



DATA SHEET 06 | 2021

EKINOPS PM 100FRS01

Single Slot 100G Pluggable Transponder

KEY FEATURES & BENEFITS

- Small form factor —1 slot module supporting 100G line rate
- DP-QPSK line side modulation
- Integrated line interface
- QSFP28 client port supporting 100GbE and OTU4
- 600G of capacity in 2RU
- Built-in Self-Test (BIST) feature eliminates service turn-up failures
- Compatible with multiple channel spacings —both on-grid and off-grid
- Support for up to 80 100G channels

APPLICATIONS

- Multireach transport —Metro Regional, Long Haul & Ultra-long Haul
- Data Center Interconnection
- Alien wavelength capacity upgrade

OVERVIEW

With the PM 100FRS01, Ekinops delivers a highly power and space efficient transponder in a single slot form factor. It can transport 100G up to 10,000 km but can be used for shorter metro-regional spans as well. With this flexibility, network operators can use the same line card for multiple applications no matter what the span requirements are helping them simplify sparring, streamline logistics and speed ordering and replacement, all of which result in lower operational costs.

The PM 100FRS01 includes a Built-In Self-Test (BIST) feature that validates that the service channel is ready to receive traffic without faults. BIST simplifies service commissioning by looking at client port transparency to 100GbE or OTU4 traffic in both directions on all client ports which helps eliminate service turn-up failures. Along with the line counters, you can have a complete view on the health and stability of the link during deployment eliminating the need to use an external test set and reducing the cost of the deployment and commissioning process.

The Ekinops PM 100FRS01 provides a single QSFP28 client interface that allows you to select between 100GbE and OTU4. Occupying only a single slot, the module is ultra-compact delivering up to 600G in only 2RU with low power requirements.

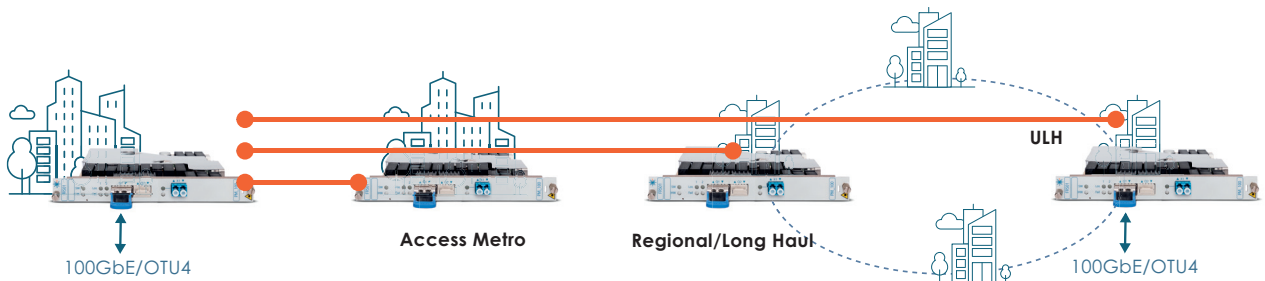


Figure 1: Ekinops PM 100FRS01 for Metro, Regional and LH/ULH applications

MANAGEMENT

The Ekinops PM 100FRS01 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 is provided, including laser shut off and local and remote loopback, which is useful for maintenance and fault isolation.

Digital Diagnostics Management (DDM) is supported for QSFP28 interfaces. This includes link status, transmit (TX) and receive (RX) signal power monitoring, and operational temperature, as well as manufacturer and transceiver model. A 10 Mbps in-band Data Communications Channel (DCC) is embedded in the line side for remote management.

The Ekinops PM 100FRS01 module is also supported by **Celestis NMS**, the Ekinops advanced Network Management System.



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SPECIFICATIONS

CLIENT INTERFACES

Protocols	100GbE; OTU4
Optical interface	QSFP28
Number of ports	1

LINE INTERFACES

Specifications

Protocol	DP-QPSK
Max distance	10 000Km
OSNR	12 dB

MANAGEMENT

MIB	SNMP V2c Private MIB
Remote management	10 Mb Ethernet DCC

PHYSICAL SPECIFICATIONS

Module size	1 slot
Chassis compability	C200HC (6x100G modules per 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 (Client & Line)

PERFORMANCE

Optical spacing	50GHz and 100GHz - Other off grid spacing possible
Power	60W (includes client optics)

REFERENCE STANDARDS

ITU-T G707 12/2003 edition; ITU-T G709; IEEE 802.3-2002; IEEE 803.3ae-2002; IEEE 802.3ba

ORDERING INFORMATION

PLUGGABLE MODULE (PM)

PRODUCT CODE	DESCRIPTION
PM_100FRS01	Single slot transponder, 1 multiprotocol client port (100GbE or OTU4), 1 line port with DCC, QSFP28 client and tunable 100G line interface (QSFP28 not included, tunable line interface included).

EKINOPS CHASSIS

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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