

Overview

The Nokia Intelligent Services Access Manager (ISAM) FANT-F network termination (NT) card is a controller board that provides service and network intelligence in the Nokia 7360 ISAM FX access node. It provides 480 Gb/s switching matrix and 40 Gb/s connection to each line card, which makes it ideal for delivery of high capacity services in fiber networks.

Quick Specification

Model	ISAM FANT-F
Switching matrix (bidirectional)	480 Gb/s
Redundancy	Active-active
Connection	Supports 40 Gb/s connection to each line card slot (FX-4 and FX-8) Supports 20 Gb/s connection to each line card slot (FX-16 and ANSI FX-12)
Network link	4 x 10 Gigabit Ethernet (GigE) network links with 1+1 link redundancy
Support	Subtending and aggregation support
Hardware variants	Optional hardware variants with high stability clock, BITS, SyncE and ToD clock recovery
MPLS forwarding	MPLS forwarding with enhanced routing support: Routing Information Protocol (RIP), Open Shortest Path First (OSPF), Border Gateway Protocol (BGP) and Intermediate System-to-Intermediate System (IS-IS)
Processor	Powerful, embedded application enablement processor
Hardened	Industrial hardened

Product Details:

The Front Panel:



Benefits:

- Market-leading switching and backplane capacity
- Delivers 99.999% availability
- Supports carrier Ethernet services
- Provides fast recovery of critical services with MPLS
- Reduces number of aggregation network ports required through self-aggregation features
- Supports clock-critical applications: voice, leased lines and mobile backhauling
- Deploys in indoor and outdoor environments

Get more information:

Do you have any question about the ISAM FANT-F?

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Specific Data Sheet:

Model	ISAM FANT-F
Physical dimensions	Height: 405 mm (15.9 in) Width – Top: 225 mm (8.9 in) – Bottom: 205 mm (8.1 in) Board-to-board pitch: 30 mm (1.2 in)
Operating conditions	

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Temperature (inlet/ambient)	<ul style="list-style-type: none"> - -5° C to 45° C (23° F to 113° F) when used in fully populated Nokia 7360 ISAM racks with multiple shelves - -40° C to 65° C (-40° F to 149° F) when used in standalone Nokia 7360 ISAM FX shelves
	Over-temperature sensors and shutdown
Relative humidity (RH)	5% and 85%
Supports tropical environments	50°C (122°F), 99% RH
	GR-3108-CORE for operating temperature and humidity of Class 2 equipment
	Compliant with ATT-TP-76200 environmental requirements
External interfaces	<p>4-port optical 10 Gb/1 Gb interface</p> <p>Optical and electrical connection through SFP and SFP+ standards</p> <p>1-port electrical 10/100/1000Base-T (RJ-45 connector)</p> <p>2-port BITS interface: only on BITS variant; 1 port in, 1 port out, using ITU-T G.703 (ANSI interfaces available on a separate generic flow control [GFC] unit)</p> <p>ToD interfaces</p> <p>1-port local craft management (LCM) interface using RS-232 (RJ-45 connector)</p> <p>1 Alarm cutoff (ACO) button for ACO and lamp test interfaces; for example, signaling and communication (ANSI ACO available on a separate GFC unit)</p>
Forwarding	<p>Ethernet bridging</p> <p>Virtual local area network (VLAN) stacking for residential and business access</p> <p>802.3ad trunking: Link Aggregation Control Protocol (LACP)</p> <p>Multiple Spanning Tree Protocol (MSTP), Rapid Spanning Tree Protocol (RSTP) and Spanning Tree Protocol (STP) support</p> <p>4,095 VLAN-IDs, VLAN stacking (Q-in-Q), 128,000 move, add and change (MAC) addresses</p> <p>MPLS</p> <p>L3 forwarding (IPv4)</p> <p>RIP v2, OSPF v2, BGP v4, IS-IS routing protocols</p> <p>Multicast forwarding, high performance Internet Group Management Protocol (IGMP) processing, IGMP proxy</p> <p>IP quality of service (QoS)</p> <p>Dynamic Host Configuration Protocol (DHCP) relay, multiple instances</p> <p>Access control lists, denial of service protection</p> <p>Malicious MAC protection</p> <p>Lawful intercept</p> <p>Billing, accounting and hubbing support</p> <p>Ethernet ring connectivity</p> <p>Supports central broadband remote access server (BRAS) and distributed service-edge models</p> <p>Point-to-Point Protocol (PPP) connectivity to single or multiple systems</p> <p>Up to 16,000 subscribers per system</p>
Deployment	
Simple Network Management Protocol (SNMP)	- SNMPv1 (RFC 1157)

	<ul style="list-style-type: none"> - SNMPv2 (RFC 1909-1910) - SNMPv3 (RFC 3410-3418)
EMC	<ul style="list-style-type: none"> - ETS EN 300 386 for telecommunications center installation environment - ETS ES 201 468 - GR-1089-CORE - FCC part 15 Class A - EN 55022
Command-line interface (CLI)	telnet (RFC 854), secure shell (SSH)
	Transaction language 1 (TL1) with or without SSH
File Transfer Protocol (FTP)	<ul style="list-style-type: none"> - FTP (RFC 959) - Trivial File Transfer Protocol (TFTP) - Secure Shell File Transfer Protocol (SFTP) for backup/restore and software download
	Simple Network Time Protocol (SNTP)
Syslog	CLI screen, external server, local file
	Loopback interface
CLI and TL1 operator authentication	local or Remote Authentication Dial-In User Service (RADIUS) based
Alarm management	Severity handling Lists: current, snapshot, delta Logs Filtering
	Troubleshooting counters
	IP ping and trace route
	Central processing unit (CPU) and memory load
	SFP digital diagnostics
	Performance monitoring
Protocol tracing	<ul style="list-style-type: none"> - DHCP - Address Resolution Protocol (ARP) - IGMP - Output to CLI, syslog or local file
	Offline migration system configuration
Eco-sustainability	Switch ports can be selectively powered down Equipped with thermal sensors for temperaturecontrolled cooling, resulting in maximum efficiency and low acoustic noise
Standards compliance	
Environmental	<ul style="list-style-type: none"> - ETS 300 019-1-1 storage - Class 1.1 (weatherprotected, partly temperature-controlled locations) - ETS 300 019-1-2 transport - Class 2.3 (packed, public transportation) - ETS 300 019-1-3 stationary use - Class 3.1E (temperature-controlled locations), when used in fully populated Nokia

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	<p>7360 ISAM racks with multiple shelves</p> <ul style="list-style-type: none">- ETS 300 019-1-3 stationary use- Class 3.3 (not temperature-controlled locations), when used in standalone Nokia <p>7360 ISAM shelves</p> <ul style="list-style-type: none">- NEBS Level 3 compliant (SR-3580)- GR-63-CORE
Protection	ITU-T K.20/K.45
Safety	IEC 60950-1/EN 60950-1
EMC and ESD	<ul style="list-style-type: none">- ETS 300 386 V1.3.3 (2005-04) for telecommunication network equipment- GR-1089-CORE
	European Directive 2011/65/EU on the restriction of the use of certain hazardous substances (RoHS)

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