

Enterprise-class Gigabit L3 Network Switches



NS4702-24P-4S-4X
Layer 3 w/PoE-at and 10G SFP+

NS4750-24S-4T-4X
Layer 3 and 10G SFP+



OVERVIEW

IFS Enterprise-Class Network Switches deliver robust and reliable performance that's also incredibly easy to use. All switch management functions are programmable through a user-friendly Web interface.

With 4-port, 10G Ethernet link capability, these switches provide high bandwidth and powerful processing performance. Each SFP+ slot supports Dual-Speed, 10GBase-SR/LR or 1000Base-SX/LX, giving administrators the flexibility to choose the suitable SFP/ SFP+ transceiver according to the transmission distance or speed required to extend the network efficiently.

NS4702-24P-4S-4X

This Enterprise-Class Network Switch is engineered to meet a variety of high-performance applications, including PoE distribution, optical network architectures and high-density performance through reliable technology and advanced Layer 3 networking features. It is ideally suited for large-scale IP video surveillance systems.

Powerful PoE+ Support

The NS4702-24P-4S-4X features IEEE 802.3at Power over Ethernet (PoE+) and up to 440 Watts of total power budget for optimized deployment and power management of PoE edge devices such as IP surveillance cameras, access control panels and wireless access points.

Built-in Monitoring, Diagnostics and Trouble-Shooting Tools

The NS4702-24P-4S-4X can be configured to monitor the status of a connected PD (Powered Device) in real-time via IP ping. If a PD (IP Camera, IP Access Reader, IP Intercom, VoIP phone or Wireless Access Point) no longer responds to a ping, the switch will cycle PoE power on the port, thus rebooting the PD to operational status.

Other features for enhanced troubleshooting and management include PoE monitoring, management and scheduling for energy-savings, built-in cable diagnostics, and support for SNMP – all designed to reduce IT time and costs while keeping network downtime to a minimum.

Static Routing

The NS4702-24P-4S-4X supports static routing tables, allowing for complex system architectures with traffic routed across different domains or between different VLANs. This enables flexible network design and greater control of network traffic – essential for modern IP video systems.

10Gig SFP+ Switch Trunking

The NS4702-24P-4S-4X is equipped with 4 10Gig SFP+ slots that are independent and not shared with the other ports on the switch. These ports provide high-bandwidth trunking between switches for high performance data transmission for larger IP video streaming applications. In addition, these ports can also accept 1 Gigabit fiber or RJ45 SFPs for even more versatility.

NS4750-24S-4T-4X

Engineered to meet the needs of a distributed fiber optic network system, this Enterprise-Class L3 Network Switch provides a flexible and economical way to distribute IP video when used with IFS SFP Media Converters.

Static Routing

The NS4750-24S-4T-4X supports IPv4/IPv6 Layer 3 static routing to provide a cost-effective solution for network segmentation, while allowing flexible network design and greater control of network traffic across different domains and VLANs – essential for larger IP video systems.

10Gig SFP+ Switch Trunking

The NS4750-24S-4T-4X is equipped with 4 10Gig SFP+ slots that are independent and not shared with the other ports on the switch. These ports provide high-bandwidth trunking between switches for high performance data transmission for larger IP video streaming applications. In addition, these ports can also accept 1 Gigabit fiber or RJ45 SFPs for even more versatility.

STANDARD FEATURES

Physical Ports

24-port Gigabit PoE+ Managed Switch (NS4702-24P-4S-4X)

- 24-ports 10/100/1000Base-T Gigabit Ethernet RJ-45 with IEEE 802.3at PoE+
- 4 SFP/mini-GBIC slots shared with ports 21 to 24 - compatible with 1000Base-SX/LX/BX and 100Base-FX SFP transceivers
- 4 10Gbps SFP+ ports
- RJ45 console interface for basic switch management and setup

24-port Gigabit Managed Fiber Switch (NS4750-24S-4T-4X)

- 24 SFP/mini-GBIC slots - compatible with 1000Base-SX/LX/BX and 100Base-FX SFP transceivers
- 4-ports 10/100/1000Base-T RJ-45 copper, shared with ports 1 to 8
- 4 10Gbps SFP+ Ports
- RJ45 console interface for basic switch management and setup

