NS3502-8P-2T-2S

8-Port 10/100/1000Base-T + 2-Port Gigabit SFP Managed Ethernet PoE+ Switch

Overview

For fast and efficient connectivity from the network edge to a backbone switch or server, the IFS 8-port Gigabit Ethernet Managed Switch features eight 10/100/1000Mbps Gigabit Ethernet ports with 2 100/1000Mbps SFP ports. The 2 SFP ports can support either 100Base-X or 1000Base-X through an SFP interface. For efficient switch management, the Switch is easily programmable via a simple, yet powerful Web Interface. The switch can manage Port Speed Configuration, Port Link Aggregation, IEEE 802.1Q VLAN and Q-in-Q VLAN, Port Mirroring, Spanning Tree and ACL security. The switch includes advanced features such as Multicasting with IGMP snooping and query, QoS, broadcast storm and bandwidth control to enhance bandwidth utilization.

Engineered for Real-time Performance

This switch is designed with a high performance non-blocking switch fabric and provides wire-speed throughput to ensure optimum quality of service. The Switch classifies and prioritizes Layer 2 802.1p or Layer 3 IP TOS/DSCP traffic into four hardware queues that support strict or Weighted Round Robin (WRR) queuing algorithms. This functionality provides maximum allocation of limited network resources and guarantees best performance for real-time applications.

Full Power, Isolated per Port PoE

This Gigabit PoE Managed Switch provides optimized deployment and safe power management to PoE edge devices such as IP Surveillance cameras or access control panels. Full power PoE-af (15.4w) is provided to all 8-ports with no power sharing, and added port circuit protection isolates and prevents power interference between ports. In addition to standard IEEE 802.3af (15.4w), the IFS Gigabit PoE Managed Switch provides support for up to 5 ports of IEEE 802.3at (30w) PoE+.

Built-in Monitoring, Diagnostics and Trouble-shooting Tools

The Switch can be configured to monitor a connected PD (Powered Device) status in real-time via IP ping.

Details

- 8-Port 10/100/1000Base-T RJ-45 with IEEE 802.3af / 802.3at PoE Injector
- 2-Port 100/1000Base-X mini-GBIC/SFP slots, SFP type auto detection
- 1x RS-232 DB9 console interface for basic management and setup
- Web-based, telnet, SSH, SSL and console command line management, IP address security management to prevent unauthorized intruder
- RADIUS / TACACS+ users access authentication
- Complies with IEEE 802.3, IEEE 802.3u, IEEE 802.3ab, IEEE 802.3z, IEEE 802.3af, IEEE 802.3at standards
- Supports auto-negotiation and half-duplex/full-duplex modes for all 10Base-T/100Base-TX and 1000Base-T
- Prevents packet loss with back pressure (half-duplex) and IEEE 802.3x pause-frame flow control (full-duplex) groups, out of 4K VLAN IDs
- IP-Based Access Control List (ACL), MAC-Based Access Control List, Source MAC / IP address binding
- Ingress/egress bandwidth control on each port
- Supports IGMP Snooping v1, v2 and v3, IGMP query mode for multicast media application and Multicast VLAN Registration
- Internal power supply
- Port mirroring to monitor the incoming or outgoing traffic on a particular port
- Supports LLDP to allow switch to advise its identification and capability on the LAN
- IPv4 and IPv6 IP Address / NTP / DNS management
- Cable Diagnostic technology provides the mechanism to detect and report potential cabling issues

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If a PD (IP Camera or IP Access Reader) no longer responds to a ping, the switch will cycle PoE power on the port thus rebooting the PD back to operational status. This along with built-in cable diagnostics, and support for SNMP can greatly enhance the IT administrator's trouble-shooting and management abilities, saving time and labor while keeping network downtime to a minimum.

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Technical Specifications

Category

Category	Commercial
Management	Managed
PoE	Yes
Managed	Yes (Layer 2)

Physical ports

Speed	Gigabit
No. of ports	8
Port type	Gig
PoE/PoE+	8 port PoE/8 port PoE+
Fiber port	2
SFP speed	100/1000
Supported SFP's	S20/S25 series, S30/S35 series

Switch Performance

Throughput (Mpps)	17.76
Jumbo frame support	9 K
Switch fabric	24 Gbps
Mac table	8 K

Layer 2 Functions

IGMP snooping	255 Group, Snooping v1, v2, v3
IGMP query	Yes
Access control list	123 entries
Management interface	Console, Web, Telnet, SNMP 1,2,3, SSH/SSL secure access
VLAN, QoS	256, yes

