



# T1 ESF CSU

## Stand Alone and Smart 16 T1 Network Facility Interface

### Product Features

- Provides T1 facility interface and jitter tolerance per ANSI T1.403, T1.102 and AT&T TR 62411
- Supports B8ZS or AMI formats
- Conversion for signal formats and line coding
- Transmits unframed "All 1's" during signal loss from DTE or T1 Network
- Front Panel LCD and 4 button keypad (ACE)
- Automatic or manual line build-out configuration
- Standalone ACE package or Smart 16 single slot card
- Supports Performance Report Messages of ANSI T1.403 and AT&T 54016 maintenance messages
- Industry-leading five-year North American warranty

The ADTRAN T1 ESF CSU™ is a full-featured T1 Channel Service Unit used to connect T1 data terminal equipment (DTE) such as a PBX, switch or channel bank to T1 facilities. Capable of interfacing to both B8ZS or AMI circuits, the T1 ESF CSU can convert signal formats or line code to integrate older equipment. The ESF CSU is designed to provide alarms, loopbacks, signal regeneration, line build-out, and surge protection, while maintaining 1's density for the DTE and T1 network.

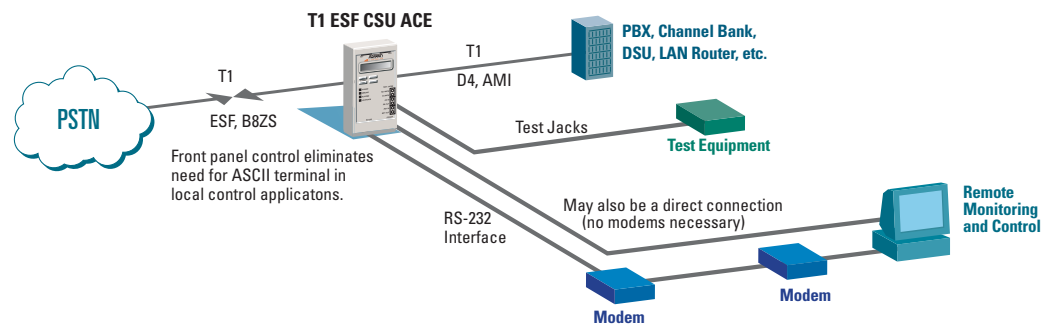
The T1 ESF CSU ACE is suitable for wall-mounting or desktop use, while the T1 ESF CSU Smart 16 Card occupies a single slot in the ADTRAN Smart 16 shelf. A front panel LCD and four user keys on the front of the ACE provide easy configuration and unit monitoring from the front panel. The Smart 16 ESF CSU card can be controlled from the shelf controller through a VT100 interface or the optional Datamate™. For SNMP management, the Smart 16 ESF CSU card is supported by the Smart 16e controller and the ADVISION software package.

The T1 ESF CSU provides a T1 network interface and a DSX-1 DTE connection through modular RJ48C jacks. For testing purposes, the T1 ESF CSU is capable of initiating several built-in local and remote loopback tests and

conducting stress testing of the network with built-in test patterns. For more extensive network testing, the unit uses bantam jack access for external test equipment. To aid with circuit monitoring, the T1 ESF CSU gathers ANSI PRMS information in 15 minute intervals for 24 hours, which is fully accessible from the front panel, over the FDL, or via a dial-up modem connection.

Remote configuration is made simple by using the FDL channel of a T1 ESF formatted circuit with the front panel or the Smart 16 controller interface. Using the remote configuration capability of the T1 ESF CSU enables central site control and setup for ADTRAN T1 CSUs or TSU devices. Compatibility with the popular T-Watch PRO™ software package enables the T1 ESF CSU to integrate easily into ADTRAN TSU environments.

For additional T1 applications, ADTRAN provides several T1 DSU/CSUs and T1 Multiplexers for combining traditional DSX-1 functionality with additional DTE ports. The TSU 100e™, TSU 120e™ and TSU 600e™ are modular T1 DSU/CSUs with embedded SNMP and are capable of supporting a single DSX-1 interface and up to 22 DTE interfaces for data or video applications.





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## Stand Alone and Smart 16 T1 Network Facility Interface

### Product Specifications

#### Network Interface

##### Line Rate

- T1/FT1 (1.544 Mbps)

##### Physical Interface

- RJ48C: 8-Pin Modular

##### Specifications

- ANSI T1.403, AT&T TR62411

##### Framing

- SF/ESF

##### Line Code

- AMI/B8ZS

##### ESF Format

- ANSI T1.403, AT&T 54016

##### Input Signal

- 0 to -36dB

##### Transmission Type

- Regenerative transparent: Network & DTE

#### User Testing

##### Local

- Payload/Line (NI), DTE (T1)

##### Remote

- Payload/Line (NI)

##### Test Patterns

- 1:8, All 0's, All 1's

#### Performance Monitoring

##### Performance Data

- BPVs/CRCs, ES, SES, UAS, %AS, %EF SEC
- Alarms, Error Rates

##### Reports

- NI information stored 24 hrs, every 15 min.

##### PRMS

- ANSI Performance Report
- Messages (User Selectable)

#### Equipment Interface

##### Compliance

- ANSI T1.403, AT&T 62411

##### Receiver Performance

- Automatic Line Build-out for 0-655 ft.

##### Keep Alive Signal

- Unframed/framed "All 1's" loss of DTE signal

#### User Options

##### Mounting

- Desktop or Wallmount (ACE)
- Single Slot in ADTRAN Smart 16 Chassis

#### Bantam Jacks

- Test Signal access to Network & DTE
- Non-interrupt signal receive: Network & DTE

#### LED Indicators (ACE)

- Power
- Alarms
- Errors
- Loopback

#### LED Indicators (SM 16)

- Status
- Net. & Eq. LOS
- Net. & Eq. AIS
- Net. & Eq. OOF
- Net. & Eq. Yellow Alarm
- Test
- Net. & Eq. Code Violation

#### Compliance

- FCC part 15, Class A, Part 68, Industry Canada CS03, UL 1459, CUL

#### Environment

##### Operating

- 0° to 50°C (32° to 122°F)

##### Storage

- -20° to 70°C (-4° to 158°F)

##### Relative Humidity

- Up to 95%, non-condensing

##### Dimensions

- ACE: 1.675"H x 7.22"D x 4.05"W
- Smart 16 Card: Standard ADTRAN SM 16

##### Weight

- 1 lb.

##### Power

- ACE: -42 to -56 VDC, 2.5W
- Smart 16 Card: From Smart 16 Chassis

#### Product includes

- Manual, T1 Loopback Test Adapter, and RJ45 Cable
- ACE includes AC power supply

### Ordering Information

Equipment	Part #
T1 ESF CSU ACE	1203025L1
T1 ESF CSU Smart 16 Rackmount Card	1202066L1



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