FUJITSU

Data Sheet
1FINITY™ T310 Transport

Carrier-grade platform delivers dense 10 Gbps to 400 Gbps muxponding

T310 Transport Blade at a Glance

- Modular 1RU blade design
- 20 × 10 GbE client interfaces and 2 × 100G/200G network plug-in units
- DP-QPSK and DP-16QAM modulation modes
- Web-based GUI, CLI script, or NETCONF API management

Product Overview
The 10 Gbps transport rate has been widely used for Ethernet and SONET services. With recent emphasis and growth in 100G services, many service providers find that there plenty of 10 Gbps services that need to be aggregated on to the new 100G paths.

The 1FINITY T310 transport blade, a universal 200G transponder with multimodulation capabilities, offers a scalable solution for providing aggregation to 100G or 200G transport wavelengths. With the high-density 10G integration and pluggable line side PIUs, 10 Gbps services can be aggregated and scale up to 200G.

Designed to meet both central office and data center requirements, the T310 provides coherent optical transport and supports dual power feeds, redundant replaceable fans, and integrated virtual management control unit (vMCU) software for control and monitoring.

Modular Blade Design
The modular 1RU design of the T310 optimizes the use of rack space and provides an open, simple, and scalable network architecture that easily accommodates rapid bandwidth growth.

To minimize cost-per-bit transport and optimize operational efficiency, the T310 supports pluggable optical units—twenty 10G SFP+ client ports and two 100G/200G network plug-in unit (PIU) channels.

1FINITY: A Revolutionary, Disaggregated Platform
For network operators seeking an open, simple, scalable architecture to meet escalating bandwidth demand, Fujitsu provides 1FINITY, a revolutionary disaggregated platform that delivers unprecedented flexibility, scalability, and efficiency. Unlike the traditional converged systems other vendors provide, the programmable, blade-centric design of 1FINITY offers operators a pay-as-you grow approach with low initial investment. Additional benefits include high rack space utilization, evergreen technology design, operational convergence, open pluggable optics, open APIs, and open protocols.

10 GbE Client-Side Connectivity

Flexible, feature-Rich Transport

The T310 is equipped with software-selectable multimodulation modes that make it possible to select the appropriate density and optical span performance per wavelength for specific applications. Based on your metro or long-haul optical network, DP-QPSK or DP-16QAM modes can be selected, allowing a trade-off in optical reach versus capacity.

Additionally, pluggable network optics support full C-band operation.

For Metro to Long-Haul Applications

The universal T310 supports multiple transport network configurations including 100G DP-QPSK or 200G DP-16QAM network provisioning per port and enhanced soft decision forward error correction (FEC). Distances greater than 3000 km for DP-QPSK configurations and 2300 km for DP-16QAM configurations can be achieved over SMF-28 fiber without regeneration.

Versatile Configurations

The versatile T310 can be deployed in different equipment scenarios:

- As a point-to-point stand-alone muxponder
- As a stackable muxponder for adding wavelengths beyond 100G to existing FLASHWAVE® 9500 or FLASHWAVE 7500 ROADM systems— or as alien wavelengths on other ROADM networks
- As a stackable muxponder in an open ROADM platform, including the 1FINITY Lambda blade series

Simplified Network Operations

The T310 employs a Linux-based operating system and can be managed with a Web-based GUI, a CLI script, or a NETCONF API. The GUI or CLI script can provision numerous service options. The NETCONF management API makes it easy to use the T310 with SDN network controllers, including the Fujitsu Virtuora® NC.
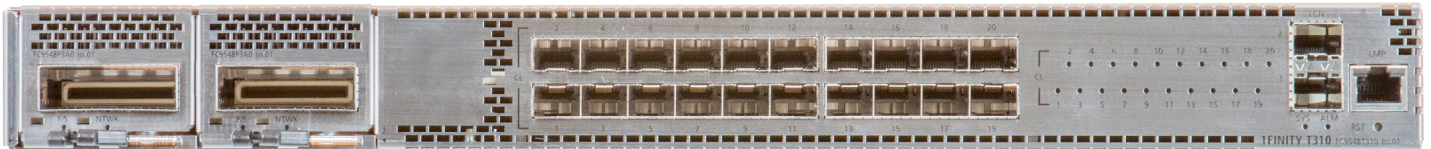
Up to 2 x CFP2-ACO 100G/200G line ports   **20 x SFP+ 10GbE client ports**

Technical Specifications

Base System	
System Configuration	Modular 1RU blade
PIU/FRU per Blade	2 line side
Local Management Port (LMP)	10/100 Mbps Ethernet RJ-45 x 1
Management Port (LCN)	2 x Gigabit Ethernet SFP (T, SX, LX, EX, ZX)
Front LEDs	System Status, Severity, and Port
Fans	3 replaceable fans
Power Supply	Dual feed, fixed power supply
Software OS	Linux

Line Optics		
Line Ports per Blade	2	
Line Rate	100 Gbps, 200 Gbps	
Optical Module	CFP2-ACO	
Optical Interface	96/128 C-band, 6.25 GHz flex-grid tunable ITU channels (50/37.5 GHz)	
Modulation	DP-QPSK	DP-16QAM
Chromatic Dispersion	±120,000 ps/nm	± 55,000 ps/nm
Minimum Required OSNR	11 dB	19 dB
Tx Wavelength	1528.72 – 1566.77 nm	
Rx Wavelength	1528.72 – 1566.77 nm	
Tx Output Power Range	Min: –5dBm, Max: 0dBm	
Rx Input Power Range	Min: –18.0dBm, Max: 0dBm	
PMD Tolerance	150ps (Outage Prabability 1.0e-5)	
AVG Reach w/ SMF-28 ULL Fiber (terrestrial)	3000 km	2300 km

Client Optics	
Client Ports per Blade/PIU	20
Optical/Electrical Interface	SFP+
Supported Interfaces	LR, ER, ZR, CWDM, DWDM, SR

Performance Monitoring	
Service PMs	24-hour, 15-minute, untimed bins
OTN PMs	Support (Section, Path, etc.)
Thresholds and TCA	Support (user assignable)

Management	
Virtuora NC	Yes
Web GUI	Yes
CLI	Yes
NETCONF/YANG	Yes
SNMP	SNMP v2 - Alarm and TCA
Communications	
Timing	Telnet, SSH, FTP, SFTP, SFTP R1.1, NTP
In-band Management	GCC0
OSMINE Support	CLEI

Physical Characteristics	
Dimensions H x W x D	1.75 x 19 x 17.72" (44.45 x 483 x 450 mm) W = 19" or 23" with mounting rails D<23.6" (600 mm) with fiber management
Rack Compatibility	19 and 23"
Weight	T310 Chassis: 12.399 lb (5.624 kg) 1-port PIU w/o CPF2-ACO: 1.290 lb (0.585 kg) F3A1: 0.443 lb (0.201 kg) F031: 0.529 lb (0.24 kg)

Operating Environment	
Operating Temperature	5 to +40 ℃
Short-Term Temperature	–5 to +50 ℃
Humidity – Normal Operating	5% to 85%
Humidity – Short Term	5% to 93%

Power	
Power Supply	Dual feed, fixed power supply
120 V AC	No
–48 V DC	–40 V DC to –57 V DC
Power Consumption	376.6 W (typical)

Regulatory and Compliance	
FCC	FCC Part 15, Class A
NEBS	NEBS Level 3
UL/CSA	UL/CSA 60950-1
CE	CE
RoHS	RoHS
IEC/EN	IEC/EN 60825-1, 60825-2
WEEE	WEEE
RCM	RCM
CDRH	FDA CDRH

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