# PL-8000G 10 x 800G Transponder

## Mix of 800GbE/400GbE/100GbE over 800G wavelengths for high capacity DCI applications

### Features Overview

- Pay-as-you-grow architecture
- Up to 10 x 800G transponders
- Uplinks: 10 x 800G OSFP-DCO
- User-configurable transponder options:
  - 1 x 800GbE
  - 2 x 400GbE (breakout cable)
  - 8 x 100GbE (breakout cable)
- Supported services: 100GbE, 400GbE, 800GbE
- Client optics:
  - 800G QSFPDD DR8
  - 800G QSFPDD FR8
  - 2 x 400G QSFPDD DR4/FR4
- Comprehensive line and service performance monitoring
- Integrated mux/demux, EDFA and optical switch (optional)
- Facility protection against fiber cut
- Remote management with out-of-band OSC
- Remote management and fiber monitoring with OSC OTDR SFP
- Easy maintenance with field-replaceable parts:
  - Dual hot pluggable power supply units (AC/DC)
  - Fan unit

### 100GbE/400GbE/800GbE Transponder

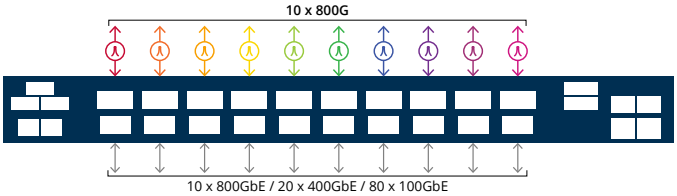
The PL-8000G is a modular and cost-effective high capacity solution for rolling out 100/400/800GbE services, or increasing existing network capacity. The device has 10 x 800G pluggable uplink optical modules, delivering up to 8T in a 1U chassis. The PL-8000G integrates mux/demux, as well as EDFA and OSW to overcome fiber attenuation and provide protection against fiber cut. This flexible solution enables pay-as-you-grow architecture, without the need to add licenses.

### Main Benefits

- **Cost-effective high capacity 8T transport solution**
- **Significantly reduces rack space and power consumption per bit**
- **Modular and cost-effective for future growth and ease of maintenance**
- **Supports mix of 100/400/800GbE client services**
- **OpenZR+ standard enables cost/performance balance, based on the application requirements.**
- **Integrates EDFA and optical switch in 1U**

### Full Demarcation

The device 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 both the optical transport layer and 100/400/800GbE service interfaces.




*PL-8000G Transponder Diagram*

### Recommended Applications

- High capacity DCI for AI, Internet exchange, and research and education networks
- 800G links for enabling deployments of new services, such as connectivity for GPU as a service
- Last mile access/aggregation CPE for 100/400/800GbE managed services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# Technical Specifications

## Product Configurations

**Per Transponder:**

- 1 x 800GbE over 800G uplink
- 2 x 400GbE over 800G uplink
- 8 x 100GbE over 800G uplink

**Optical Amplifiers:** Up to two EDFA modules (optional)

**Optical Switch:** 1+1 facility protection (optional)

## Uplink Characteristics

**Optical Interface:**

- 800G OSFP-DCO

**Tunability range:**

- C-band with flex-grid support

**FEC Support:** SD-FEC

**Tx Power:**

- **800G 16QAM:** 1dBm to -9dBm
- **400G 16QAM:** 1dBm to -9dBm

**Rx Sensitivity at High OSNR (>36dB):**

- **800G 16QAM:** -20.5dBm
- **400G 16QAM:** -24.5dB

**OSNR Sensitivity:**

- **800G 16QAM:** 24.7dB @-9dBm
- **400G 16QAM:** 21.2dB @-12dBm

**Chromatic Dispersion Tolerance:**

- **800G 16QAM:** 24,000ps/nm
- **400G 16QAM:** 75,000ps/nm

## Client Characteristics

**Supported Services:**

- **800GbE/8x100GbE** (breakout cable) - QSFP-DD 800 DR8
- **800GbE/8x100GbE** (breakout cable) - QSFP-DD 800 FR8
- **2x400GbE** (breakout cable) - QSFP-DD 2x400 DR4

**Optical Interface:** QSFP-DD

**FEC Support:**

**800GbE:** KP4-FEC RS (544,514)

## Amplifier

**Applications:** Booster, pre-amp

**Output Power:**

- **Booster:** up to 20dBm
- **Pre-amp:** up to 20dBm
- **Pre-amp Full C-band:** up to 20dBm
- **Booster VGA:** up to 23dBm

**Input Power:**

- **Booster:** -24dBm to +10dBm
- **Pre-amp:** -36dBm to -10dBm
- **Pre-amp Full C-band:** -36dBm to -10dBm
- **Booster VGA:** -24dBm to +13dBm

**Gain:**

- **Booster:** 5dB to 22dB
- **Pre-amp:** 13dB to 22dB
- **Pre-amp Full C-band:** 20dB
- **Booster VGA:** 8dB to 22dB

**Operating Modes:**

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

## Mux/Demux

**Number of Channels:** 10 + OSC 1510nm

**Channel Spacing:** 150Ghz

**Insertion Loss:** 6dB per side, 12dB link loss

**Connectors:**

- **COM** – LC UPC
- **Channels** – MPO with Breakout cable

## 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

**Management Protocols:**

- SNMP v1/v2/v3, HTTP/HTTPS, CLI over RS-232 or over Telnet/SSH, 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
- FEC Corrected/Uncorrected errors
- 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, 50/60 Hz,
-44 to -60 VDC, 650W max

**PSU Redundancy:**

Single/dual feeding, hot swappable

**Cooling Unit:**

Hot swappable fan unit

## Environmental

**Operating Temperature:**

-5ºC to 45ºC (+23ºF to +113ºF) operational

**Humidity:** 5% to 85% RH

**Storage:** 85ºC

**Air Flow:** Front to back

## Physical Dimensions

**Size:**

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

**Weight:** 8.3kg / 18.3lb (max)

**Mounting:** 19", 21", 23"

## Approvals & Standards

- CE, FCC, RoHS, REACH
- NEBS ready

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