PL-8000M 1.6T | 2x800G Muxponder

Dual 800G transport platform, for high capacity DCI and metro applications

Features Overview

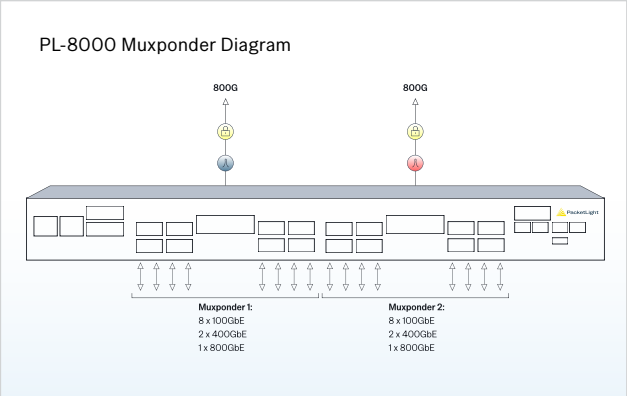
- Pay-as-you-grow architecture based on standard pluggable coherent optical modules
- Dual 800G muxponders/transponder
- Supported services: 100GbE, 400GbE, 800GbE
- **800G uplink:**
  - 800G OpenROADM CFP2-DCO
  - Tunable flex-grid
  - Modulation mode: 800G 16QAM
- **Flexible client options per slice:**
  - 8 x 100GbE QSFP28
  - 2 x 400GbE QSFPDD
  - 1 x 800GbE QSFPDD
- **Supported client optics:**
  - 100G QSFP28: LR4/SR4/CWM4/ER4/ZR4/DR1/LR1
  - 400G QSFPDD: LR8/SR8/FR4/DR4/DR+/LR4
  - 800G QSFDD: DR8
- Layer-1 GCM-AES-256 encryption
- Elliptic Curve Diffie-Hellman key exchange
- Comprehensive line and service performance monitoring
- Integrated EDFAs, mux/demux and optical switch
- Facility protection using integrated optical switches (optional)
- Remote management with in-band GCC, or out-of-band OSC
- Remote management and fiber monitoring with OSC OTDR SFP
- **Easy maintenance with field-replaceable, hot-swappable parts:**
  - Dual hot pluggable power supply units (AC/DC)
  - Fan unit

800G Muxponder/Transponder

The PL-8000M is a modular and cost-effective high capacity solution for rolling out 800GbE, 400GbE and 100GbE services, or increasing existing network capacity. The device has two 800G pluggable uplink optical modules, delivering up to 1.6T in a 1U chassis. The PL-8000M integrates mux/demux, EDFA and OSW, delivering the entire optical layer. This flexible solution enables pay-as-you-grow architecture.

Main Benefits

- Reduces the power and cost per bit of the network
- Transport of 100/400/800GbE over single wavelength
- Dual 800G transponders/muxponders in 1U
- Embedded Layer-1 GCM-AES-256 encryption
- Integrated EDFA, mux/demux and optical switch in 1U
- Modular and flexible for future growth and maintenance



Flexible Pay-as-you-grow Architecture, with Redundancy

The PL-8000M provides full demarcation point between the service and the DWDM network, and is interoperable with any third party switch or router. This provides full visibility and performance monitoring of 100/400/800GbE client services.

Recommended Applications

- Service provider managed optical transport demarcation device
- High capacity DCI for enterprise, AI applications, campus and cloud computing networks
- 800G wavelengths to bolster existing OTN/DWDM infrastructure
- Secured and encrypted communication for 100/400/800GbE services

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Technical Specifications

Product Configurations

Muxponder:
8x100GbE or 2x400GbE client services per 800G slice

Transponder:
1x800GbE per 800G uplink

Optical Amplifiers: Up to two EDFA modules (optional)

Mux/Demux: 4ch mux/demux module (optional)

Optical Switch:

- 1+1 optical switch
- 2 x 1+1 optical switches

Uplink Characteristics

Bit Rate: 800G

Optical Interface: 800G CFP2-DCO

Tunability range:

- DWDM ITU-T G.694.1 grid
- C-band, with flex-grid support

FEC Support: SDFEC

800G CFP2-DCO Tx power:
-5dBm to 0dBm

OSNR Sensitivity 800G 16QAM:
27.2dB at Rx power -11dBm

Chromatic Dispersion Tolerance:
800G: 12,000ps/nm

Client Characteristics

Service Types:

- 100GbE
- 400GbE
- 800GbE (transponder)

Optical Interface:

- 100GbE QSFP28: LR4/SR4/CWM4/ER4/ZR4/DR1/LR1
- 400GbE QSFPDD: LR8/SR8/FR4/DR4/DR+/LR4
- 800GbE QSFPDD: DR8

FEC Support:

- 100GbE: RS(544,514)
- 400GbE: RS(544,514)
- 800GbE: RS(544,514)

Amplifier

Applications: Booster, pre-amp

Output Power:

- Booster: up to 20dBm
- Pre-amp: up to 5dBm

Input Power:

- Booster: -24dBm to +10dBm
- Pre-amp: -36dBm to -10dBm

Gain:

- Booster: 5dB to 22dB
- Pre-amp: 13dB to 22dB

Operating Modes:

- Automatic gain control (AGC)
- Automatic power control (APC)

Network Management

Management Ports:

- 2xRJ-45 LAN port 100/1000MBase-T
- 2xSFP MNG ports 100/1000MBase-X
- RJ-45 serial port
- RJ-45 external alarm port
- OTN in-band GCC channel

Management Protocols:
HTTP/HTTPS, CLI over RS-232 or CLI over Telnet/SSH, SNMPv2/3, Syslog, RADIUS, TACACS+, SNTP, TFTP & SFTP, REST, NETCONF

NMS:
PacketLight LightWatch™ NMS, or third party NMS over SNMP

OAM:
Facility loopback (client and line interfaces), terminal loopback, PRBS, event log, alarms

Performance Monitoring:

- Layer-1/2 PM for 100/400/800GbE services
- OTN PM for section/path
- SDFEC PM
- Optical PM for optical ports

Visual Indicators: Status indicators for client and line ports, Management and LAN ports, amplifier/s, system Critical/Major/Minor and Power Supply

Software Upgrade:
Hitless traffic – dual image

Power Supply

AC/DC: 100 to 240 VAC or -44 to -60 VDC, 50/60 Hz, 370W max

PSU Redundancy:
Single/dual feeding, hot swappable

Cooling Unit:
Hot swappable fan unit

Environmental

Operating Temperature:
0ºC to 45ºC (32ºF to 113ºF)

Humidity: 5% to 85% RH

Storage: 85ºC

Physical Dimensions

Size:

- 1.77” (H) x 17.32” (W) x 15.75” (D)
- 45mm (H) x 440mm (W) x 400mm (D)

Weight: 14kg / 30.9lb (max)

Mounting: 19”, ETSI, 21”, 23”

Encryption

Functionality:

- Layer-1 encryption per uplink
- Full transparency to the traffic with no degradation to the DWDM link
- Supports QKD/PQC

Compliance:
FIPS 140-3 Level 2

Algorithms:

- Encryption/decryption: GCM-AES-256
- Key exchange: ECC CDH, Curve P-384
- Message digest: SHA-384

Authentication: Role-based user/password authentication

Note: For specific countries, models that include Layer-1 GCM-AES-256 based encryption will be marked with the suffix C.

Approvals & Standards

- CE, FCC, RoHS, REACH
- NEBS ready

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