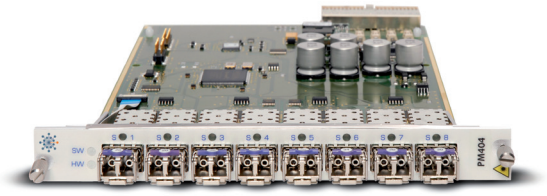
EKINOPS360



EKINOPS PM 404

Multiport Transponder

DATA SHEET 12 | 2020

KEY FEATURES & BENEFITS

- CWDM and DWDM transponder or repeater
- Supports any protocol from 100 Mb to 4 Gbps
- Four transponders *(eight SFP ports)* on a single card
- Highest density in a compact chassis: 24 WDM channels in 2 RU
- Software selectable data rates
- SFP pluggable interfaces to support any wavelength
- Performs full 3R *(retime, reshape and retransmit)* signal regeneration
- Digital Diagnostic Monitoring and management
- Module and SFPs are hot swappable

APPLICATIONS

- CWDM & DWDM networks
- Edge, Metro and Regional optical networks
- SONET/ SDH, Ethernet and Storage networks
- Regeneration sites
- Wavelength conversion

OVERVIEW

The EKINOPS PM 404 transponder is part of the Ekinops 360 platform and supports any-rate from 100 Mb to 4G. It has eight SFP ports that provide the highest port density on a single card. The eight ports of the EKINOPS PM 404 are split to four pairs of access and line ports creating four WDM transponders on one card. By plugging an access SFP and a CWDM or DWDM SFP, each module can deliver four WDM channels. Up to six modules can be installed in an EKINOPS C200HC chassis providing 24 wavelengths in a 2RU shelf and up to 20 modules can be installed in a C600HC chassis providing up to 80 wavelengths in a 7RU shelf.

All ports of the EKINOPS PM 404 support any protocol from 100 Mb to 4 Gbps including Fast and Gigabit Ethernet, OC-3/12/48, STM-1/4/16 and 1/2/4G Fibre Channel. It provides full 3R signal regeneration to any protocol within that range.

The EKINOPS PM 404 is hot-swappable and takes one slot in the Ekinops chassis. It is ideal for sub 10G applications that require transport of multiple OC-48 and GbE traffic.

APPLICATIONS

The EKINOPS PM 404 is most commonly used as CWDM or DWDM transponder. It can also be used as a repeater in long haul networks. The EKINOPS PM 404 can be used to add alien wavelengths to existing optical networks. Designed for high capacity applications that require high density and small rack space, the EKINOPS PM 404 takes only one slot in the Ekinops360 2U or 7U chassis.

MANAGEMENT

The EKINOPS PM 404 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 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. The system will generate management alarms to report out-of-range performance or failures.

The EKINOPS PM 404 module is also supported by Celestis **NMS**, the Ekinops advanced Network Management System.

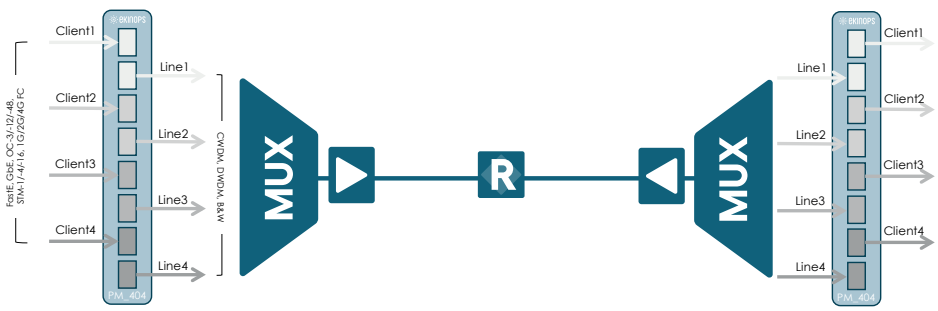


Figure 1: Any rate transponder from 100 Mb up to 4 Gbps

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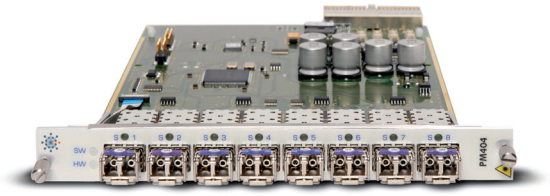

EKINOPS PM 404

Multiport Transponder

SPECIFICATIONS

CLIENT INTERFACES

Protocols	Fast Ethernet, GbE, OC-3/STM-1, OC-12/STM-4, OC-48/STM-16, 1G/2G/4G Fibre Channel
Optical interface	SFP
Number of ports	4

LINE INTERFACES

Protocol	850 nm, 1310 nm, CWDM, DWDM
Optical interface	SFP
Number of ports	4

MANAGEMENT

MIB	SNMP V2c Private MIB

PHYSICAL SPECIFICATIONS

Optical connectors	Dual LC *(Client & Line)*
Module size	One slot in Ekinops Chassis
Chassis size	2 RU, 7RU
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 consumption *(typ.)*	13 W
Power consumption *(max.)*	15 W

INDICATORS

Status	HW ready, SW ready
Alarm	Port down *(Client & Line)*

REFERENCE STANDARDS

ITU-T G707 12/2003 edition; ITU-T G709 03/2003 edition; IEEE 802.3ae 2002 Revision; FC-PI Standard Rev 13; FC-PI-2 Standard Rev 8; FC-PI-3 Standard Rev 1; SFP MSA -Sept 14th 2002; SFF 8472 – Rev 9.5 – June 1st 2004; GR-253, issue 3rd, September 2000; ITU-T G.957 06/1999 revision; ITU-T G.691 – 12/2003 revision; ITU-T G959.1 – 12/2003 revision; ITU-T G694.1 – 06/2002 revision – DWDM grid; ITU-T G694.2 – 12/2003 revision – CWDM grid.

ORDERING INFORMATION

PLUGGABLE MODULE (PM)

PRODUCT CODE	DESCRIPTION
PM_404	Quadruple transponder for any-rate from 100Mbps to 4Gbps with 3R regeneration and SFP ports *(SFPs not included)*

EKINOPS CHASSIS

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

CONTACT

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