

Data Sheet

1 FINITY™ L200 Inline Amplifier

A compact, simple, economical approach to network extension

L200 Blade at-a-Glance

- Fixed 1RU blade form factor
- Developed for metro, regional and long-haul networks
- Supports bidirectional (east and west) amplification
- Extended reach and cascaded configurations up to six spans
- Web GUI, CLI script, or NETCONF API management

Product Overview

The 1 FINITY L200 is a carrier-grade optical inline amplifier (ILA) blade designed for metro, regional and long-haul optical networks. Its easy-to-use front-access design takes the worry out of deploying ILAs when space is limited or energy efficiency is a priority. An economical amplifier platform, the L200 has no superfluous features to drive up size, complexity or cost.

The purpose-built 1RU L200 blade is designed to work with other platforms in the 1 FINITY Lambda family. As with the whole 1 FINITY range, the L200 is a key building block in simple, scalable optical networks that easily accommodate rapid growth. The platform is also highly suited to a disaggregated NFV network with SDN control.

Small Footprint, Simple Deployment, Reduced Costs

The L200, with its fully bidirectional ILA, fits in a compact 1RU space requiring only 15 inches (381 mm) depth. The platform easily fits into the smallest remote ILA sites/huts and other space-constrained environments such as data centers.

Shelf-based systems, in contrast, require much more space and impose significantly higher cost for comparable span amplification. Additionally, shelf-based systems require different units and accessories for different transmission distances, while the L200 can cover metro, regional and long-haul reach requirements in one blade. This simplifies inventory and further reduces cost of ownership.



High-Performance Connectivity up to 35 dB Spans

The optical specifications of the L200 provide high-performance connectivity up to 35 dB spans, which can be cascaded up to 6000 km over ultra low-loss fiber when used with the 1 FINITY T200 Transport Blade. The L200 employs automatic gain control for fully automated setup when operating in a Fujitsu network environment. Furthermore, the L200 amplifies all 96 or 128 flex-grid optical channels and provides control of optical tilt and transients.

The platform features a C-band bidirectional EDFA for amplification between 1528.77 and 1566.72 nm, including the 1 FINITY T Series with 96 channels at 50 GHz spacing and flexible grid up to 128 channels at 37.5 GHz spacing. Fiber types supported include Single-Mode Fiber (SMF), Dispersion-Shifted Fiber (DSF), and Non-Zero Dispersion-Shifted Fiber (NZDSF).

1 FINITY: A Revolutionary, Disaggregated Platform

For network operators seeking an open, simple, scalable architecture to meet escalating bandwidth demand, Fujitsu provides 1 FINITY, 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 1 FINITY offers operators a pay-as-you grow approach with low initial investment. Additional benefits include high rack space utilization; evergreen technology design; operational convergence; and open, pluggable optics, APIs, and protocols.

Ideal for Space-Constrained Environments

Flexible ROADM Applications

The L200 ILA supports pre- and post-amplification for the WDM signal in several ROADM applications. The initial release of the L200 supports other Fujitsu Lambda blades (such as the L100, L110 and L120) in standard ROADM configurations.

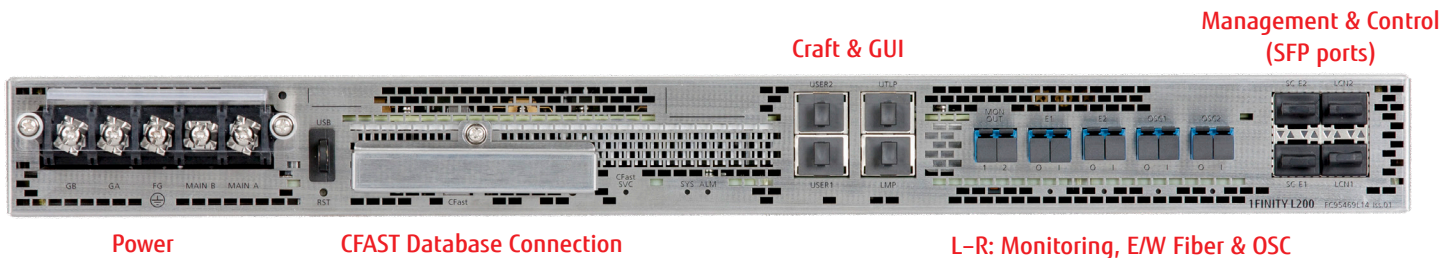
Upcoming releases of the L200 will support 1FINITY Lambda blades in open ROADM configurations and incorporate compatibility features with the Fujitsu FLASHWAVE® 9500 packet optical networking platform.

