

# Data Sheet

## 1FINITY L130

### 32-Port CDC WSS ROADM-on-a-Blade

#### 1FINITY™ L130 Blade at a Glance

- 32-port ROADM-on-a-blade
- Supports up to 8 degrees
- Supports C-band flex grid with a full 4.8 THz per degree
- Supports colorless, directionless, contentionless (CDC) add/drop configuration when combined with the L140 or L220 blade
- Offers high OSNR performance with the L160 backward Raman amplifier
- Future-proof with in-service expansion to L-Band, forward Raman amplification, and/or integrated OTDR options

#### Product Overview

The 1RU 1FINITY L130 32-port CDC WSS ROADM-on-a-blade is well suited to providing wavelength routing and selection functionality in metro/regional networks. Its integrated amplifiers provide pre-amplification and boosting of the composite signal. Each blade adds a ROADM degree up to four degrees in the first release, and up to eight degrees in an upcoming release.

The L130 blade features 32 ports, the highest number available in the current market, and supports up to 600 CDC add/drop channels when combined with the L140 add/drop blade (future release). Whether it's 128 channels at 37.5 GHz, 96 channels at 50 GHz, or 64 channels at 75 GHz, the L130 can support any flexible grid combination.

An integrated splitter/coupler supports future in-service expansion to C+L-band. Additional connector and management ports are available for backward Raman deployment today, and forward Raman deployment in a future release. The L130 also integrates support for optional OTDR functionality using an external hardware unit.

#### Cost-Effective CDC Add/Drop with 1FINITY L220

The L220 is a passive blade that provides up to 28 CDC add/drops for up to four degrees. Five of its ports can be used for expansion that, combined with the 1FINITY L140, increase add/drop capacity to 144.

#### High-Capacity CDC Add/Drop with 1FINITY L140

Each L140 blade provides up to 24 CDC add/drop channels. Twenty-five L140 blades can be combined to increase CDC add/drop port capacity to 600 for up to eight degrees.



#### OSNR Enhancements with 1FINITY L160

The L160 functions as part of the L130 Network Element (NE), providing C-band amplification to boost reach by up to 50%. L130 span loss is 0–34 dB; the L160 extends reach to 16–35.5 dB and is hardware-ready for L-band in a future release.

#### Device Management and Control

The 1FINITY L130 is supported by Fujitsu's Virtuora platform, including Virtuora Planning and Design; Virtuora Network Management; Virtuora WDM Control; and Virtuora Network Controller. The blade can also be managed via CLI, NETCONF, a web GUI, and YANG models.

#### 1FINITY CDC ROADM Solution

To stay competitive, operators need the flexibility to start small to reduce CAPEX, while maintaining the flexibility to scale to meet unpredictable growth. They must also leverage new technologies without compromising budget or margins. For operators facing limits to C-band capacity, L-band expansion is a game-changer.

The 1FINITY CDC ROADM solution is ideal for creating flexible ROADM networks with centralized software that supports autonomous control and management, such as the Virtuora® NC Solution. With CDC ROADM technology and flex-grid architecture, the solution provides optimal flexibility at the optical layer.

The 1FINITY CDC ROADM solution comprises four blades.

- 1FINITY L130 32-port CDC ROADM blade
- 1FINITY L140 8-degree × 24 CDC add/drop blade
- 1FINITY L220 4-degree × 28 CDC add/drop blade
- 1FINITY L160 backward Raman amplifier blade

# Technical Specifications

<b>Base System</b>	
System Configuration	1RU ROADM-on-a-blade with twin WSS
Local Management Port (LMP)	1 × RJ-45
Management Port (LCN)	100/1000BASE-T, 1000BASE-SX/LX10
Front LEDs	System Status, Alarm, Port, Find Me
Fans	2 replaceable fans
Power Supply	DC -48 V
<b>Line Interface</b>	
Degrees per Blade	1
Flexible Grid Support	37.5–500 GHz
Tx Wavelength	1528.58-1566.93 nm, 4.8 THz
Rx Wavelength	1528.58-1566.93 nm, 4.8 THz
<b>Performance Monitoring</b>	
Service PMs	24-hour, 15-min
Thresholds and TCA	Support
<b>Management</b>	
Virtuora NC	Yes
Web GUI	Yes
CLI	Yes
NETCONF / YANG	Yes
SNMP	SNMP v2c, v3 (except SetRequest)
Communications	SSH, SFTP, FTP, Telnet, HTTP, HTTPS
Timing	NTP
In Band Mgmt	OSC: 1511 nm ± 6.5 nm (1504.5–1517.5 nm)
<b>Physical Characteristics</b>	
Blade Physical Dimensions (H × W × D)	1.75 × 19 × 17.72" (482 × 545 × 42.5 mm)
Rack Compatibility	19" and 23", 2- and 4-post
Supported in Housing	Yes
Weight	22.7 lbs (10.3 kg) without fans Fans: 380 g × 2
<b>Operating Environment</b>	
Operating Temperature	+5 to +40 °C
Short-Term Temperature	-5 to +50°C
Operating Humidity	5% to 85%

<b>Power</b>	
Power Supply	Dual-feed, fixed DC power supply
120 V AC	No
-48 V DC	-40 V DC to -57 V DC
Power Consumption	217 W (typical)
<b>Regulatory and Compliance</b>	
FCC	FCC Part 15, Class A
NEBS	NEBS Level 3
UL/CSA	UL/IEC60950-1, UL/IEC62368-1
CE	CE
RoHS	RoHS
CISPR	CISPR 24 & CISPR 32
ETSI	EN 300-019, EN 300-132, EN 300-753, EN 300-386
WEEE	WEEE
RCM	RCM
CDRH	FDA CDRH
<b>ROADM Capacity and Functions</b>	
Configuration	CDC (Colorless, Directionless, Contentionless)
ROADM degrees	<ul style="list-style-type: none"> <li>• Up to 4 Degrees with L220</li> <li>• Up to 8 Degrees with L140</li> </ul>
Topology	Point-to-point, linear, ring, mesh
Maximum Number of Channels and Capacity per Degree	Full 4.8 THz across the C-band, equivalent to: <ul style="list-style-type: none"> <li>• 128 Ch @ 37.5GHz</li> <li>• 96 Ch @ 50 GHz</li> <li>• 64 Ch @ 75 GHz</li> <li>• Any flexible grid combination</li> </ul>
Maximum System Capacity	600 add/drop channels in a single node
Span Loss	<ul style="list-style-type: none"> <li>• Without L160: 0–34 dB (SMF), 0–35 dB (TWRS/TWC, ELEAF/OLEAF, DSF, EXT-Core)</li> <li>• With L160: 16–35.5 dB (SMF), 16–36 dB (TWRS/TWC), 16–36.5 dB (ELEAF/OLEAF, DSF)</li> </ul>
Optical Supervisory Channel (OSC)	100Base or 1000Base Ethernet embedded channel

**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

**Fujitsu Network Communications, Inc.**  
 2801 Telecom Parkway, Richardson, TX 75082  
 Tel: 888.362.7763

[us.fujitsu.com/telecom](http://us.fujitsu.com/telecom)