FNIS-5510A-P

8-Port 10/100/1000Mbps + 2-Port 1G SFPL2-ManagedIndustrialPOE Switch

FNIS-5510A-P, based on a new generation of high-performance hardware, supports ACL, QinQ, QoS and static routing. FNIS-5510A-P with standard DNI-rail shell provides wide-voltage dual power input. FNIS-5510A-P uses highly reliable industrial Ethernet ring network technology. The hardware-based algorithm can ensure that the self-healing time of each node is less than 5 milliseconds, and the self-healing time of the ring network is less than 50 milliseconds (typical value). The PoE model conforms to the IEEE 802.3af/at standard, and supports 30W full-load power supply, centralized power supply management, and PoE terminal detection. The reliable industrial design of FNIS-5510A-P series such as electromagnetic compatibility, anti-vibration and anti-shock capability, and IP40 protection, can be widely used in energy, transportation, industrial production, environmental protection, and military industries.

Benefits

Rugged and reliable design for harsh environments

Equipped with fanless and IP30 standard metal mechanism, the Foli Networks FNIS-5510A-P can deliver great thermal control and tolerate the dustiest deployments with ease, whether installed on a DIN rail or wall mounted for the most efficient use of cabinet space. Designed to handle temperatures ranging from -40°C to 75°C, the FNIS-5510A-P can be placed in a variety of challenging environments and be adapted to broad range of field applications. When switching is applied normally in outdoor settings, ESD (electrostatic discharge), DC and Ethernet surge protection prevent the loss of business revenue and productivity due to damage or fatigue caused by power disturbances.

Quick failover for stable connectivity

When deployed in harsher conditions, such as factory or outdoor settings, the Foli Networks FNIS-5510A-P creates fault-tolerant networks with redundant ring technology and rapid self-recovery capability to prevent interruptions. In the event of downtime caused by a network error, the rapid failover will restore normal operation in less than 20 ms. The switch's dual DC power inputs and reverse power protection feature ensure continuous uptime and reliable operation.

- Wide-ranging operating temperature design from -40°C to 75°C
- Fanless design and compact mechanism with IP30 standard
- Redundant ring technology with quick failover in less than 20 ms
- Dual power inputs for high network resilience
- Full PoE+ support and high PoE power budget up to 240 W
- Limited life-time warranty*

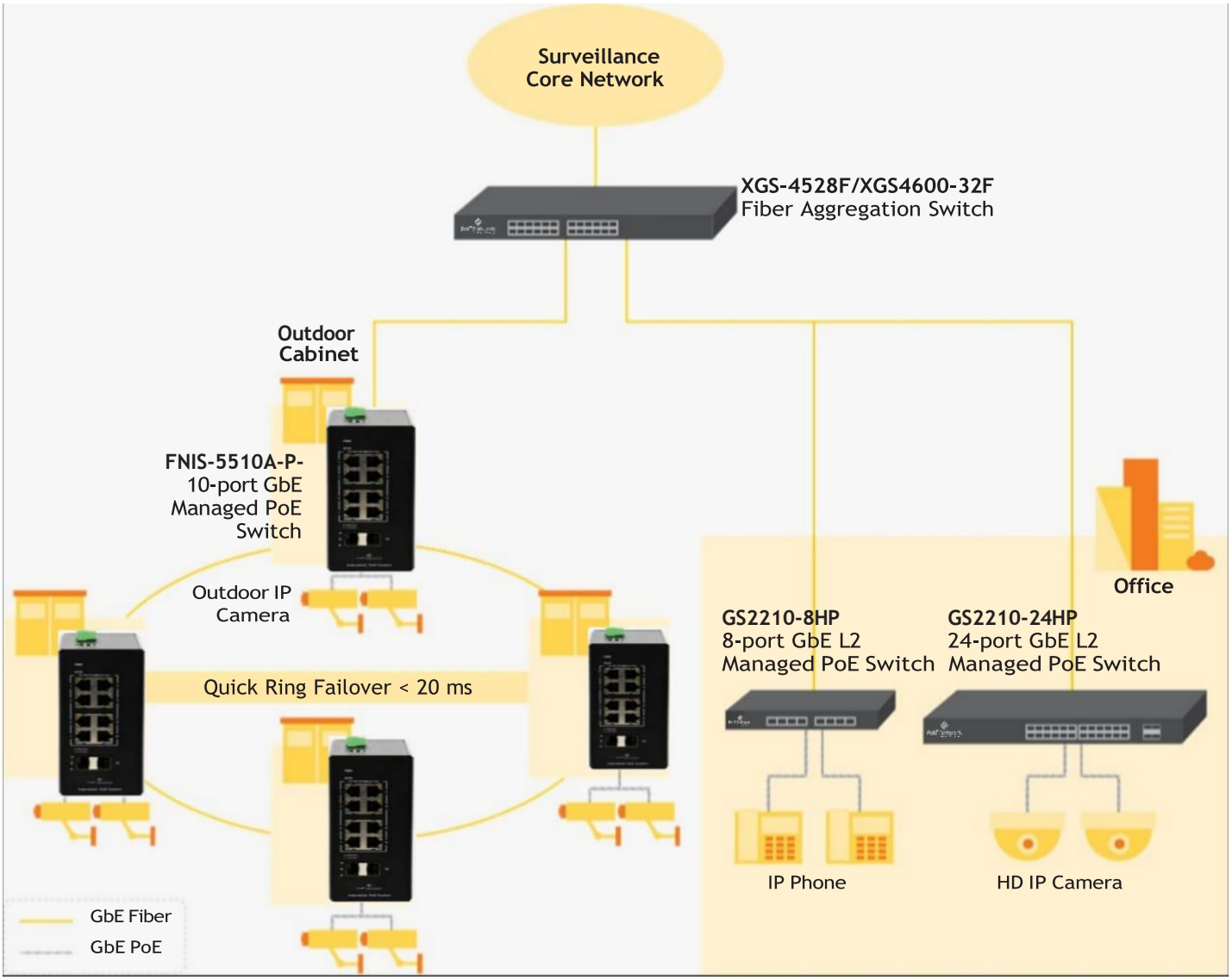
* Warranty terms, service availability, and service response times may vary from country or region to country or region