High-performance Switch Architecture

- Complies with the IEEE 802.3, IEEE 802.3u, IEEE 802.3ab, IEEE 802.3z, IEEE 802.3ae standards
- High performance Store and Forward architecture, broadcast storm control, runt/CRC filtering eliminates erroneous packets to optimize the network bandwidth
- Prevents packet loss with back pressure (half-duplex) and IEEE 802.3x PAUSE frame flow control (full-duplex)
- Up to 128Gbps non-blocking switch fabric
- 10K bytes Jumbo frame support
- 16K MAC address table, automatic source address learning and ageing

Full Multicast Support for IP Video

- IGMP Snooping v1, v2 and v3 fast leave
- IGMP Query mode support
- Up to 256 multicast groups

VLAN Support

- IEEE 802.1Q Tag-Based VLAN
- Up to 255 VLANs groups, out of 4096 VLAN IDs
- Port-Based VLAN
- Q-in-Q tunneling (Double Tag VLAN)

Layer 3 IP Routing

- Supports maximum 128 static routes and route summarization
- Hardware accelerated Layer 3 routing performance

Spanning Tree Protocol

- STP, IEEE 802.1D (Spanning Tree Protocol)
- RSTP, IEEE 802.1w (Rapid Spanning Tree Protocol)
- MSTP, IEEE 802.1s (Multiple Spanning Tree Protocol); Up to 8 MSTP instances

Quality of Service (QoS)

- 4 priority queues on all switch ports
- Traffic classification:
 - IEEE 802.1p Class of Service
 - IP TOS/DSCP code priority
 - Port Base priority
- Strict priority and weighted round robin (WRR) CoS policies
- Ingress/Egress Bandwidth Control on each port

Power over Ethernet (NS4702-24P-4S-4X)

- Complies with IEEE 802.3at Standard
- 440 Watt Total Power Budget
- Auto-detects PoE powered devices (PD)
- Provides full-power (15.4W) PoE up to 24 ports; up to 14 ports (30W)
- Circuit protection isolates and prevents power interference between ports
- End-Span (PSE) configuration supplies power up to 100m
- PoE Management Features
 - Total power budget control
 - Per port control (enable/disable, priority, power limit)
 - Per port scheduling
 - PD classification detection
 - Power Supply Over temperature Protection
 - PD Alive-checking

Link Aggregation

- IEEE 802.3ad LACP (Link Aggregation Control Protocol)
- Up to 16 Trunk groups
- Up to 8 ports per trunk group with 1.6Gbps bandwidth (Full Duplex mode)
- Supports Cisco ether-Channel (Static Trunk)

Advanced Security

- IEEE 802.1x Port-based authentication
- RADIUS and TACACS+ users access authentication
- Layer 3 and Layer 4 Access Control List (ACL)
- MAC Filtering and Source IP/MAC address port-binding
- Port Mirroring to monitor incoming or outgoing traffic on a particular port

Switch Management

- Local console or remote switch management via Web browser, Telnet CLI, SNMP v1, v2c, v3
- SNMP Trap for alarm notification of events
- Four RMON groups 1, 2, 3, 9 (history, statistics, alarms, and events)
- Built-in Trivial File Transfer Protocol (TFTP) client
- BOOTP and DHCP for IP address assignment
- Configuration upload/download via TFTP or HTTP
- Firmware upgrade via TFTP or HTTP
- SNTP (Simple Network Time Protocol)
- LLDP Protocol
- Supports Ping function
- Reset button for system management

