



EKINOPS PM VOA

8-port pluggable Variable Optical Attenuator

DATA SHEET 12 | 2017

KEY FEATURES & BENEFITS

- Provides dynamic optical power management at low cost
- Single-slot card with up to 8 independent VOAs
- Allows individual control and monitoring of SFPs
- Ultra-low insertion loss
- Hot swappable SFP VOAs
- Replaces all fixed attenuators
- Remotely manageable from the NOC to simplify on-site operations & optimize optical channels settings

APPLICATIONS

- Remote power management for low channel count applications:
 - Cell site connectivity
 - Network spurs
 - Fixed OADM sites

OVERVIEW

In an effort to reduce the cost of deploying and operating their networks to drive increased profitability, operators are trying to automate as many of the operational aspects of these networks as possible. Increased automation means more tasks can be handled remotely from the Network Operations Center (NOC) or even by the network itself without human involvement, reducing the number of truck rolls and site visits. Ekinops' PM VOA provides network automation capability for optical power management by allowing for NOC-controlled remote adjustment of power levels to compensate for changes due to fiber aging and other events such as new channel insertion. This allows operators to not just balance power levels, but to optimize them. The difference is that an optimized system is balanced and implemented with correct power levels for the distances, losses, and receiver tolerances not just for all current channels, but for future traffic as well.

Designed to work with Ekinops PM OPM8 Optical Performance Measurement module (see separate data sheet), the Ekinops PM VOA is meant for use in low channel count applications where wideband gain equalization solutions are too expensive and may suffer from high insertion loss. Once installed, the PM VOA can be controlled from the NOC to align the optical power of any new channels based on information collected by the PM OPM8 at the hub site. It removes the need for fixed attenuators using dynamic adjustment of the power-per-channel to optimize performance, enabling better Optical Signal to Noise Ratio (OSNR) and additional margin on the system.

The Ekinops PM VOA is a single slot card with up to 8 independent Variable Optical Attenuators (VOAs) using hot swappable SFP VOAs enabling a pay-as-you-grow approach so that network operators can better align costs with revenue development activities.

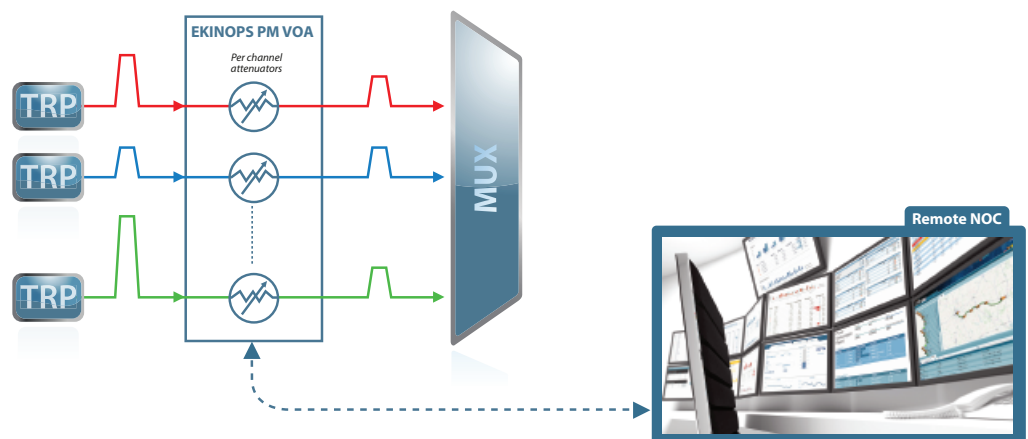


Figure 1: Ekinops PM VOA balances channel powers and can be remotely managed from the NOC

MANAGEMENT

The Ekinops PM VOA can be managed through SNMP or via the Ekinops standard element level management interfaces, which include a CLI (Command Line Interface) and an Ekinops java-based GUI (Graphical User Interface). The CLI is accessible via SSH and Telnet remotely or via a local serial port locally on the Management board. Complete performance monitoring and management is provided, including transmitted power and current attenuation. The module is also supported by Celestis NMS, the Ekinops Network Manager.



EKINOPS PM_VOA

8-port pluggable Variable Optical Attenuator

SPECIFICATIONS

• MODULE INTERFACES

Protocols	All
Optical interface	SFP VOA
Number of ports	8

• SPECIFICATIONS

VOA insertion loss	1 dB
VOA range	0 dB to +20 dB

• MANAGEMENT

MIB	SNMP V2c private MIB
-----	----------------------

• PHYSICAL SPECIFICATIONS

Module size	1 slot in Ekinops chassis
Operating temperature	0°C to +50°C / +32°F to +122°F
Storage temperature	-20°C to +85°C / -4°F to +185°F

• INDICATORS

Status	HW ready, SW ready
Alarm	Port down

• PERFORMANCE

Power	15W (includes optics)
-------	-----------------------

ORDERING INFORMATION

PLUGGABLE MODULE (PM)

PRODUCT CODE	DESCRIPTION
SFP_VOA	SFP Variable Optical Attenuator, dark mode, up to 20 dB, with built-in 5% output power monitoring, to be plugged inside EKINOPS PM_VOA
PM_VOA	Pluggable Module supporting Variable Optical Attenuators, up to 8 ports for SFP VOA control and monitoring

EKINOPS CHASSIS

C600HC	High Capacity modular chassis 7RU
C200HC	High Capacity modular chassis 2RU
PM_MNGT4	Management card
400EEM	Ekinops Java Craft interface

CONTACT



www.ekinops.net

Ekinops EMEA
+33 (0)1 49 97 04 04

Ekinops APAC
+33 (0)1 49 97 04 04

Ekinops Americas
+1 (571) 385-4103