

EKINOPS PM OA-HCS-BR/RB/SF

High Capacity Next Generation Optical Amplifier with Single Fiber Operation



DATA SHEET 09/2018

KEY FEATURES & BENEFITS

- Bidirectional EDFA-based amplifiers on a single board
- Booster/Pre-Amp and Inline variants
- Single fiber operation capability
- 17 dBm output power
- Low noise and variable nominal gain
- Integrated dual Optical Supervisory Channel (OSC) insertion and extraction
- Automatic fiber aging compensation
- Dual mode - constant output power or constant gain

APPLICATIONS

- All DWDM applications requiring amplification
- Single fiber networks
- Automated power balanced networks
- Networks with automated wavelength provisioning

OVERVIEW

The Erbium Doped Fiber Amplifier (EDFA) is one of the fundamental building blocks of any transport network and has been since its introduction in the 1980s. However, despite the longevity of the technology, it is incorrect to assume that there is no longer any differentiation among amplifier solutions. Ekinops PM OA-HCS Single Fiber amplifier family demonstrates our continued leadership in optical amplifier performance and functionality. By incorporating both 1510nm and 1590nm Optical Supervisory Channel (OSC) support, Ekinops is able to operate over single fiber networks with bi-directional channels without sacrificing the ability to manage wavelengths in either direction, a capability simply not possible with competing solutions.

With its advanced functionality, the Ekinops HCS Single Fiber amplifier family automatically compensates the gain settings for both degradation over time due to aging or splicing, as well as for fast transient power fluctuations caused when channels are added and removed. This automated power adjustment capability eliminates the need to manually re-balance the network as it evolves, avoiding OSNR impact on any of the channels.

The Ekinops HCS Single Fiber family includes three variants, each designed for specific functionality. The PM_OABP-HCS-17-BR is an Optical Booster / Pre-amp that adds power to outgoing and incoming channels at terminal sites. Its dual OSC capability adds the 1510nm channel on the Booster side and extracts the 1590nm channel on the Pre-amp side. Conversely, the PM_OABP-HCS-17-RB adds the 1590nm channel and extracts the 1510nm channel to give the solution its single fiber capability. At intermediary sites the PM_OAIL-HCS-17-SF supports both the 1510nm and 1590nm channels in both directions. All PM OA HCS Single Fiber modules support variable gain to support any application requirement.

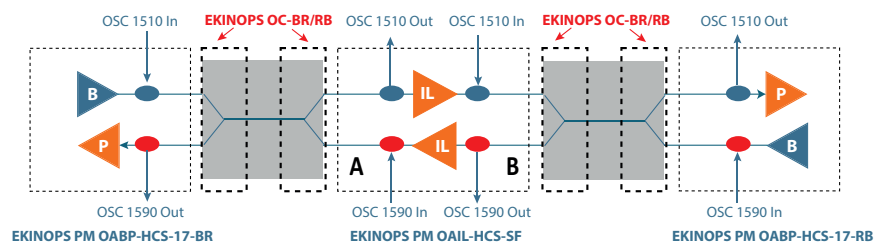


Figure 1: Ekinops PM OA HCS-BR/RB/SF functionality

MANAGEMENT

The EKINOPS PM OA-HCS Single Fiber family of modules can be managed through SNMP or via the Ekinops standard element level management interfaces, which include a Command Line Interface (CLI) and an Ekinops Graphical User Interface (GUI). The CLI is accessible via Secure Socket Shell (SSH) and Telnet remotely or via a local serial port locally on the management board.

Complete performance monitoring and management are provided, including laser shutdown status, amplifier configuration parameters, input power, and output power. The EKINOPS PM OA-HCS Single Fiber family of modules is also supported by [CelestisNMS](#), the Ekinops advanced Network Management System.

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SPECIFICATIONS

• AMPLIFIER CHARACTERISTICS

• BOOSTER

Output power	17 dBm
Gain	Variable from 10 dB to 18 dB
Noise figure	5.5 dB

• PRE-AMP

Output power	17 dBm
Gain variable	Variable from 18 dB to 32 dB
Noise figure	5.5 dB

• IN-LINE-AMPLIFIER

Output power	17 dBm
Gain variable	Variable from 18 dB to 32 dB
Noise figure	5.5 dB

• PHYSICAL SPECIFICATIONS

Optical Connectors	Dual LC
Power Consumption*	12 W
Size	Two slots in Ekinops Chassis
Operating Temperature	0°C to +50°C / +32°F to +122°F
Storage Temperature	-40°C to +85°C / -40°F to +185°F

• MANAGEMENT

MIB	SNMP V2c Private MIB
Remote Management	1510 nm / 1590 nm OSC channel

• REFERENCE STANDARDS

ITU-T G.691, ITU-T G959.1, ITU-T G694.1

ORDERING INFORMATION

PLUGGABLE MODULE (PM)

PRODUCT CODE	DESCRIPTION
PM_OABP-HCS-17-BR	Variable gain Optical Booster 18 dB (can be reduced till 10 dB) & variable gain Pre Amplifier 32 dB (can be reduced till 18 dB) unit, +17 dBm output power for WDM application. Compatible single fiber configuration. Includes 1510 nm - Add / 1590 nm - Drop Optical Supervisory Channel.
PM_OABP-HCS-17-RB	Variable gain Optical Booster 18 dB (can be reduced till 10 dB) & variable gain Pre Amplifier 32 dB (can be reduced till 18 dB) unit, +17 dBm output power for WDM application. Compatible single fiber configuration. Includes 1590 nm - Add / 1510 nm - Drop Optical Supervisory Channel.
PM_OAIL-HCS-17-SF	Variable gain Optical Line Amplifier 32 dB (can be reduced to 18 dB) unit, +17 dBm output power for WDM application. Compatible with single fiber configuration. Includes 1510 nm and 1590nm Optical Supervisory Channel.
PM_OC2-BR	Blue MUX & Red DMUX band coupler unit
PM_OC2-RB	Red MUX & Blue DMUX band coupler unit
C600HC	High capacity modular chassis 7RU
C200HC	High capacity modular chassis 2RU
PM_MNGT4	Management card
400EEM	Ekinops craft interface

EKINOPS CHASSIS

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