Management Options

The L200 is managed via a direct local control network (LCN) node using a 100 Mbps Ethernet or 1 GbE LAN connection. An optical supervisory channel (OSC) at 1511 nm is supported for remote out-of-band management of the ILA site at 100 Mbps, 1 GbE, or a future OC3 data rate (interoperating with the FLASHWAVE 9500 platform).

Simplified Network Operations

Like other blades in the 1FINITY Lambda family, the L200 employs a Linux-based operating system and can be managed with a Web GUI, a CLI script, SNMP, or a NETCONF interface. The GUI or CLI script can provision numerous service options. The NETCONF management interface makes it easy to use the L200 with SDN network controllers, including Fujitsu Virtuora® NC.



Technical Specifications

Base System		SNMP	SNMPv2
System Configuration	Fixed 1RU blade	Communications	SSH, SFTP, FTP, Telnet, HTTP, HTTPS
Local Management Port (LMP)	1 × 100/1000 Mbps Ethernet RJ-45	Timing	NTP
Management Port (LCN)	2 × Gigabit Ethernet SFP (T, SX, LX, EX, ZX)	In-Band Mgmt	1511 nm OSC
USB	1	OSMINE Support	CLEI
Front LEDs	System Status, Alarm Severity, Port	Physical Characteristics	
Fans	2 replaceable fans	Blade Physical Dimensions (H × W × D)	1.75 × 19 × 15", (44.45 × 483 × 381 mm) W = 19" or 23" with mounting rails (D < 600 mm including fiber management)
Power Supply	Dual-feed, fixed DC power supply (front-access)	Rack Compatibility	19" and 23", 2-post only
Software OS	Linux	Weight (Blade)	14 lb (6.4 kg)
ILA Functions		Operating Environment	
Line Ports per Blade	2 (bidirectional)	Operating Temperature	+5 to +40 °C
Optical Module	Fixed	Operating Humidity	5–85%
Line rate	100G, 200G	Power	
Tx Wavelength	1528.77–1566.72 nm	Power Supply	Dual-feed, fixed DC power supply (front-access)
Rx Wavelength	1528.77–1566.72 nm	120 V AC	No
Max. Channels per Degree and Cascade Limitations	96 (50 GHz ITU-T fixed-grid), 128 (flex-grid) channels available • CH1–CH90 (50 GHz grid), CH1–CH120 (37.5 GHz grid), Max. 6 ILA cascades • CH91–CH96 (50 GHz grid), CH121–CH128 (37.5 GHz grid), 1 ILA cascade	-48 V DC	-40 V DC to -57 V DC
Span Loss	0–35 dB	Power Consumption	153 W
Optical Supervisory Channel (OSC)	100 Mbps Ethernet, Gigabit Ethernet, OC3 (future)	Regulatory & Compliance	
Performance Monitoring		FCC	FCC Part 15, Class A
Service PMs	24-hour, 15-minute	NEBS	NEBS Level 3
Thresholds and TCA	Supported (user-assignable)	UL/CSA	UL/CSA 60950-1
Management		CE	CE
Virtuora NC	Yes	RoHS	RoHS
Web GUI	Yes	CISPR	CISPR 24 & CISPR 32
CLI	Yes	ETSI	EN 300-019, EN 300-132, EN 300-753, EN 300-386
NETCONF/YANG/	Yes	WEEE	WEEE
		RCM	RCM
		FDA/CDRH	FDA CDRH

LASER SAFETY
CLASSIFICATION & CAUTION
Compliant with IEC/EN
60825-1, -2 Laser standards

CLASS 1M CAUTION
Invisible laser radiation
Do not view directly with optical instruments
Class 1M laser product
HAZARD LEVEL 1M CAUTION
Hazard level 1M laser radiation
Do not view directly with non-attenuating optical instruments

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