

PL-1000IL Optical Amplifiers

Versatile, cost-effective platform with single, dual or quad EDFA optical amplifiers

Features Overview

- Up to 4 amplifier modules in a 1U chassis
- Supports up to 96 wavelengths
- Supports AGC and APC operation modes
- Embedded OSC for remote management and topology detection
- Optional optical switch for facility protection
- Integrated single/dual DCM for long distance 10G amplified links
- Supports single and dual fiber operation
- Supports optional up to 16 channel mux/demu
- Offers several EDFA types:
 - Booster
 - Inline
 - Pre-amplifiers
 - Midstage
- Low power consumption
- Built-in eye safety mechanism
- Monitoring on the input and output power and user configurable gain
- Dual AC or DC pluggable power supply and fan unit

Long Distance and Attenuation in the Network

The PL-1000IL is designed to cost-effectively extend the optical link power budget for building long distance DWDM solutions. It provides amplification for a range of optical solutions, from single wavelength, up to the full C-band, and incorporates several types of low-noise Erbium-doped fiber amplifiers (EDFAs): booster, inline, and pre-amplifier.



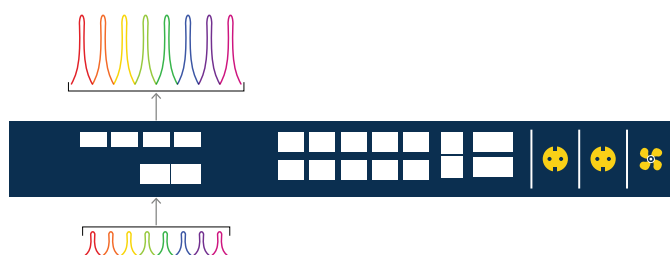
Main Benefits

- Fully managed via dedicated integrated OSC
- Full remote monitoring on the input and output power, and user-configurable gain
- Eye safety feature - automatically shuts down the EDFA in case of fiber interruption
- Fully integrated solution including mux/demux, amplifier, and DCM
- Integrates with PacketLight management platforms and transponder/muxponder products

Flexibility in Services over the Same Fiber

The PL-1000IL is fully managed, configured and monitored remotely as part of the network, via optical supervisory channel (OSC). The device supports AGC and APC operation modes. The EDFA gain is controlled, adjusted and monitored by the user, and APC operating mode allows to maintain constant output power.

The EDFA has high optical signal to noise ratio (OSNR), enabling to cascade several EDFAs to form an amplified OTN link over long distances, without the need for regenerators.



PL-1000IL Integrated Amplification Solution

Recommended applications:

- Extending the optical link power budget to meet distance and attenuation requirements of DWDM networks
- Upgrading the optical link budget to support 10G/40G/100G services
- Reducing the number of regenerators and sites along the fiber
- Overcoming high loss in old fiber infrastructure
- Facility protection for fiber redundancy solutions
- Inline, edge and unidirectional mid-stage applications



Low power consumption

1U

1U rack mount



Multi operation modes

Technical Specifications

System

Topology: Point-to-point, ring, linear ADM, inline, edge or midstage

Transport Network Medium: Metro DWDM / dark fiber

Software Upgrade: Dual image, hitless swap

Booster

Output Power: Up to 23dBm

Input Power: -24dBm up to 16dBm

Gain: 8dB to 22dB

Inline

Output Power: Up to 23dBm

Input Power: -24dBm up to 13dBm

Gain: 5dB to 22dB

Pre-amplifier

Output Power: Up to 14dBm

Input Power: -36dBm up to 15dBm

Gain: 20dB

Midstage

Output Power: 8dBm per channel

Input Power: -36dBm up to 15dBm

Total Output Power: up to 23dBm

Gain: up to 40dB

General

Gain Flatness: +/-1dB

Noise Figure: 4-6dB

PMD: 0.3ps

PDL: 0.3 dB

Operating Modes:

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

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

Optional Optical Switch

Switching Time: <50ms

Max Input Power: 27dBm

Insertion Loss Transmit Side: 3.8dB

Receive side: 1.2dB

Network Management

Management Ports:

- RJ45 10/100Base-T
- 2xSFP 100Base-X
- RS-232 serial port
- DB9 alarm port
- 8xSFP 100Base-X MC ports

Management Protocols:

- SNMP, HTTP, HTTPS, CLI over RS-232 or CLI over Telnet/SSH, Syslog, RADIUS, TACACS+, SNTp

NMS:

- PacketLight LightWatch™ NMS or third party NMS over SNMP

OAM: Input/output power monitoring event logger and alarms

Management Channel: 2 x optical supervisory channel (OSC)

Visual Indicators: LED status indicators for EDFA ports, power and system

Software Upgrade: Hitless traffic - dual image

DCM

DCM Type : Tunable DCM or fixed DCM

Fibre Type: G.652

Fibre Span: 20-200km

Max insertion loss: <3dB

Standard: ITU G.671

Power Supply

AC/DC: 90 to 246 VAC, 50/60 Hz, -36 to -60 VDC, 60W max

PSU Redundancy: Single/dual feeding, hot swappable

Cooling Unit: Hot swappable fan unit

Physical Dimensions

1U:

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

Weight: 5.5kg / 12.1lb (max)

Mounting: 19", ETSI and 23"

Environmental

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

Humidity: 5% to 85% RH

Approvals & Standards

- CE, FCC, RoHS, REACH
- NEBS ready