DATA SHEET

XTM SERIES

400G FLEXPONDER

High-density Transport of 100G in Metro Networks

The 400G Flexponder (FXP400GOTN) is part of the Infinera XTM Series. The 400G Flexponder enables mapping of up to four individual 100 gigabits per second (100G) client signals to a flexible choice of 100G or 200G coherent line signals. With its small footprint, occupying only a single slot in any of the TM-102/II (1 rack unit or 1RU), TM-301/II (3RU) or TM-3000/II (11RU) chassis, the 400G Flexponder is a market leader for high density, low power and cost-efficient transport in any part of the metro or regional network.

Pluggable Coherent Optics

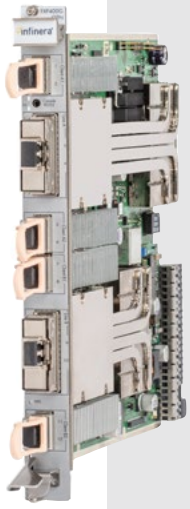
The 400G Flexponder utilizes state-of-the-art technology in the form of quad small form-factor pluggable (QSFP28) optical modules on the client side and small C form-factor pluggable (CFP2) optical modules on the line side. The pluggable CFP2 modules are used on the line side to provide a coherent signal on a single channel tunable over all channels in the 50 gigahertz (GHz) range of the C-band. The two individual CFP2 lines of the 400G Flexponder can be software-reconfigured to support various line speed modulation formats such as 100G quadrature phase-shift keying (QPSK) or 200G 16 quadrature amplitude modulation (16QAM).

Metro-optimized High-capacity Performance

The 400G Flexponder can be adapted to any part of a metro network, from access applications to metro core transport by reconfiguring the line signal modulation. Moreover, the 400G Flexponder's 200G 16QAM capability on a single 50 GHz channel doubles bandwidth utilization in a metro network compared to a normal 100G-based network.

The optical performance of the line side, together with coherent detection technology, enables simple installation of both 100G and 200G wavelengths in any type of network. Such wavelengths can coexist with pre-deployed services on 10G and 40G wavelengths over amplified reconfigurable optical add-drop multiplexer (ROADM) networks. The 400G Flexponder's coherent detection technology enables regional and metro reach up to 2000 kilometers without dispersion compensating modules (DCMs).

The 400G Flexponder was developed based on Infinera's open platform philosophy and can be installed in combination with either XTM Series or third-party line system components.



Key benefits:

- High-density design with 4x100G client capacity on a single slot unit
- Reconfigurable line modulation provides flexibility in all parts of the network and includes pay-as-you-grow capabilities
- Cost-efficient high-capacity 200G wavelengths provide increased bandwidth utilizations
- Pluggable coherent optics provide superior optical performance while minimizing initial and spare part cost
- Easy interworking with existing products in the XTM Series and XTC Series
- Optical Transport Network (OTN) mapping of services enables deployment in multi-vendor environments
- Easy to deploy over third-party line systems
- Market-leading low-power design with low-power-consuming pluggable optics

Integrated Platform Solution

The 400G Flexponder is fully integrated in the Embedded Node Manager (ENM) as well as the Infinera Digital Network Administrator for XTM Series (DNA-M). As part of a complete transport platform in which ROADMs, filters, amplifiers and other traffic units can be deployed in the same chassis, the 400G Flexponder enables a flexible and vertically integrated system and simplifies network planning and operations.

OTN Transport and Interworking Capabilities

The 400G Flexponder supports standardized mapping of services according to ITU-T G.709 OTN. The pluggable client side can support various QSFP28 modules for 100 Gigabit Ethernet (GbE) and OTU4 services. This enables the 400G Flexponder to be deployed both in greenfield networks and existing OTN environments. Interoperability of the QPSK line side mode with the TP100GOTN, TP100GOTN/II, EMXP220 IIe in the XTM Series platform and the LIM-100G in the XTC Series platform simplifies end-to-end solutions.

The standardized mapping of any service makes the network easier to plan and operate, which lowers the total cost of ownership.

Advanced Monitoring and Management Capabilities

The 400G Flexponder supports service monitoring capabilities, such as performance monitoring, which follows the service from ingress to egress. As such, the 400G Flexponder is ideal for business wholesale applications, since any type of Layer 1 service, at any time, can be monitored, end-to-end through any complex multi-vendor OTN network. Further, the 400G Flexponder provides simple and reliable service troubleshooting, enabling valuable service level agreements (SLA) to be offered.

Low Power Design

A fully equipped 400G Flexponder features industry-leading low power consumption of only 80 watts (W), providing as low as 20W per 100G when using 16QAM 200G wavelengths. The use of low-power-consuming and small-footprint pluggable optics in combination with the low power design of the XTM Series chassis enables a cost-efficient 100G system. The combination of a small footprint and low-power design reduces site costs and enables more capacity to be handled at sites that otherwise have power consumption, cooling and space restrictions.

Specifications

Supported Traffic Formats	4x100 GbE 4xOTU4
Mapping	G.709 mapping to ODU4
Performance Monitoring (PM)	OTN: G.709 monitoring 100 GbE: based on CRC and RMON Collected every 15 min/24 h and presented according to G.826 End-to-end PM presentation
Line format	100G QPSK 200G 16QAM 200G 8QAM
Power Consumption	Maximum 77W, including optics
Misc. Line Interface Features	Management channels: GCC0, GCC1 and GCC2 Forward error correction: SD-FEC, Staircase FEC
Interfaces	Client interfaces: QSFP28-based. LR-4, SR-4, CLR-4, CWDM-4 Line interfaces: CFP2-based

Specifications and Features Are Subject to Change

Infinera