PL-1000GM

Multirate 10G/40G/100G Optical Transport Solution

The PL-1000GM is an advanced, Multiservice 8G/10G/40G/100G Muxponder/Transponder solution for Metro Applications

FEATURE OVERVIEW

Highest 100G density feature set in the market. Compact 1U platform with low power consumption ideal for CPE (Customer Premises Equipment)

Various Muxponder configurations for aggregation services into a 100G OTU4 DWDM Uplink:
- **10 x 10G**
- **1 x 40G + 6 x 10G**
- **2 x 40G + 2 x 10G**

100G Transponder mode

Supported clients:
10G LAN/WAN, 8G/10G Fibre Channel, STM64/OC192, OTU2, OTU2e, 40GBase-SR4/LR4, OTU3, OTU3e, 100GBase-SR10

Standards based ITU-T G.709 100G Forward Error Correction (FEC) GFEC

Supports Full C-Band Tunable DWDM Line sides

Comprehensive Line and Service performance Monitoring

Integrated EDFAs, Mux/Demux, DCM

Remote management with In-band or Out-band Optical Supervisory Channel

Dual AC or DC pluggable Power Supply and pluggable FAN Unit

Supports standard MSA pluggable SFP+ (8G/10G client), QSFP+ (40G client), CXP (100G client) and CFP (uplink)

Operates on both dual or single fiber

100G MULTIPROTOCOL MULTIRATE MUXPONDER/ TRANSPONDER FOR METRO AND DATA CENTER HIGH CAPACITY SOLUTIONS

The PL-1000GM is PacketLight's 100G Multiprotocol Multirate Muxponder/ Transponder for high capacity optical transport solutions.
It is highly integrated platform for providing a unified 100G optical transport layer- supporting various client services including protocols: 40G/100G LAN, 10G LAN/WAN, STM64/OC-192, OTU2/3 and 8G/10G FC.

The PL-1000GM is designed to provide 100G transport solution in modular and cost effective way for rolling out services. It uses standards based, pluggable optical modules on all the optical interfaces on both client and line side. It is targeted for meeting the market demands for low power consumption, rack space savings and reduction in the overall solution CAPEX and OPEX by increasing the capacity of enterprise and metro networks.

The PL-1000GM supports a flexible mix of 10G/40G client interfaces for current and future needs aggregating them into a 100G uplink. The platform thus allows migration from current to future service requirement (protocols and rates) without the need to replace the unit.

The PL-1000GM seamlessly integrates with PacketLight'ts PL-2000 and PL-1000TN to deliver carrier grade high end 100G solutions capable of serving multiple applications and protocols for Enterprise/Data Center and Metro networks ranging from the Data, Storage, TDM, ATM and Video networks.

The PL-1000GM 1U device supports up to two integrated optical amplifiers, Mux/Demux and DCM providing the smallest, most integrated transport solution of its kind reaching up to 120Km without intermediate sites.

Ideal for Metro networks applications ranging up to 200km such as:
- High capacity enterprise and campus networks
- High bandwidth connectivity for data center and cloud computing
- Last mile access/aggregation CPE for 10/40/100G managed service
- Providing 100G links over existing infrastructure
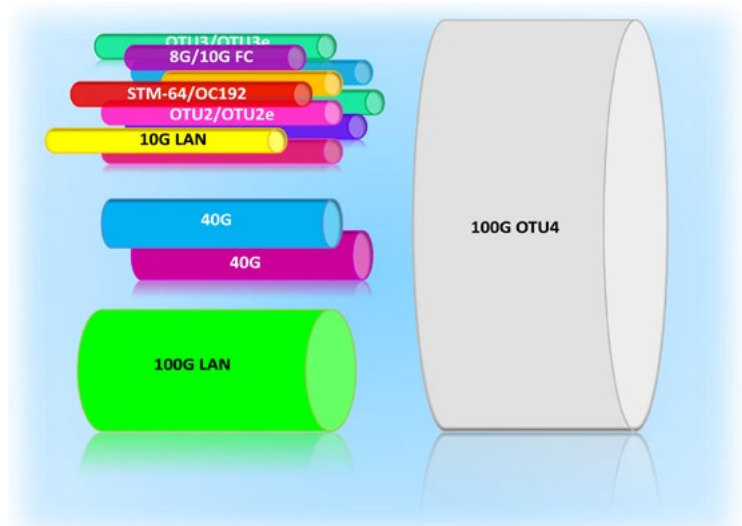
TECHNICAL SPECIFICATIONS