Warranty

- 3-year Limited Warranty

Specifications

Part No.		NS4702-24P-4S-4X	NS4750-24S-4T-4X
Description			
Physical Ports	10/100/1000Base-T (X) Ports	RJ-45 (24) with IEEE 802.3at PoE+	RJ-45 (4) shared with SFP slots 1 to 4
	SFP/Mini-GBIC Slots	SFP/Mini-GBIC Slots (4) - Shared with RJ-45 Ports-21 to 24; 1000Base-SX/LX/BX and 100Base-FX SFP transceiver compatible	SFP/Mini-GBIC Slots (24); 1000Base-SX/LX/BX and 100Base-FX SFP transceiver compatible
	SFP+ 10G Slots	SFP+ Slots (4); 10GBase SR/LR and 1000Base-SX/LX/BX	
	Port Configuration	Auto MDI/MDI-X	
	Port Speed	Auto-negotiate	
Switch Performance	Switch Architecture	Store-and-Forward	
	Switch Fabric	128Gbps non-blocking	
	Switch Throughput	95Mpss@64Bytes	
	Mac Address Table	16K entries	
	Share Data Buffer	32M bits	
	Jumbo Frame Size	10Kbytes	
	Flow Control	IEEE 802.3x Pause Frame for Full-Duplex, Back pressure for Half-Duplex	
Layer 2 Functions	Management Interface	Console, Telnet, Web Browser, SNMPv1, v2c and v3	
	Port Configuration	Port enable/disable; Auto-negotiation; 10/100/1000Mbps full and half duplex mode selection; Flow Control enable/disable; Bandwidth control on each port	
	Port Status	Display each port's: speed duplex mode, link status, flow control status, Auto negotiation status, trunk status	
	Port Mirroring	TX/RX/Both; Many to 1 monitoring	
	Bandwidth Control	Ingress/Egress rate control: configure per 128Kbps	
	VLAN	IEEE 802.1q tagged-based VLAN, Port-based VLAN, Q-in-Q tunneling, Up to 255 VLANs groups, Private VLAN	
	Layer 3 IP Routing	Supports maximum 128 static routes and route summarization; Hardware accelerated	
	Link Aggregation	IEEE 802.3ad LACP / Static Trunk; 14 groups of 8-Port trunks	
	Quality of Service (QoS)	Traffic classification based, Strict priority and WRR, 8-Level priority for switching - Port number - 802.1p priority - 802.1Q VLAN tag - DSCP/TOS field in IP packet	
	Multicasting/IGMP	IGMP (v1/v2/v3) Snooping, up to 255 multicast Groups; IGMP Querier mode support	
	Access Control List	IP-Based ACL/MAC-Based ACL, 256 entries	
	Power over Ethernet	SNMP MIBs	RFC-1213 MIB-II, IF-MIB, RFC-1493 Bridge MIB, RFC-1643 Ethernet MIB, RFC-2863 Interface MIB, RFC-2665 Ether-Like MIB, RFC-2737 Entity MIB RFC-2618 RADIUS Client MIB, RFC-2933 IGMP-STD-MIB, RFC3411 SNMP-Frameworks-MIB, IEEE802.1X PAE, LLDP, MAU-MIB, Power over Ethernet-MIB
PoE Standard		IEEE 802.3at	
PoE Power Supply Type		End-Span (PSE)	
PoE Power Budget		440 watts (max.)	
Max. number of PD @ 30.8 Watts		14	
Max. number of PD @ 15.4 Watts		24	
PoE Power Output Per Port		56V DC, Max. 30.8 watts	
Power Pin Assignment	1/2(+), 3/6(-)		
LED Indicators & Switch	Power	On/Green	
	10/100/1000Base-TX Ports	10/100/1000Mbps LNK/ACT (Green), PoE In-Use (Orange)	10/100/1000 LNK/ACT (Green)
	10/100/1000Base-T/SFP Ports	1000Mbps (Green), LNK/ACT (Orange)	
	FAN(s)	FAN1 (Green), FAN2 (Green), FAN3 (Green)	Fanless Design
	Reset Button	System reboot: push and hold < 3 sec., Factory Default: push and hold > 10 sec.	
Electrical & Mechanical	AC Power Input Voltage	100 ~ 240VAC, 50 / 60Hz, Auto-sensing	100 ~ 240VAC, 50 / 60Hz, 36V DC @ 1.6A, Range: 36V ~ 60V DC
	Power Consumption (System On)	482 watts	58 watts
	Dimensions (WxDxH); in/cm	17.32 x 7.87 x 1.75 in. (42.99 x 19.99 x 4.45 cm)	17.32 x 11.81 x 1.75 in. (42.99 x 29.99 x 4.45 cm)
	Weight; lbs/kgs	5.93 lbs, 2.69 kgs	9.92 lbs, 4.49 kgs

