PL-1000IL

DWDM EDFA Amplification Solutions

Versatile, cost-effective, 1U platform with single, dual or quad DWDM 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/demux
- 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

For Long Distances and Attenuations 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 Fibre

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.

Recommended for the following 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
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

Protocols: SNMP, HTTP, HTTPS, Telnet, SSH, Syslog, RADIUS, SNTP

Management: Web browser over HTTP/HTTPS, PacketLight LightWatch™ EMS or third party EMS over SNMP, CLI over RS-232 or CLI over Telnet/SSH

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

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