



DATA SHEET 11 | 2024

## EKINOPS PM O1008MP

10G Multi-protocol Muxponder

### KEY FEATURES & BENEFITS

- Single module for aggregation of up to eight services
- Efficient multiplexing that supports aggregation of multiple service types onto a single wavelength
- Support for a wide variety of applications with a single module simplifying inventory and sparing
- Interconnection to coherent FlexRate™ modules for low-speed service aggregation onto high-speed links
- Redundant line port for 50 ms network switching
- ADM capability allowing for the adding and dropping of any mix of services at multiple remote locations using only a single wavelength
- G.709 OTU2 line framing for direct interconnection with existing OTN backbones

### APPLICATIONS

- TDM/Ethernet Business Services
- Data Center Interconnect / Disaster Recovery
- Triple or Quadruple Play
- Wireless Back Haul
- IP DLC / DSLAM Back Haul
- Transport Infrastructure

### OVERVIEW

The EKINOPS PM O1008MP module is a highly flexible ten-gigabit multi-protocol DWDM add drop multiplexer. This module has the ability to multiplex any mix of 1GbE, OC-3/STM-1, OC-12/STM-4 and OC-48/STM-16 up to a total bandwidth of 10 gigabits per second. It has eight client ports that can be used as inputs for these different service types. All client ports are software programmable and can be reprogrammed to a different client service in the field, on the fly, without any effect on traffic being carried by other ports on the cards. The PM O1008MP also supports add-drop multiplexing (ADM) in which any individual service can be added or terminated at any node.

The flexibility of the EKINOPS PM O1008MP provides the end user with a number of advantages. First, enterprises and service providers can utilize it without any need to understand or forecast the mix of different traffic types that will need to be supported in the future. Second, it's ADM capability allows service providers to add or drop any individual service or group of services at any location. Third, the flexibility of the module provides unsurpassed wavelength utilization for complex applications consisting of multiple service types by aggregating them all on to a single 10G wavelength where traditional multiplexers require a different wavelength for each service type.

It utilizes standard G.709 OTN mapping and framing to efficiently aggregate disparate service protocols and data rates into ODU containers and the line output is a standard 10 gigabits-per-second OTU2 line that can be directly interconnected into any standard G.709 OTN switch eliminating the need for back-to-back devices when handing off to the core network.

The EKINOPS PM O1008MP module provides a second redundant line port to support 50 ms line side switching. Protection using the redundant line port is based on loss of signal as well as signal degradation. The EKINOPS PM O1008MP module can be cascaded under Ekinops coherent FlexRate™ line cards in order to efficiently aggregate lower rate traffic onto high-speed wavelengths.

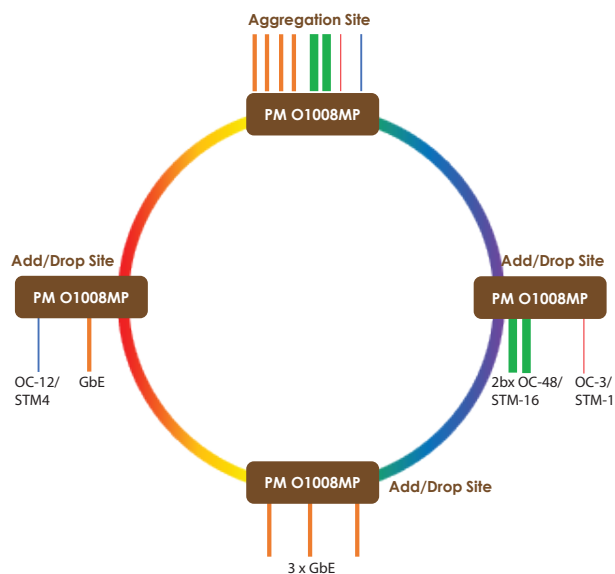


Figure 1: Add/drop multiplexing using PM O1008MP



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### APPLICATIONS

Because of the flexibility of the EKINOPS PM O1008MP, it can be used for a multitude of applications. It is particularly useful in applications where multiple service types are necessary. Examples of applications requiring multiple converged service types include mobile backhaul, broadband aggregation, and business services. The ability of the PM O1008MP module to support different service types in any combination on a single wavelength allows for service providers and enterprises to deploy these applications utilizing fewer wavelengths without the need to anticipate what the mix of the different service types will be.

