

# IFS<sup>®</sup> Enterprise-class Gigabit L3 Network Switches

## OVERVIEW

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

### NS4702 & NS4802 GigE L3 PoE+ Switches

These network switches are engineered to meet a variety of high-performance applications and are ideally suited for large-scale IP video surveillance systems. Featuring Layer 3 static-routing, PoE, and optical trunking ports, these switches offer high performance features for larger IP video systems.

#### Powerful PoE+ Support

The NS4702 & NS4802 switches feature IEEE 802.3at Power over Ethernet (PoE+) and up to 440 Watts (depending on model) of total power budget. These features allow 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

These NS4702 & NS4802 switches 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. These features are designed to reduce IT time and costs while keeping network downtime to a minimum.

#### Static Routing

The NS4702 & NS4802 switches support 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 large-scale video systems.

NS4802-24P-4S-2X  
Layer 3 w/PoE-at Stackable  
10G SFP+



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

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



### 10Gig SFP+ Switch Trunking

The NS4702 & NS4802 switches support 2 or 4 (depending on model) 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 Gigabit fiber or RJ45 SFPs for even more versatility.

### Stacking Capability (NS4802-24P-4S-2X only)

The NS4802-24P-4S-2X is managed via a single IP address and allows up to 16 units to be stacked creating a virtual 384 Port PoE+ switch. This switch also offers added flexibility with full redundancy options and up to 40Gbps interlink. Without network disruption, the switches can be “hot swapped” minimizing the impact on network operations and allowing the network to be upgraded in short notice.

### NS4750 GigE L3 Fiber Switch

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. This in turn allows 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 Gigabit fiber or RJ45 SFPs for even more versatility.

# STANDARD FEATURES

## Physical Ports

### 24-port Gigabit PoE+ Managed Switch (NS4702 & NS4802)

- 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 (NS4702) or 2 10Gbps SFP+ ports (NS4802)
- RJ45 console interface for basic switch management and setup
- 2 40Gbps Stacking Ports (NS4802)

### 24-port Gigabit Managed Fiber Switch (NS4750)

- 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

- IEEE 802.3, IEEE 802.3u, IEEE 802.3ab, IEEE 802.3z, IEEE 802.3ae standards compliance
- High performance Store and Forward architecture, broadcast storm control, runt/CRC filtering eliminates erroneous packets to optimize the network bandwidth
- Packet loss prevention 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

## Stacking Function

### (NS4802)

- Ability to stack up to 16 units
- Up to 384 virtual port switch
- One single IP address to manage all devices in the stack
- Hot Swappable switches
- Redundancy

## 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

- Maximum of 128 static routes and route summarization supported
- 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 & NS4802)

- IEEE 802.3at Standard compliant
- 380W (NS4802) or 440W (NS4702) Total Power Budget
- Auto-detection of PoE Power Device (PD)
- Powers up to 24 ports @ 15.4W or up to 14 ports @ 30W per port.
- Circuit protection that isolates and prevents power interference between ports
- End-Span (PSE) configuration that 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)
- Cisco ether-Channel (Static Trunk) support

## 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 upgrades via TFTP or HTTP
- SNTP (Simple Network Time Protocol)
- LLDP Protocol
- Supports IP ping
- Reset button for system management

## Warranty




- 3-year Limited Warranty

# Specifications

Part No.		NS4802-24P-4S-2X	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+ Slots	(2)10GBase SR/LR or 1000Base-SX/LX/BX	(4) 10GBase SR/LR or 1000Base-SX/LX/BX		
	Dedicated Stacking Slots	(2)10GBase SR/LR or 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	95Mpps @ 64Bytes			
	Mac Address Table	16K entries			
	Share Data Buffer	4M bits	32M bits		
	Jumbo Frame Size	9Kbytes	10Kbytes		
	Flow Control	IEEE 802.3x Pause Frame for Full-Duplex, Back pressure for Half-Duplex			
	Management Interface	Console, Telnet, Web Browser, SNMPv1, v2c and v3			
Layer 2 Functions	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: 500Kb ~ 80Mbps; Egress: 64Kb ~ 80Mbps	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; 3 groups of 6-Port trunks	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			
	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			
	Power over Ethernet	PoE Standard	IEEE 802.3af and IEEE 802.3at		
		PoE Power Supply Type	End-Span (PSE)		
PoE Power Budget		380 watts (max.)	440 watts (max.)		
Max. number of PD @ 30.8 Watts		12	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.			
	Stackable Interfaces	Stack (Green), LNK/ACT (Orange)			
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)	445 watts	502 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	10.78 lbs, 4.89 kgs	10.74 lbs, 4.87 kgs		

