

PL-1000IL

DWDM BOOSTER INLINE AND
PRE-AMPLIFIER EDFA SOLUTION



PacketLight's C-band optical amplifier unit PL-1000IL meets the demanding requirements of large distances and attenuations of today's DWDM networks. The PL-1000IL is full manageable and protocol rate independent.

FEATURE OVERVIEW

Supporting 4/8/16/32 and 40 wavelength

Cost effective, compact 1U platform with single or dual DWDM amplifiers

Offering three main EDFA types: Booster, Inline, Pre-Amplifiers and Raman

Support AGC (Automatic Gain Control) and APC (Automatic Power Control) operation modes

Monitoring on the input and output power and user configurable gain

Embedded Optical Supervisory Channel for remote management and topology detection

Dual AC or DC pluggable Power Supply and pluggable FAN Unit

Support for single and dual fiber operation

Eye safety feature allows the automatic shutdown of the EDFA when the output connector is not properly terminated to protect user

PRODUCT DESCRIPTION

The PL-1000IL is designed to extend the power link budget of DWDM solutions in a cost effective manner. The PL-1000IL provides amplification for a range of optical solutions starting from 4 wavelengths to up to 40 wavelengths and incorporates 3 main types of low-noise EDFAs (Erbium-Doped Fiber Amplifiers) Booster, Inline, Pre-Amplifier and Raman.

Depending on the customer requirements, the PL-1000IL can operate in APC or AGC modes. The AGC operation mode enables seamless wavelengths add/drop functionality without interference to the other active channels. In addition, the EDFA gain is controlled, adjusted and monitored by the user. The APC operating mode allows the maintenance of constant output power.

The EDFAs are gain flattened and have low Optical Signal to Noise Ratio (OSNR), thus enabling cascading of several EDFAs to form amplified link over long distance. PL-1000IL is fully integrated with PL-400 and PL-1000. In addition, PL-1000IL unit are fully managed, configured, and monitored via PacketLight's user-friendly Web-based management tool, PacketLight's EMS solution or any third party SNMP based management tool.

PL-1000IL is ideal of applications such as:

- Extending the optical link budget to meet distance and attenuation requirements of DWDM networks
- High throughput Metro Ethernet connectivity over large distances
- Upgrade the optical link budget to support 10G services
- Reducing number of regenerators and sites along fiber
- Overcome old fiber infrastructure high loss

BOOSTER



INLINE



PRE-AMP RAMAN



TECHNICAL SPECIFICATIONS

System	
Topology	Point-to-point, Ring, Linear ADM
Transport Network Medium	Metro DWDM / Dark Fiber
Software Upgrade	Traffic Hitless – dual image

Booster	
Number of channels	4, 8, 16, 32, 40
Output Power	14dBm, 17dBm, 20dBm, 23dBm
Input Power	-5dBm up to 16dBm
Gain	10dB to 20dB
Operating Modes	AGC (Automatic Gain Control) APC (Automatic Power Control)
Eye Safety	Automatic laser power reduction upon fiber cut or disconnection

Inline	
Number of channels	4, 8, 16, 32, 40
Output Power	Up to 20dBm
Input Power	-24dBm up to 13dBm
Gain	5dB to 22dB
Operating Modes	AGC (Automatic Gain Control) APC (Automatic Power Control)
Eye Safety	Automatic laser power reduction upon fiber cut or disconnection

Pre-Amplifier	
Number of channels	4, 8, 16, 32, 40
Output Power	Up to 20dBm
Input Power	-36dBm up to 15dBm
Gain	18dB
Operating Modes	AGC (Automatic Gain Control) APC (Automatic Power Control)
Eye Safety	Automatic laser power reduction upon fiber cut or disconnection

General	
Gain Flatness	+/- 1dB
Noise Figure	4-6 dB
PMD	0.3 ps
PDL	0.3 dB

Raman	
Wavelength Range	From 1529nm to 1565nm
Input Power Range	From -40dBm to +5dBm At line port with Raman off
Average Gain (G.652 fiber)	10db with 2 pumps 15 dB with 3 pumps
Noise Figure	-1 dB At maximum gain At lower gains NF can reach 0 dB

Network Management	
Management Ports	10/100MBase-T, RJ-45, RS-232, DB9
Protocols	SNMP, FTP, HTTP
Management	Web server application, Tivoli ready, HP Openview, SNMPc integration with RADView EMS
OAM	Loopbacks Event Logger Alarms PM for 10G Eth LAN/WAN, 10G FC and OC-192/STM-64
Management Ch.	Optical Supervisory Channel (OSC)
Visual Indicators	LED status indicators for client ports, line interfaces, power and system

Power Supply	
AC/DC	90 to 246VAC, -40 to -75VDC, 68W max
PSU Redundancy	Single/Dual feeding, Hot Swappable
Cooling Unit	Hot Swappable Fan Unit

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	5.5Kg (Max)
Mounting	19", ETSI and 23"

Environmental	
Operating Temperature	-5° C to 50° C (+23° F to +122° F) Operational
Humidity	5% to 85% RHI

Approvals	
	CE, FCC, RoHS 5/6 NEBS Compliant

