

# FSP 3000 SmartAmp™

Smart optical amplifier optimized for cost-effective PAM4 DCI

## Benefits

- **Consolidation of functions**  
High-power pre-amplification and integrated TDC with automated fiber dispersion measurement and auto dispersion compensation tuning in one card
- **Plug-and-play operation**  
Smart built-in optical power and chromatic dispersion controls for coherent-like operations
- **Integrated system**  
Fully equipped turn-key solution for up to 4.8Tbit/s transmission capacity
- **Programmability through open APIs**  
Seamless integration into data center and software-defined networking (SDN) environments
- **Open line system architecture**  
Supports aggregated and disaggregated network solutions
- **Direct detect innovation**  
Ideal choice for cost-effective, hyperscale direct detect metro DCI across distances of up to 70km

## Overview

**Data center interconnect (DCI) networks are evolving to meet ever-increasing demand for terascale capacity at the lowest possible cost.** Coherent technology provides high spectral efficiency with maximum capacity and reach, while PAM4 modulation maximizes cost-efficiency for point-to-point DCI links. Our FSP 3000 SmartAmp™ pre-amplifier is designed to address the demand for PAM4 DCI with maximum operational simplicity.



Part of our FSP 3000 platform, the FSP 3000 SmartAmp™ is a custom-designed pre-amplifier optimized for single-span, direct detect 100Gbit/s PAM4 interconnects. The modular approach of our FSP 3000 open line system (OLS) provides many multiplexing and amplification options with optimized configurations for every need. Direct detect and coherent solutions share OLS components, with differing pre-amplifier modules for coherent or PAM4. The FSP 3000 SmartAmp™ pre-amplifier has been designed to simplify PAM4 deployments including automated dispersion compensation and other automation functions. This enables highest flexibility, reduces operational complexity and minimizes the need for spares. The Adtran metro DCI OLS integrates amplification, automated dispersion management, OTDR and OCM functions in a 2RU chassis. The compactness, lowest power consumption and true plug-and-play design make our DCI OLS a compelling choice for hyperscale direct detect metro DCI solutions.

# FSP 3000 SMARTAMP™

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## High-level technical specifications

### FSP 3000 SmartAmp™

- C-Band high-power pre-amplifier with integrated intelligent dispersion compensation
- 2-slot module
- Flexible PAM4 interface type support
- +24.5dBm EDFA output

### PAM4 DCI OLS

- Multiple PAM4 and coherent filters
- SmartAmp™ pre-amplifier optimized for PAM4
- Booster with integrated XFP based OTDR option, for both coherent and direct detect

### Flexible OLS architecture

- 300mm, 600mm rack and closed cabinet installation
- Optimized 2RU shelf for active components for DCI-OLS
- Disaggregated or integrated system solutions
- Modular set-up with disaggregated filter unit

### PAM4 trans. performance

- Single-span solutions
- Up to 70km with standard fiber
- Up to 4.8Tbit/s per fiber pair
- Automated dispersion compensation
- Automated amplifier control

### Management

- Open interfaces
- YANG-model based
- Support for CLI, REST, NETCONF, SNMP and WebGUI
- Ensemble Controller

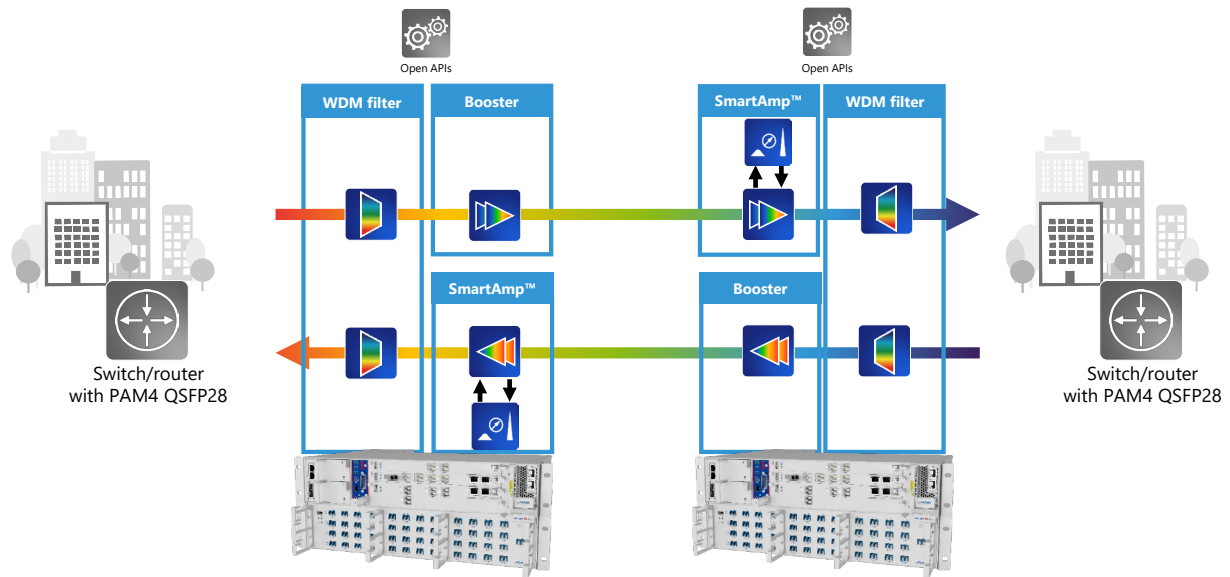
### Operational simplicity

- Zero touch provisioning
- Script-based commissioning
- Linux-based containers for custom agent download and execution
- Simplified local provisioning options

# Applications in your network

## Cost-effective and compact PAM4 DCI

FSP 3000 SmartAmp™ for high-power pre-amplification and automated dispersion compensation optimized for PAM4 point-to-point DCI applications



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