

PL-2000ADS 200G ADM/Muxponder/Transponder

Multi-protocol multi-rate 200G transport solution for short haul networks, with Layer-1 encryption

Features Overview

- Supports multiple, user-configurable, operation modes: muxponder, transponder, and ADM
- Supported clients:
 - 10Gb/40Gb/100Gb Ethernet
 - 8G/16G/32G Fibre Channel
 - 12G-SDI
 - STM-64/OC-192
 - OTU2/OTU2e, OTU4
- Standards-based forward error correction (FEC) for short haul applications
- Dual pluggable QSFP28 interfaces for uplink and client
- Layer-1 GCM-AES-256 based encryption
- Low latency muxponder/transponder/ADM
- Comprehensive line and service performance monitoring
- Remote management with in-band or out-of-band optical supervisory channel (OSC)
- Supports standard MSA pluggable:
 - SFP+ (8G/10G/16G/32G FC client)
 - SFP28 (32G FC client)
 - QSFP+ (40GbE client)
 - QSFP28 (100GbE client)
 - QSFP28 (100GbE uplink)
- Dual AC or DC pluggable power supply and pluggable fan unit

Short Haul 200G Applications

The PL-2000ADS provides modular and cost-effective high transport capacity of up to 200G by aggregating multiple services into dual 100G OTU4 uplinks. The solution is low power consumption and saves rack space, reducing overall CAPEX and OPEX, and enabling to easily and cost-effectively increase capacity of short haul networks.



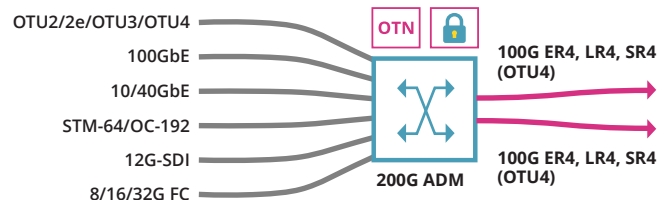
Main Benefits

- Easy deployment and management of dual 100G short haul / access networks
- Versatile 1U chassis platform, with very low power consumption
- Embedded GCM-AES-256 encryption for all protocols
- Encryption feeder in front of any third party OTU4 interface

Security and Encryption for all Services

The PL-2000ADS is a cost-effective 200G solution for short haul and access networks, incorporating GCM-AES-256 Layer-1 encryption.

The unit can also function as a standalone 200G encryption machine for any mix of the featured client services.



Multiple Client Services Aggregate into Dual 100G OTU4 Uplinks

Recommended applications:

- Last mile access/aggregation CPE for 10/40/100GbE managed service
- High capacity, short haul enterprise and campus networks
- Dynamic add/drop of services in ring and linear add/drop topologies
- Feeder solution for third party OTU4 transponder card
- Up to 200G Layer-1 encryption solution for 10/40/100GbE services
- High bandwidth connectivity for data center and cloud computing



Layer-1 encryption



Low power consumption



1U rack mount



Multi operation modes

Technical Specifications

Product Configurations

Muxponder: Aggregation of up to 20 multi-service, multi-rate, multi-protocol client interfaces: Ethernet, Fibre Channel, SONET/SDH, and OTN into 2xOTU4 uplinks

Dual 100G Transponder: 2x100GbE mapped into 2xOTU4 uplinks

100G Transponder and 10x10G

Muxponder: 100GbE mapped into one OTU4 uplink and up to 10 multi-service 10GbE clients aggregated into a second OTU4 uplink

Uplink Characteristics

Bit Rate: 112Gbps (OTU4)

Optical Interface: 2xQSFP28

FEC Support: Standard ITU-T G.709 GFEC

Optical Reach: Up to 40km with ER4

Optical Output Power: 2dBm to -2dBm

Optical Monitoring: Tx and Rx power

Client Interfaces

Service type: 10GbE, 40GbE, 100GbE, 8G/16G/32G FC, 12G-SDI, STM-64/OC-192, OTU2, OTU2e, OTU3, OTU4

Optical Interface:

- SFP+: LR (1310nm), SR (850nm), ER (1550nm), ZR (1550nm), C/DWDM
- SFP28: LR (1310nm), SR (850nm)
- QSFP+: LR4 (1310nm), ER4 (1310nm), SR4 (850nm), LR PSM
- QSFP28: LR4 (1310nm), ER4 (1310nm), SR4 (850nm), CWDM4 (CWDM)

Management:

- Web browser over HTTP/HTTPS,
- PacketLight LightWatch™ NMS/EMS, or third party NMS over SNMP
- REST, NETCONF
- CLI over RS-232 or CLI over Telnet/SSH

OAM:

- Facility loopback (client and line interfaces), PRBS, event log, external alarms (input and output)
- Automatic laser shut-down (ALS)

Network Management

Management Ports:

- 2xRJ-45 LAN port 10/100MBase-T
- 2xSFP MNG ports 100/1000MBase-X
- RJ-45 serial port
- RJ-45 external alarm port
- OTN in-band GCC channel

Management Protocols: SNMP, v1/v2/v3 HTTP, HTTPS, Telnet, SSH, Syslog, RADIUS, TACACS+, Sntp, TFTP & FTP

Performance Monitoring:

- Layer-1 PM for all services
- Layer-2 PM for Ethernet
- OTN PM for uplinks
- Optical power Rx levels for all optical ports
- Egress PM for all services

Visual Indicators: LED status indicators for: client and line ports, Management and LAN ports, system Critical/Major/Minor and Power Supply

Software Upgrade: Hitless traffic – dual image

Power Supply

AC/DC: 100 to 240 VAC, 50/60 Hz, -36 to -60 VDC, 170W max

PSU Redundancy: Single/dual feeding, hot swappable

Cooling Unit: Hot swappable fan unit

Environmental

Operating Temperature: -5°C to 50°C (+23°F to +122°F) operational

Humidity: 5% to 85% RH

Physical Dimensions

1U:

- 1.77" (H) x 17.32" (W) x 11.22" (D)
- 45mm (H) x 440mm (W) x 285mm (D)

Weight: 8.5kg / 18.75lb (max)

Mounting: 19", ETSI, 23"

Encryption

Functionality:

- Full speed, transparent Layer-1 encryption for selected clients or for the OTU4 uplinks
- Supports quantum key distribution

Algorithms:

- Encryption/decryption: GCM-AES-256
- Key exchange: ECC Cofactor Diffie-Hellman with P-384 curve
- Message digest: SHA-384

Authentication:

- Role-based user/password

Compliance:

- FIPS 140-2 certified
- Common Criteria EAL2 certified
- CNSA Top Secret Suite B 2015 compliant

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