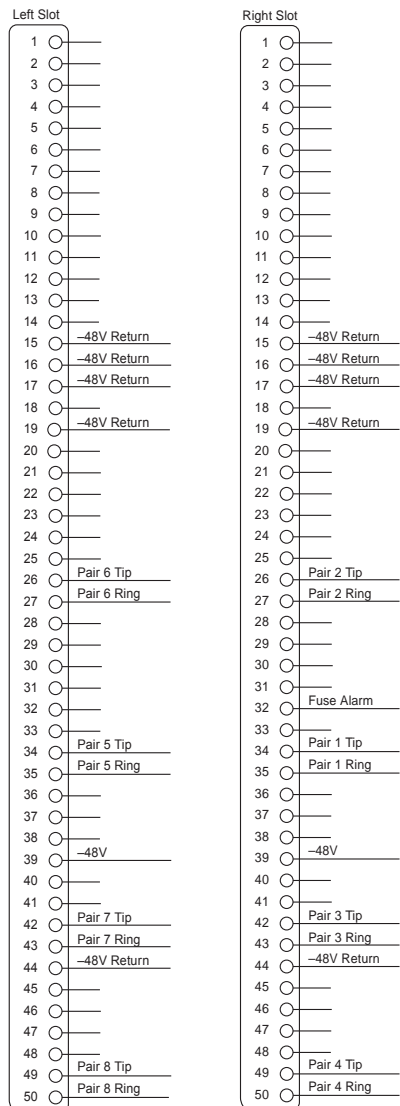
Five front panel LEDs provide status for the LPU. The **POWER** LED is green; its normal condition is on. All other LEDs are red; their normal condition is off. The status and descriptions of the LEDs are shown below:

LED	Status	Description
POWER	On	LPU receiving -48 VDC
	Off	LPU not receiving power or supply fuse failed
UNDER VOLTAGE	On	< 115 VDC per T or R (< 230 VDC per T/R pair)
	Off	Voltage normal: ±135 VDC per T/R (± 5%)
GROUND FAULT	On	Ground fault detected
	Off	No ground fault
OVERLOAD	On	> 0.4 amps at 270 VDC
	Off	No overload
UNDER CURRENT	On	< 0.04 amps
	Off	Current normal

FUSES

Power input to the LPU is fused at 3 amps; Tip and Ring power output is fused at 1.5 amps each. Fuses are not replaceable.

E220 LPU EDGE CONNECTOR WIRING



NOTE: Connect only those output pairs required to meet power requirements of the Total Access 1124/1148 DSLAM based on the transmission distance.

Warranty: ADTRAN will replace or repair this product within the warranty period if it does not meet its published specifications or fails while in service. Warranty information can be found online at www.adtran.com/warranty.

COMPLIANCE

WARNING: Risk of electric shock. Maximum voltages of ± 140 VDC with respect to ground, and 280 VDC across the loops may be present on telecommunication wiring. Ensure chassis ground is properly connected.

The LPU is NRTL Listed to the applicable UL standards. The LPU provides span powering voltage (± 135 VDC nominal, GFI protection < 0.005 amps). The LPU is intended for installation in restricted access locations only and in equipment with a type "B" or "E" enclosure.

Code	Input	Output
Power Code	F	C
Telecommunication Code (TC)	-	X
Installation Code (IC)	A	-

MAINTENANCE

The LPU does not require maintenance for normal operation. ADTRAN does not recommend that repairs be attempted in the field. Repair services are obtained by returning the defective unit to ADTRAN. For more information, refer to the warranty.

SPECIFICATIONS

The following table lists the LPU specifications:

Specification	Description
Physical	
Dimensions:	Height: 5.6 inches Width: 2.825 inches Depth: 10.1 inches
Weight:	11 ounces
Environmental	
Max operating temperature:	-40°C to $+70^{\circ}\text{C}$
Max storage temperature:	-40°C to $+85^{\circ}\text{C}$
Relative humidity:	95% non condensing
Electrical	
Input power:	8.3 watts maximum
Operating voltage:	-42 to -56 VDC
Output voltage:	± 135 VDC per T/R pair (270 VDC total)
Maximum output current:	Rated: 0.333 amps Maximum: 0.4 amps (total across all output pairs)