

## Nokia 7360 ISAM FX

ANSI

The Nokia 7360 Intelligent Services Access Manager (ISAM) FX is a high-capacity access node designed to deliver ultra-broadband services to any number of users in a rapid and cost-effective way. Because there is no single solution to bring ultra-broadband to the masses, the 7360 ISAM FX supports a mix of services including VDSL2 with vectoring, point-to-point, GPON, EPON (with DPoE) and 10G PON services. High-bandwidth throughput is guaranteed by backplane technology that enables dual 100Gb/s backplane connections to each line termination (LT) slot.

With three 7360 ISAM FX shelf sizes to choose from, service providers have maximum flexibility for deploying in central office, outside plant cabinet or other remote environments. With the 7360 ISAM 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

- High-capacity backplane: 2 x 100Gb/s per slot
- Four-slot (FX-4), eight-slot (FX-8) and 16-slot (FX-16) shelf options
- High-capacity 480Gb/s controllers (NT) with 40Gb/s network capacity (can be used as uplink, downlink or direct user link)
- Optional Network Termination Input Output (NTIO) for an additional 80Gb/s network capacity
- Full NT redundancy with Active/Active and load sharing options
- Added resiliency with MPLS, Ethernet Ring Protection Switching (ERPS) (G.8032) and Link Aggregation Group (LAG) support
- Simultaneous support of passive optical network (PON), point-to-point, POTS and VDSL2 with vectoring



7360 ISAM FX-16 — GPON shown



7360 ISAM FX-8 — VDSL2 Vectoring shown



7360 ISAM FX-4 — Multi-service shown

- Fully managed by the Nokia 5520 Access Management System (AMS) and 5529 Access Provisioning Center (APC) applications

## Benefits

- Secure investment with system capacity that anticipates future technologies such as time and wavelength division multiplexed PON (TWDM-PON)
- Flexibility to deploy any access technology in any location in the network
- Residential, mobile and business applications converge on a single platform
- Deliver over 100Mb/s to subscribers over existing copper with VDSL2 vectoring and bonding
- Optimized for Gigabit services with Nokia Gigabit Express
- Take advantage of existing Data Over Cable Service Interface Specification (DOCSIS) provisioning systems with DOCSIS Provisioning of EPON (DPoE) support
- Built on widely deployed Nokia ISAM technology serving over 160 fiber to the home (FTTH) and 90 VDSL2 operators worldwide

Note: Feature content based on R5.1 baseline

## Technical specifications

### Full service platform

- Multiservice access support
  - IPTV services
  - Multimedia service
  - High-speed Internet access
  - Business access
  - Cell-site backhaul
  - Voice

- LT support
  - Gigabit PON (GPON) line cards
  - Ethernet PON (EPON) line card with DPoE
  - 10G EPON line card with DPoE
  - Point-to-point fiber line card
  - VDSL2 with vectoring line cards
  - System Level Vectoring (SLV) processor
  - Voice services line card
- Network Termination (NT) support: FANT-F
  - 480Gb/s switching matrix (bidirectional)
  - Active/Active redundancy
  - Four configurable 10Gb/s or 1Gb/s network links
  - Small Form Factor Pluggable (SFP)+ cages
- Network Termination Input Output (NTIO) support: FNIO-A
  - Eight configurable 10Gb/s or 1Gb/s network links
  - Small Form Factor Pluggable (SFP)+ cages
  - Used as uplink, downlink or direct user link management
  - Fully managed by the Nokia 5520 AMS and 5529 APC

### 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

- SBC 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

## Operating conditions

- Operating temperature range: -40°C to 65°C (-40°F to 149°F)
- Relative humidity: 5% to 93% (non-condensing)
- Over-temperature sensors and over-temperature shutdown

## Power

- Input
  - 48/60V DC nominal
  - Fully redundant power feeding (branch A and B)

## Dimensions

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

## Construction (based on FX-16)

- 16 wire-speed LT slots
- 256 GPON ports per shelf:
  - 16 ports x 16 slots
  - 8192 subscriber locations (32 split)
- 10Tb/s total system capacity

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