General

Fast ring	No
Storm control	Broadcast, Multicast
Security	802.1x, ACL, RADIUS, Source MAC / IP address binding, TACACS+
DHCP s1oping	Yes
Fault relay output	No

Physical

Stackable	No
Physical dimensions	330 x 153 x 44 mm
Net weight	1.850 kg
Colour	Black
Material	Metal
Mounting type	Desk-based

Environmental

Operating temperature	0 to +50°C
Storage temperature	-20 to +70°C
Relative humidity	NS3502-8P-2T-2S
Environment	Indoor
Operating :	Temperature 0°C ~ +50°C; Relative Humidity 5%~95% (non-condensing)
Storage :	Temperature -20°C ~ +70°C; Relative Humidity 5%~95% (non-condensing)

Electrical

Power supply type	100 to 240 VAC
Power consumption	320 W
PoE power budget	200 W
Redundant power	No

Hardware Specifications

8x 10/100/1000Base-T RJ-45 with PoE+ and Auto-MDI/MDI-X function for each port	
2x SFP/Mini-GBIC interfaces on Port-9 and Port-10	
Switch Architecture :	Store-and-Forward
Switch Fabric :	20Gbps (non-blocking)
Switch Throughput :	14.88Mpps @ 64Bytes
Address Table :	8K entries
Share Data Buffer :	1392 Kilobytes
Maximum Frame Size :	9K Byte (Jumbo frames)
Flow Control :	Back pressure for Half-Duplex and IEEE 802.3x Pause Frame for Full-Duplex
LED :	Per unit: Power (Green), Ring Master (Green), Power 1 (Green), Power 2 (Green), Fault (Red)
LED :	8x port 10/100: Link/Activity (Green), Full-Duplex/Collision (Yellow)
LED :	2x SFP port: LNK/ACT (Green)
LED :	2x 1000T: LNK/ACT (Green), 1000M (Green)
LED :	PoE: PoE In-Use (Green)
ESD Protection :	6KV DC
EFT Protection :	3KV DC
Console Interface :	One RJ-45-to-RS-232 male connector for switch
Case Protection :	IP 30

Power over Ethernet

PoE Standard :	IEEE 802.3af / IEEE 802.3at
Units Can Be Powered :	Max. Class 3 PD = 8, Max. Class 4 PD = 5
PoE Power Output :	48VDC, 350mA. Max. 15.4 watts, and 52VDC, 590mA. Max 30 watts
Power Pin Assignment :	1/2(+), 3/6(-)

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Layer 2 Function

Management Interface :	Console, telnet, Web browser, SSH/SSL secure access, SNMPv1 and v2c and v3c
Port Configuration :	Port disable/enable. Auto-negotiation 10/100Mbps full- and half-duplex mode selection. Flow control disable/enable. Bandwidth control on each port.
Port Status :	Display each port's speed duplex mode, link status, Flow control status, Auto negotiation status
VLAN :	IEEE 802.1q tagged-based VLAN, up to 256 VLANs groups, out of 4096 VLAN IDs Port-based VLAN. Q-in-Q tunneling GVRP for VLAN management, Private VLAN Edge (PVE) protected port with two protected port groups
Spanning Tree :	IEEE 802.1d Spanning Tree, IEEE 802.1w Rapid Spanning Tree, MSTP, IEEE 802.1s Multiple Spanning Tree Protocol, spanning tree by VLAN
Voice :	Voice VLAN
Link Aggregation :	Static Port Trunk, IEEE 802.3ad LACP (Link Aggregation Control Protocol), Supports 4 groups of 4-Port trunk
QoS :	Traffic classification based on : • Port Number • 802.1Q Tag • 802.1p priority • IP DSCP/TOS field in IP Packet
IGMP Snooping :	IGMP Snooping (v1, v2, v3). IGMP Query. Up to 255 multicast groups
Bandwidth Control :	Ingress: 500Kb~80Mbps, Egress: 64Kb~80Mbps
Port Mirror :	TX/RX/Both; 1 to 1 monitoring
SNMP MIBs :	RFC-1213 MIB-II, RFC-2863 Interface MIB, RFC-1493 Bridge MIB
SNMP MIBs :	RFC-2819 RMON MIB (Group 1, 2, 3, 9), RFC-2674 Extended Bridge MIB (Q-Bridge), Private MIB

	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 802.3ad Port trunk with LACP
	IEEE 802.3af Power over Ethernet
	IEEE 802.3at Power over Ethernet
	IEEE 802.3x Flow Control and Back Pressure
	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
	RFC 768 UDP, RFC 791 IP, RFC 792 ICMP
	RFC 793 TFTP, RFC 2068 HTTP
	RFC 1112 IGMP Version 1, RFC 2236 IGMP Version 2