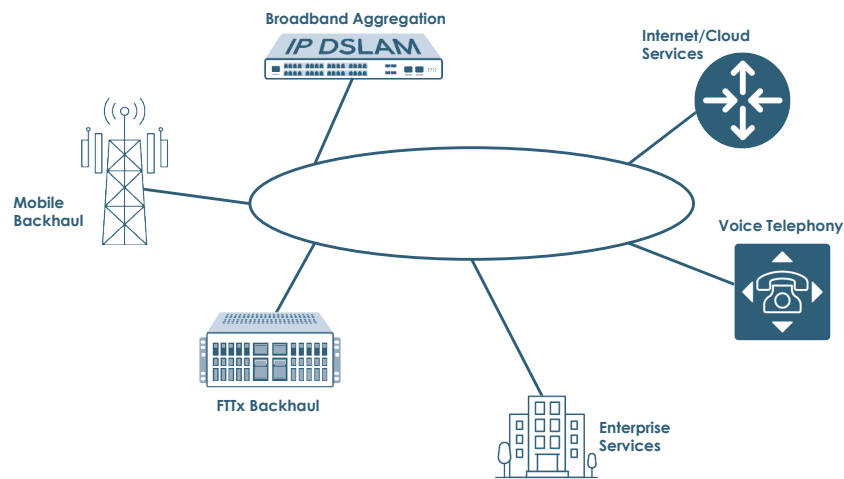


Figure 2: PM O1008MP applications

### MANAGEMENT

The EKINOPS PM O1008MP module 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 on the management board. Complete performance monitoring and management are provided, including laser shutoff and local and remote loopback, useful for maintenance and fault isolation.

Digital Diagnostics Management (DDM) is supported for SFP and SFP+ interfaces. This includes link status, transmit (TX) and receive (RX) signal power monitoring, and operational temperature, as well as manufacturer and transceiver model information essential for inventory management. A 10 Mbps in-band Data Communications Channel (DCC) is embedded on each line for remote management. The EKINOPS PM O1008MP module offers SONET/SDH Performance Counters for TDM services and RMON statistics for Ethernet services.

The EKINOPS PM O1008MP module is also supported by [Celestis NMS](#), the Ekinops advanced Network Management System.



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### SPECIFICATIONS

#### CLIENT INTERFACES

Protocols	GbE, OC-3/STM-1, OC-12/STM-4, OC-48/STM-16
Optical interface	SFP

#### LINE INTERFACE

Line rate	OTU2 bit rate
Optical interfaces	SFP+ 1310 nm, 1550 nm, CWDM, DWDM

#### MANAGEMENT

MIB	SNMP V2c Private MIB
Remote Management	10 Mb DCC ( <i>one per line port</i> )

#### PHYSICAL SPECIFICATIONS

Module size	2 slots
Operating temperature	0 °C to +50 °C / +32 °F to +122 °F
Storage temperature	-20 °C to +85°C / -4 °F to +185 °F
Power (typ.)	38W

#### INDICATORS

Status	HW Ready, SW Ready
Alarm	Port Down ( <i>Clients and Lines</i> )

#### REFERENCE STANDARD

IEEE, 802.3-2002, IEEE 802.3-2002, ITU-T G.707, Telcordia GR-253 Issue 3

### ORDERING INFORMATION

#### PLUGGABLE MODULE (PM)

PRODUCT CODE	DESCRIPTION
PM_O1008MP	Multi-protocol ADM, 8 access ports, 2 line ports - OC3/STM1, OC12/STM4, 1GbE, OC48/STM16 ADM, OTU2(e) tunable lines with G709 FEC & DCC, SFP client and SFP+ line interfaces ( <i>SFP/SFP+ not included</i> ).

#### EKINOPS CHASSIS

PRODUCT CODE	DESCRIPTION
C600HC	High capacity modular chassis 7RU
C200HC	High capacity modular chassis 2RU
PM_MNGT4-2	Management card
400EEM	Ekinops Craft interface software

### CONTACT



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