# Optical Inline Amplifier


## Product Overview

To meet the ever-increasing demands of metro networks, service providers and content providers are requiring high-capacity, compact, and easy-to-manage next-generation DWDM solutions. Juniper's Optical Inline Amplifier provides high-capacity coherent DWDM transport with industry-leading performance and automation.

## Product Description

Juniper Networks® Optical Inline Amplifier is a standalone 1 U bidirectional erbium-doped fiber amplifier (EDFA) that provides periodic amplification of coherent dense wavelength-division multiplexing (DWDM) signals to enable long-distance transmission as it travels along a fiber span.

The Optical Inline Amplifier is a switched gain inline amplifier that provides a fully automatic and dynamic amplifier range (0-35 dB) supporting up to 120 channels in the C-band. Combined with Juniper's integrated Coherent DWDM PICs (PTX-5-100G-WDM) and MICs (MIC3-100G-DWDM), as well as the Integrated Photonics Line Card (IPLC-E-32), Juniper provides a true end-to-end packet optical solution. The Optical Inline Amplifier automatically provisions all photonic layer parameters and discovers the optical topologies across a DWDM network. Junos® Space Connectivity Services Director is used to provision, monitor, and troubleshoot Juniper's end-to-end packet optical solution, including the Optical Inline Amplifier.

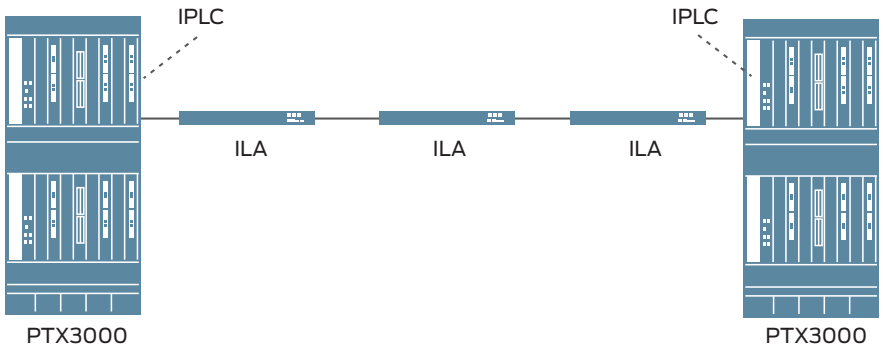


Figure 1. Point-to-point Optical Inline Amplifier configuration

## Features and Benefits

Juniper Networks Optical Inline Amplifier provides the following benefits:

- Bidirectional amplification in a compact 1 U form factor
- Automatic gain control for ease of use
- Optical supervisory channel (OSC) capabilities
- Intuitive and efficient GUI-based provisioning
- Detailed performance monitoring statistics for optical signals
- Redundant and hot-swappable fan modules
- Redundant and hot-swappable power supplies

## Features and Benefits

| Parameter | Condition | Minimum | Maximum | Unit |
|---|---|---|---|---|
| Operative input power range | Full channel load with maximum value of signal output power [assuming 96 channels] | -15.2 | 9.8 | dBm |
| | Single channel with minimum value of signal output power | -35 | -10 | dBm |
| Signal output power range | Full channel load | | 19.8 | dBm |
| | Single channel | | 0 | dBm |
| Standard gain range | Output gain tilt = 0 dB | 10 | 30 | dB |
| Extended gain range | Output gain tilt ≠ 0 | 30 | 35 | dB |

ILA-M Optical Inline Amplifier

## Specifications

### Capacity

- 19.2 Tbps

### Dimensions (HxWxD)

- AC version: 1.72 x 17.24 x 9.6 in. (4.36 x 43.78 x 24.38 cm)
- DC version: 1.72 x 17.4 x 9.8 in. (4.36 x 44.19 x 24.89 cm)

### Weight

- 11.7 lb (5.3 kg)

### Power Consumption

- Typical: 75 W
- Max: 115.5 W

### AC Input Voltage

- 100 to 240 V AC

### DC Input Voltage

- -40 to 72 VDC

### Management

- CLI and SNMP

## Standards Compliance and Interoperability

### Safety and Compliance

#### Compliance

- Telecordia GR-1312-CORE: Generic requirements for optical fiber amplifiers and proprietary dense wavelength-division multiplexed systems

#### Safety requirements:

- CAN/CSA-C22.2 No.60950-1-03-/UL 60950-1, Safety of Information Technology Equipment
- UL 60950-1 Safety of Information Technology Equipment—Safety
- EN 60950-1 Safety of Information Technology Equipment—Safety
- IEC 60950-1 Information Technology Equipment—Safety (All country deviations)
- EN 60825-1 Safety of Laser Products—Part 1: Equipment Classification

#### Electromagnetic Compatibility

- FCC 47CFR Part 15—Class A
- ICES-003 Class A
- EN 55022 Class A
- EN 55032
- CISPR 22 Class A
- CISPR 32
- EN 55024
- CISPR 24
- EN 300 386
- VCCI Class A
- AS/NZS CISPR 32
- Korea KN32 and KN35
- CNS 13438 Class A
- EN 61000-3-2
- EN 61000-3-3

#### Environmental Compliance

- Restriction of Hazardous Substances (ROHS) 6/6
- Silver PSU Efficiency
- Recycled material
- Waste Electronics and Electrical Equipment (WEEE)
- Registration, Evaluation, Authorization and Restriction of Chemicals (REACH)
- China Restriction of Hazardous Substances (ROHS)

## Juniper Networks Services and Support

Juniper Networks is the leader in performance-enabling services that are designed to accelerate, extend, and optimize your high-performance network. Our services allow you to maximize operational efficiency while reducing costs and minimizing risk, achieving a faster time to value for your network. Juniper Networks ensures operational excellence by optimizing the network to maintain required levels of performance, reliability, and availability. For more details, please visit www.juniper.net/us/en/products-services.

## Ordering Information

| Product Number | Description |
|---|---|
| PTX-ILA-M-DC | Standalone 1 U bidirectional EDFA inline amplifier; 0-35 dB dynamic range; redundant AC power; redundant FAN |
| PTX-ILA-M-AC | Standalone 1 U bidirectional EDFA inline amplifier; 0-35 dB dynamic range; redundant AC power; redundant FAN |
| FAN-ILA-S | Spare fan tray |
| JPSU-150-AC-AFO | AC power supply |
| JPSU-150-DC-AFO | DC power supply |

## About Juniper Networks

Juniper Networks challenges the status quo with products, solutions and services that transform the economics of networking. Our team co-innovates with customers and partners to deliver automated, scalable and secure networks with agility, performance and value. Additional information can be found at Juniper Networks or connect with Juniper on Twitter and Facebook.

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