

# PL-2000ADS

## 200G Short Haul ADM Encryption Solution



**200G multi-protocol multi-rate muxponder/transponder/ADM for short haul optical transport solutions and Layer-1 encryption**

### Features Overview

- Supports multiple, user-configurable, operation modes: muxponder, transponder, and ADM
- Supported clients: 10G/40G/100G LAN, 8G/16G/32G Fibre Channel, 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 client), QSFP+ (40G client), QSFP28 (100G client) and QSFP28 (100G uplink)
- Dual AC or DC pluggable power supply and pluggable fan unit

### For 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.

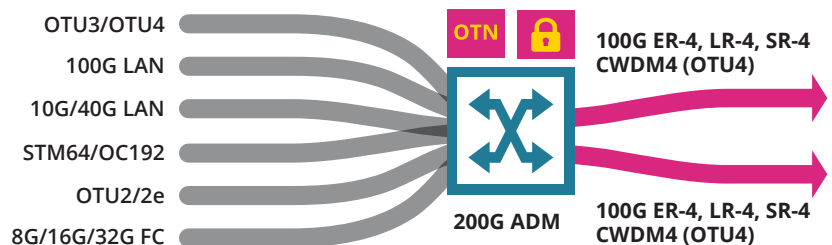
### Main Benefits

- 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

### Secured and Encrypted Communication 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 for the following applications

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

**Dual 10x10G Muxponder:** Up to 20 multi-service 10G clients aggregated to 2xOTU4 uplinks

**Dual 40G and 12x10G Muxponder:** 2x40G LAN and up to 12 multi-service 10G clients aggregated to 2xOTU4 uplinks

**Dual 100G Transponder:** 2x100GbE LAN mapped to 2xOTU4 uplinks

**100G Transponder and 10x10 Muxponder:** 100GbE LAN mapped to one OTU4 uplink and up to 10 multi-service 10G clients aggregated to 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 ER-4

**Optical Output Power:** 2dBm to -2dBm

**Optical Monitoring:** Tx and Rx power

### Client Interfaces

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

### Optical Interface:

- SFP+: LR (1310nm), SR (850nm), ER (1550nm), ZR (1550nm) and C/DWDM
- QSFP+: LR-4 (1310nm), SR-4 (850nm)
- QSFP28: LR-4 (1310nm), SR-4 (850nm)

### Management:

- Web browser over HTTP/HTTPS,
- PacketLight LightWatch™ NMS/EMS, or 3rd party NMS over SNMP
- 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

**Protocols:** SNMP, v1/v2/v3 HTTP, HTTPS, Telnet, SSH, Syslog, RADIUS, SNMP, 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, -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 45°C (+23°F to +113°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

### Compliance:

- FIPS 140-2 Level 2
- CNSA Top Secret Suite 2015

### Algorithms:

- Encryption/decryption: GCM-AES-256
- Key exchange: ECC CDH with curve P-834
- Message digest: SHA-256

### Authentication:

- Role-based user/password

### Approvals & Standards

- CE, FCC, RoHS, REACH
- NEBS ready



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