Nokia Lightspan Access Node FX

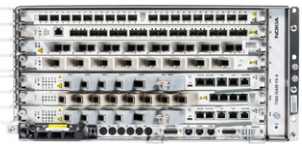
ANSI

The Nokia Lightspan FX is a high-capacity access node that addresses mass-market fiber deployments with an open modular platform. It delivers full flexibility and SDN programmability to meet the Gigabit bandwidth demand of residential, mobile and business users today and can smoothly evolve to next-generation fiber technologies to meet the demands of tomorrow.

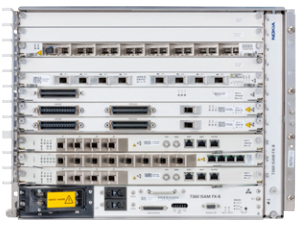
The Lightspan FX is available in three size variants (FX-4, FX-8 and FX-16) suitable for all types of fiber networks — from hundreds of subscribers on FX-4 to thousands of subscribers on FX-16. Service providers have maximum flexibility for deploying a fiber access node in the central office, outside plant cabinet or other remote environments. High-bandwidth service throughput is enabled by market-leading switching and uplink capacity and backplane technology that provides non-blocking connectivity to each user port.

The Lightspan FX enables SDN support for Gigabit Passive Optical Network (GPON). Moreover and supports evolution to SDN support for 10 Gigabit symmetrical and asymmetrical PON (XGS-PON dual rate), Time and Wavelength Division Multiplexing PON (TWDM-PON) and point-to-point access technologies.

The platform supports universal next-generation PON (universal NG-PON) for cost-efficient introduction of 10 Gb/s symmetrical and asymmetrical services with XGS-PON and easy evolution to full TWDM-PON on the same platform and line card. As a result, operators are not locked in to a certain fiber access technology or shelf density; they can choose to deploy different options based on techno-economics, local regulations or services offered.



Lightspan FX-4



Lightspan FX-8



Lightspan FX-16

Being part of Nokia's Software-Defined Access Networks (SDAN) solution, the Lightspan FX has a completely open and programmable software framework, maximizing flexibility for virtualization and centralization of network functions. Management can be easily automated thanks to the use of standardized NETCONF/YANG interfaces that simplify system integration.

The Lightspan FX can be deployed in conjunction with the Nokia Altiplano Access Controller, allowing to program and control the access network from the cloud.

With the Lightspan FX, operators have the flexibility to deploy a mix of technologies that can deliver fast broadband, a faster time to market and the fastest possible return on investment.

Features

- Residential, mobile and business applications converged on a single open access platform
- 4-slot (FX-4), 8-slot (FX-8) and 16-slot (FX-16) shelf options
- High-capacity backplane: 2 x 100 Gb/s per slot
- High-density GPON, XGS-PON, TWDM-PON and point-to-point support
- Open and programmable interfaces and standard device models (NETCONF/YANG)
- Leverages existing hardware practices from the field-proven ISAM technology
- Supports software-defined networking (SDN) and network function virtualization (NFV)
- Efficient and automated network operations with Nokia Altiplano Access Controller

Benefits

- Secure investment with simultaneous support of multiple fiber access technologies
- System capacity that enables high bandwidth next-generation evolution on the same platform
- Supports any network size or deployment model in a central office or outside plant
- Lightspan FX family for any technology and any service results in lower cost and time to market
- Commonality of software and deployment practices across the Lightspan family
- Allows easy integration into OSS/BSS using cloud technologies and IT practices

Technical specifications

Eco-sustainability

- Product lifetime maximized by modular, shelf-based concept
- Power consumption targets Code of Conduct (CoC) power consumption limits
- Compliant with the European directive 2002/95/EC on the restriction of the use of certain hazardous substances (RoHS)
- Product collection and treatment under Nokia responsibility complies with the national laws on product treatment applied at the end of life for Wastes from Electrical and Electronic Equipment (WEEE), implementing the European Directive (2002/96/EC)
- Product packaging materials are free from hydrochlorofluorocarbon (HCFC)
- Plastic product packaging material is marked according to ISO 11469, referring to ISO 1043 (97/129/EEC)

Standards compliance

- Environmental
  - ETS EN 300 019-1-1 storage – Class 1.1 weather-protected, partly temperature controlled locations
  - ETS EN 300 019-1-2 transport – Class 2.3 public transportation
  - ETS EN 300 019-1-3 stationary use – Class 3.1E and Class 3.3 (assuming no condensation and icing)
  - GR-63-CORE
  - TP76200MP
  - GR-3108-CORE

- Powering
  - ETS EN 300 132-2
- Protection
  - ITU-T K.20 enhanced and K.45 basic
- Safety
  - IEC 60950, EN60950 Class 1, AS/NZS 60950.1
  - UL/CSA 60950-1-03
  - EN 60950-1
- EMC
  - ETS EN 300 386 for telecommunications center installation environment
  - ETS ES 201 468
  - GR-1089-CORE
  - FCC part 15 Class A
  - –EN 55022
- Acoustic noise
  - ETS 300 753

Dimensions

- FX-16
  - Height: 600 mm (23.62 in) (~14 RU)
  - Width: 500 mm (19.68 in); can be used in ETSI sized 600 x 300 mm racks
  - Depth: 280 mm (11.02 in)
- FX-8
  - Height: 360 mm (14.17 in) (8 RU)
  - Width: 445 mm (17.52 in); can be used in 19 in racks
  - Depth: 280 mm (11.02 in)
- FX-4
  - Height: 223 mm (8.77 in) (5 RU)
  - Width: 445 mm (17.52 in); can be used in 19 in racks
  - Depth: 280 mm (11.02 in)
  - Rack-mounting pitch of 25 mm (0.984 in)

About Nokia

At Nokia, we create technology that helps the world act together.

As a B2B technology innovation leader, we are pioneering networks that sense, think and act by leveraging our work across mobile, fixed and cloud networks. In addition, we create value with intellectual property and long-term research, led by the award-winning Nokia Bell Labs.

Service providers, enterprises and partners worldwide trust Nokia to deliver secure, reliable and sustainable networks today – and work with us to create the digital services and applications of the future.

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