

Protected DS3/T3/STS-1 Media Converters

Extend DS3s up to 50 km; Chassis-Mount and Wall-Mount Module Sets

Overview

Telect DS3 media converter/optical transport modules enable bi-directions electrical/optical, point-to-point signal conversion and extension. Single mode or multimode SC or ST adapter options are available.

The protected module set provides an additional layer of security to ensure reliable service in crucial applications, all in two standard-sized modules. Modules extend DS3 signals up to 50 km over single mode fiber.

Applications

- Wireless
- Remote co-locate
- DSL Extension
- Enterprise networks
- Intrafacility/riser
- Campus

Primary Benefits

- 1:1 module redundancy and fiber span protection through primary and standby cards and fiber paths
- Quickly detects and switches around downed span to ensure reliable service
- Provides basic alarming functionality (loss of signal and power fail) and manual loopback control (remote/ electrical and local/optical)
- Single mode and multimode configurations
- SC or ST connector options
- All components are NEBS Level 3 compliant
- Universal $\pm 24V/-48V$ power
- Easy to install and provision

Additional module configurations are available. See Telect.com.



Single mode SC module set, part # 710-3201-2222-U



Wall-mount single mode ST system, part # 710-1001-2221-U

Ordering Information

Modules/Wall-Mount Systems

Single mode SC module set	710-3201-2222-U
Single mode ST module set	710-3201-2221-U
Multimode SC module set	710-3201-1222-U
Multimode ST module set	710-3201-1221-U
Single mode SC wall-mount system	710-1001-2222-U
Single mode ST wall-mount system	710-1001-2221-U
Multimode SC wall-mount system	710-1001-1222-U
Multimode ST wall-mount system	710-1001-1221-U

Chassis (for modules above)

19" x 1 RU/8-module	010-0000-0471BCS
23" x 1 RU/10-module	010-0000-1471BCS
19" x 4"/24-module	010-0000-2401BCS
23" x 4"/24-module	010-0000-1401BCS
23" x 4"/32-module	010-0000-3201BCS
Cable management tray, 19" x 4"	010-0019-2401BCS
Cable management tray, 23" x 1 RU	010-0023-1471BCS
Cable management tray, 23" x 4"	010-0023-3201BCS

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System Specifications

Electrical Interface

Receive equalization	0 to 900 RG-59 (or equivalent)
Input impedance	75 Ohms
Output impedance	75 Ohms
Monitor level	21 dB +1.5 dB below signal level
Format selection	Manually selected prior to power up
Error rate (maximum)	1x10 ⁻¹⁰ , with 23 dB fiber attenuation, single mode glass fiber, 0 to 50° C
Return loss	< -26 dB 300 kHz to 30 MHz, single < -16 dB 300 kHz to 30 MHz, redundant

Optical Interface

Mode	Single mode or multimode
Range	50 km (19 dB link budget) 30 km Ethernet
Optical source	Laser, 1310 & 1530 nm nominal wavelengths
Spectral width	+50 nm max
Transmit power (nominal)	-11 dBm, into 1 m 9 μm single-mode glass fiber, all-ones electrical signal, 25° C
Transmit power (minimum)	-15 dBm, into 1 m 9 μm single-mode glass fiber, all-ones electrical signal, 0 to 50° C ambient
Extinction ratio	8.2 dB min.
Laser safety	Unconditionally eyesafe laser, IEC 825/CDRH class 1 compliant
Optical receiver	PIN diode and integral amplifier
Receiver range	-8 dBm to -34 dBm -8 dBm to -31 dBm Ethernet
Link loss budget	19 dB 16 dB Ethernet
Connector	SC or ST

T3

Input data rate	44.736 Mbps +100 ppm
Input data format	Bipolar with B3ZS coding
Jitter tolerance	Meets GR-499-CORE requirements
Output data rate	Same as input signal, transmit clock is recovered from input signal
Output data format	Bipolar with B3ZS coding
Output pulse shape	Complies with GR-499-CORE and ANSI T1.102-1993

STS-1

Input data rate	51.84 Mbps +100 ppm
Input data format	Bipolar with B3ZS coding
Jitter tolerance	Meets GR-499-CORE requirements
Output data rate	Same as input signal, transmit clock is recovered from input signal
Output data format	Bipolar with B3ZS coding
Output pulse shape	Complies with GR-CORE-253

E3

Input data rate	34.368 Mbps +100 ppm
Input data format	AMI with HDB3 coding
Jitter tolerance	Meets ITU-T G.832-1993 requirements
Output data rate	Same as input signal, transmit clock is recovered from input signal
Output data format	AMI with HDB3 coding
Output pulse shape	Complies with ITU-T G.703

Signal Formats

Transmit frequency	1310 nm for 13/15 Module; 1530 nm for 15/13 Module
Receive frequency	1530 nm for 13/15 Module; 1310 nm for 15/13 Module

Remote Alarm Indicators

PWR alarm	Loss of 3.3V on-board power, normally open contact, common output at rear of chassis, "PWR ALARM"
MAJ alarm	Condition determined at power-up, normally open contact, common output at rear of chassis, "MAJ ALARM"

Power

Powering architecture	Single DC-DC converter
Redundant power	Chassis accommodate A and B battery inputs; inputs are diode "ORed" on the module
Chassis operating voltage	20 to 60 VDC
Current (maximum)	180mA @ 20 VDC 110mA at 18 VDC per module Ethernet

Environmental

Operating temperature range	0 to 50° C ambient
Storage temperature range	-55° C to 85° C
Operating humidity	5 to 95%, noncondensing
Storage humidity	< 95%
Heat dissipation	706W/m ² per meter @ ambient of 19° C (66° F)
Altitude	0-10,000' (3,048 m), operating

Redundancy

Active module	Right-hand module, viewed from the front of the chassis, is the factory default
Automatic switch	Switch of data traffic from active to standby modules initiated by detection of loss of optical or electrical signal
Manual switch	Pressing MAN ("Manual") on active module will force a switchover to the standby data link if the standby modules are installed and functioning properly
Switch timing	< 5 ms, applies to hardware or fiber data link failure

Compliance

Agency compliance	NEBS 3 FCC Part 15, Class A UL/CSA 1950
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