Product Configurations

10x10G Muxponder	Up to 10 Multiservice & rate 10G clients mapped each to ODU2 and aggregated to OTU4 100G uplink
1x40G and 6x10G Muxponder	Up to 6 Multiservice & rate 10G clients mapped each to ODU2 and 40G LAN mapped to ODU3 aggregated to OTU4 100G uplink
2x40G and 2x10G Muxponder	Up to 2 Multiservice & rate 10G clients mapped each to ODU2 and 2x 40G LAN mapped to ODU3 aggregated to OTU4 100G uplink
100G Transponder	100GbE LAN to 100G OTU4 uplink
Optical Amplifiers	Optional up to two EDFA modules
DCM	Optional tunable or fixed DCM
Mux/DeMux	Optional 4ch Mux/DeMux module

Uplink Characteristics

Bite Rate	112Gb/s
Optical Interface	CFP LR-4 WDM 4 x 28Gb/s OTU4
Tune-ability range	DWDM ITU-T G.694.1 Channels 15-60,with 50GHz spacing
OTN Support	Standard ITU-T G.709 GFEC or enhanced HG-FEC
Optical Reach	25Km 500ps/nm
Optical Output Power	0dBm-2dBm per lane
Sensitivity	-10dBm, 19dB OSNR
Optical Monitoring	Tx and Rx Power per lane

Client Interfaces Characteristics

Service type	10GbE LAN/WAN, 40GbE LAN, 100GbE, 8G/10G FC, STM-64/OC-192 OTU2, OTU2e, OTU2f
Optical Interface	SFP+: LR(1310nm), SR (850nm), ER (1550nm) , ZR (1550nm) and CWDM/DWDM QSFP+:LR-4 (1310nm), SR-4 (850nm) CXF:SR-10 (850nm)

Amplifier

Applications	Booster, Pre-Amp
Output Power	Booster: +4 to +14 dBm Preamp: +5 dBm
Input Power	Booster: 0 to +10 dBm Pre-Amp: -25 to -9 dBm
Gain	Booster: +10 to +22 dB Preamp: +18 dB
Operating Modes	AGC (Automatic Gain Control), APC (Automatic Power Control)

Mux/DeMux

Channels	4 DWDM channels
Spacing	100GHz
Insertion loss	<4dB end to end

Network Management

Management Ports	• 1RJ-45 LAN port 10/100Mbase-T • 2x SFP MNG ports 100/1000MBase-X • RS-232 Serial port • DB9 External Alarm port • OTN GCC Inband channel
Protocols	SNMP, HTTP, HTTPS, Telnet, SSH, Syslog, RADIUS, SNTP, TFTP and FTP
Management	Web browser over HTTP/HTTPS, LightWatch PacketLight NMS/EMS, or 3rd party EMS NMS over SNMP, CLI over RS-232 or CLI over Telnet/SSH
OAM	Facility Loopback (Client and Line Interfaces), PRBS, Event Logger, Alarms, ALS
Performance Monitoring	Layer 1 PM for all Services OTN PM for Uplink Optical Power RX levels for all optical ports
Management Channel	CLI over RS-232 or CLI over Telnet/SSH
Visual Indicators	LED status indicators for: client and line ports, Management and LAN ports, amplifier/s, System Critical/Major/Minor and Power Supply
Software Upgrade	Traffic Hitless – dual image

DCM

DCM Type	Tunable DCM or Fixed DCM
Fiber Type	G.652
Fiber Span	20-100Km
Max insertion loss	<5dB
Standard	ITU G.671

Power Supply

AC/DC	~100 to ~240 VAC, -36 to -72 VDC, 180W 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% RHI

Physical Dimensions

Size	1.77" (1 RU) (H) x 17.32"(W) x 9.05"(D) 45 mm (H) x 440mm (W) x 230 mm (D)
Weight	7.5Kg / 17.64 lb (Max)
Mounting	19", ETSI and 23"

Approvals & Standards

CE, FCC, RoHS 5/6
NEBS Compliant
ISO 9001