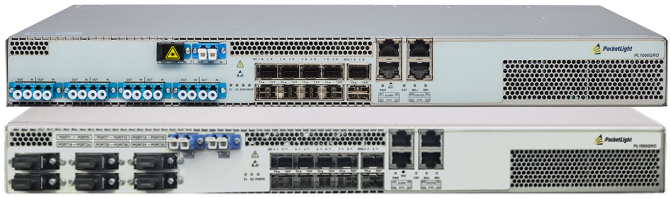
PL-1000RO/GRO ROADM

Flexible add/drop wavelength routing, up to 32 ports, Flex Grid ROADM



Features Overview

- Flexible add/drop of wavelengths
- 4/8/32-degree ROADM
- Flex Grid
- Supports a mix of 10G/100G/200G/400G/800G and 1.6T wavelengths
- C-band 4.8Thz optical spectrum
- Up to 96 C-band add/drop wavelengths (configurable)
- WDM spacing - 50/75/100/150GHz or Flex Grid
- Supports automatic channel restoration
- Power monitoring on all channels - add and drop
- Optical power equalization between all channels
- Embedded OSC for remote management and optional OTDR
- Remote management and fiber monitoring with OSC OTDR SFP
- A-to-Z provisioning of wavelengths and protection through NMS system
- Supports optional embedded EDFA booster/pre-amp
- Dual AC or DC pluggable power supplies and pluggable fan unit

Colorless, Directionless, Directionless Flex Grid

The PL-1000RO/GRO offers ROADM functionality based on advanced next generation wavelength-selective switch (WSS) technology.

The device offers highly flexible wavelength routing capabilities for mesh, ring, linear add/drop, core and edge DWDM network topologies. This CDC-F ROADM - colorless, directionless, contentionless, and a mix of 50GHz grid, 75GHz grid, 100GHz grid or 150Ghz grid wavelength bandwidths over the fiber using Flex Grid. All grid options are user-configurable.

Full Wavelength Management

The PL-1000RO/GRO is confugured to dynamically add/drop selected wavelengths at any node in the network and can seamlessly change the network node capacity as needed. The device automatically equalizes and balances the power of the added and bypassed wavelengths.

The device simplifies network management and reduces operation costs (OPEX) by allowing fast deployment of new wavelengths remotely.

Main Benefits

- **Flexible, fully managed and monitored ring and mesh network backbone infrastructure**
- **Fast delivery of wavelengths and capacity**
- **Visibility and records of all network wavelengths**
- **Mix of 100G/200G/400G/800G over the same fiber**
- **Supports 3rd party wavelenghs - no need for license**
- **Power monitoring on all channels and automatic power balancing of the wavelengths**
- **User-friendly NMS to deploy new services, control and monitor the network**
- **Available in front-to-back or side-to-side airflow platforms**

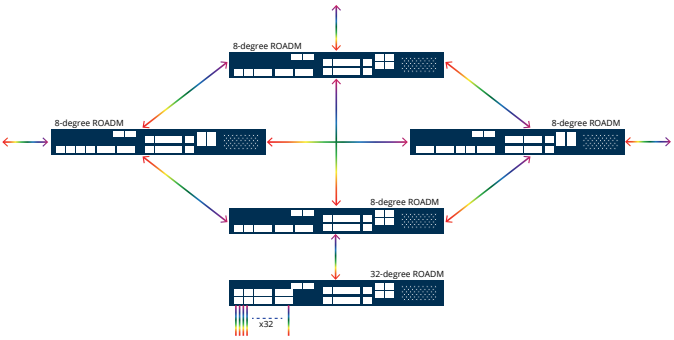


Diagram of ROADM Network

Recommended Applications

- Wavelength routing and management for mesh, ring, linear add/drop, core and edge network topologies
- Wavelength power balancing in amplified links
- Multiple data center connectivity for delivering high bandwidth and services connectivity
- Building flexible metro network between multiple colocations
- Infrastructure for building multi-site, private DCI network

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Technical Specifications

	4 degree		8 degree		32 degree		Unit	Notes
	Min	Max	Min	Max	Min	Max		
Insertion Loss	13	14	8	10	5	8.5	dB	All ports
Channel Range	191.25	196.1	191.25	196.1	191.25	196.1	THz	Full C-band, 1528.77 to 1567.13nm
Channel Count	32/48/64/96 or Flex Grid		32/48/64/96 or Flex Grid		32/48/64/96 or Flex Grid		Channels	50/75/100/150GHz spacing ITU grid (CH13-CH60) or Flex Grid
PMD	-0.2	0.2		1.2		1.2	ps/nm	In passband
VOA Range	0	15	0	15	0	15	dB	

Full C-band Amplifier

Output Power:

- Pre-amp 20dBm
- Booster 23dBm

Input Power:

- Pre-amp 20dB
- Booster 8-22dB

Gain: 8dB to 38dB

Operating Modes:
Automatic gain control (AGC)

Eye Safety:
Automatic laser power reduction upon fiber cut or disconnection

Physical Dimensions

Size:

PL-1000RO:

- 1.77" (H) x 17.32" (W) x 9.05" (D)
- 45mm (H) x 440mm (W) x 230mm (D)

PL-1000GRO:

- 1.77" (H) x 17.32" (W) x 13.78" (D)
- 45mm (H) x 440mm (W) x 350mm (D)

Weight:

PL-1000RO: 5.5kg / 12.13lb (max)

PL-1000GRO: 8.5kg / 18.74lb (max)

Mounting: 19", 21" and 23"

Network Management

Management Ports PL-1000RO

- 2xRJ-45 LAN port 10/100MBase-T
- 2xOSC SFP MNG ports 1000MBase-X
- 8xSFP MNG ports 100MBase-X
- RJ45 serial port
- RJ45 external alarm port

Management Ports PL-1000GRO

- 2xRJ-45 LAN port 10/100/1000MBase-T
- 2xOSC SFP MNG ports 100/1000MBase-X
- 8xSFP MNG ports 1000MBase-X
- RJ45 serial port
- RJ45 external alarm port

Management Protocols:
SNMP, HTTP, HTTPS, CLI over RS-232 or CLI over Telnet/SSH, Syslog, RADIUS, TACACS+, SNTP, TFTP and SFTP

NMS:

- PacketLight LightWatch™ NMS, or third party EMS/NMS over SNMP

Performance Monitoring:

- Layer-1 PM for all wavelengths
- OCM for input and output directions

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

Software Upgrade:
Hitless traffic – dual image

Power Supply

AC/DC:

PL-1000RO:
100 to 240 VAC or-44 to -60 VDC, 50/60 Hz, 78W max

PL-1000GRO:
100 to 240 VAC or -44 to -60 VDC, 50/60 Hz, 120W max

PSU Redundancy:
Single/dual feeding, hot swappable

Cooling Unit:
Hot swappable fan unit

Environmental

Operating Temperature:
0°C to 45°C (32°F to 113°F)

Humidity:
5% to 85% RH

Approvals & Standards

- CE, FCC, RoHS, REACH
- NEBS ready

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