Enterprise-class Gigabit L3 Network Switches

North America
T 855-286-8889

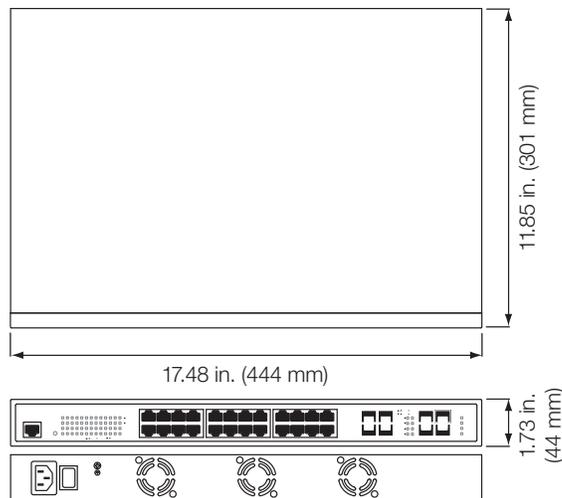
Latin America
T 561-998-6114

Specifications (continued)

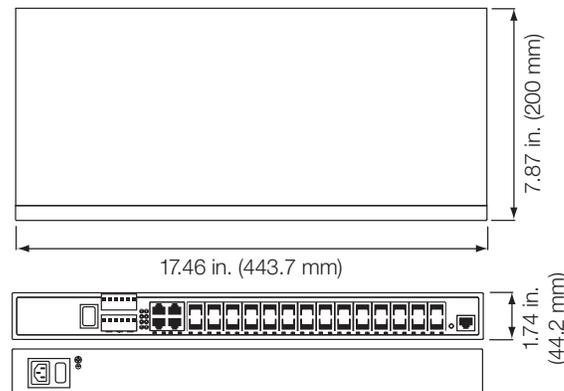
Part No.	NS4702-24P-4S-4X	NS4750-24S-4T-4X
Description		
Environmental	Operating Temperature	0°C~50°C
	Storage Temperature	-10°C~70°C
	Relative Humidity	0%~95% (non-condensing)
Standards Compliance	Regulatory Standards	FCC Part 15 Class A, CE, UL, cUL
	IEEE Standards	IEEE 802.3 10Base-T, IEEE 802.3u 100Base-TX/100Base-FX, IEEE 802.3z Gigabit SX/LX, IEEE 802.3ab Gigabit 1000Base-T, IEEE 802.3ae 10 Gigabit Ethernet, IEEE 802.3x Flow Control and Back Pressure, IEEE 802.3ad Port trunk with LACP, IEEE 802.1D Spanning Tree Protocol, IEEE 802.1w Rapid Spanning Tree Protocol, IEEE 802.1s Multiple Spanning Tree Protocol, IEEE 802.1p Class of Service, IEEE 802.1Q VLAN Tagging, IEEE 802.1x Port Authentication Network Control, IEEE 802.1ab LLDP, IEEE 802.3af Power over Ethernet (NS4702-24P-4S-4X only), IEEE 802.3at Power over Ethernet PLUS (NS4702-24P-4S-4X only)

Dimensional Diagrams

NS4702-24P-4S-4X



NS4750-24S-4T-4X



Ordering Information

NS4702-24P-4S-4X	24-Port PoE+ Gigabit Switch w/4 10Gig SFP+
NS4750-24S-4T-4X	24-Port Gigabit Fiber Switch w/4 10G SFP+
Included Accessories	User's Manual CD, Quick Installation Guide, Power Cord, Console Port Cable, Rubber Feet, Rack Ears w/Screws

Accessories

SFP	S30 Series
SFP	S20 Series
SFP	S40 Series (for 10G ports only)

Note: These switches require a Small Form-factor Pluggable (SFP) for optical uplink use. IFS SFPs are available for multi-mode, single mode, and 1 or 2 fibers for various transmission distances over optical fiber. Please refer to the IFS SFP data sheet to select the appropriate SFP for your particular application needs. IFS S20 or S30 series SFPs are recommended. Gigabit SFPs (S30) are recommended for best uplink bandwidth performance. 10 Gigabit SFP+ (S40) are recommended for best switch trunking bandwidth performance.



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