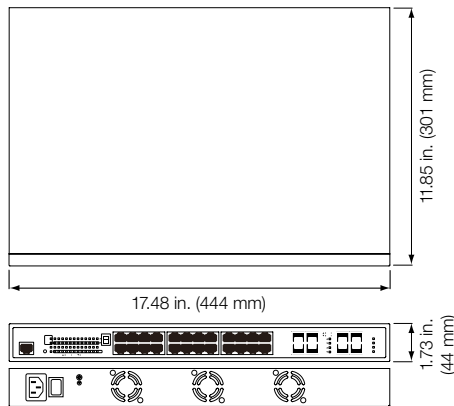
# IFS® Enterprise-class Gigabit L3 Network Switches

## Specifications (continued)

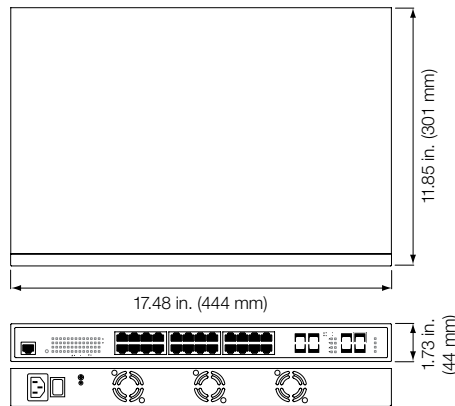
Part No.		NS4802-24P-4S-2X	NS4702-24P-4S-4X	NS4750-24S-4T-4X
Description				
Environmental	Operating Temperature	0°C ~ 50°C		-10°C ~ 60°C (DC power input) 0°C ~ 50°C (AC power input)
	Storage Temperature	-10°C ~ 70°C		
	Relative Humidity	0% ~ 95% (non-condensing)		
Standards Compliance	Regulatory Standards	FCC Part 15 Class A, CE, IEC/EN60950-1		
	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 and NS4802-24P-4S-2X), IEEE 802.3at Power over Ethernet PLUS (NS4702-24P-4S-4X and NS4802-24P-4S-2X)		

## Dimensional Diagrams

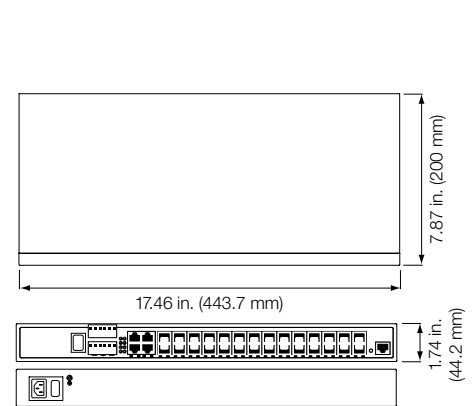
NS4802-24P-4S-2X



NS4702-24P-4S-4X



NS4750-24S-4T-4X



## Ordering Information

<b>NS4802-24P-4S-2X</b>	24-Port Gigabit Stacking Switch w/2 10G SFP+
<b>NS4702-24P-4S-4X</b>	24-Port PoE+ Gigabit Switch w/4 10G SFP+
<b>NS4750-24S-4T-4X</b>	24-Port Gigabit Fiber Switch w/4 10G SFP+
<b>Included Accessories</b>	User's Manual CD, Quick Installation Guide, Power Cord, Console Port Cable, Rubber Feet, Rack Ears w/Screws, 0.5m Stacking Cable (NS4802 only)

## Accessories

<b>S20 Series</b>	100Mbps SFP
<b>S30 Series</b>	1000Mbps SFP
<b>S40 Series</b>	10G SFP (for stacking ports only)
<b>NS-10G-CBL-2M</b>	10G Copper SFP+ Stacking Cable - 2 meters
<b>NS-10G-CBL-50</b>	10G Copper SFP+ Stacking Cable - 0.5 meters



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