Datasheet FNIS-5510A-P

Trouble-free installation and easy extendibility

This rugged L2 Managed PoE switch comes with 8*10/100/1000Mbps RJ45 Ports, 2*SFP Ports fiber interfaces. The switch also supports the 802.3at PoE plus standard, with each PoE port providing up to 30 W of power to efficiently accommodate the most power-hungry devices. The fiber uplink can extend the network to long-distance nodes up to 40 km (43,744 yards) away for added flexibility.

Applications Diagram



Specifications

Model		FNIS-5510A-P
		
Product name		8*10/100/1000Mbps RJ45 Ports, 2*SFP Ports
Switch class		Layer 2
Port Density		
Total port count		10
100/1000 Mbps PoE		8
Gigabit SFP		2
Performance		
Switching capacity (Gbps)		56
Forwarding rate (Mpps)		15
Packet buffer (byte)		512 K
MAC address table		8 K
Jumbo frame (byte)		9 K
Power		
Input		Dual power input 48 V - 55 V DC (PoE/PoE+ requires minimum 48/55 V DC)
Max. power consumption (watts)		260
Total PoE power budget (watts)		240
Physical Specifications		
Item	Dimensions (WxDxH)(mm)	165 x 130 x 65 mm
	Weight (kg/lb.)	1.1 kg
Packing	Dimensions (WxDxH)(mm/in.)	242 x 207 x 86 mm
	Weight (kg/lb.)	1.6 kg
Included accessories		• Wall mount kit • DIN-rail mounting kit
Green Feature		
Fanless		Yes
Environmental Specifications		
Operating	Temperature	-40°C to 75°C/-40°F to 167°F
	Humidity	10% to 95%(non-condensing)
Storage	Temperature	-40°C to 75°C/-40°F to 165°F
	Humidity	10% to 95%(non-condensing)
MTBF (hr.)		>800,000
Heat dissipation (BTU/hr.)		869.55
Acoustic noise (dBA)		0

Standard Compliance

- IEEE 802.3 10BASE-T Ethernet
- IEEE 802.3u 100BASE-TX Ethernet
- IEEE 802.3ab 1000BASE-T Ethernet
- IEEE 802.3z 1000BASE-X
- IEEE 802.3af PoE
- IEEE 802.3at PoE Plus
- IEEE 802.1p Class of Service (CoS) prioritization
- Full-duplex and half duplex operation with IEEE 802.3x flow control and backpressure
- Store and forward
- N-way auto-negotiation

Traffic Control

- VLAN number (static: 1024)
- 802.1Q VLAN tagging
- GVRP
- IEEE 802.3ad LACP
- Static link aggregation (Group: 6, member: 8)
- LA algorithm of MAC
- LA algorithm of IP
- Port isolation
- Storm control (Unicast, broadcast, and unknown flooded traffic)

Resilience and Availability

- Fast failover ring protection with single and multiple rings, ring coupling, dual homing, and chain
- IEEE 802.1D STP, IEEE 802.1w RSTP, IEEE 802.1s MSTP
- Static trunk or dynamic via LACP (Link Aggregation Control Protocol)

Layer 2 Multicast

- L2 multicast group (256)
- IGMP snooping (v1, v2 and v3)
- IGMP snooping and querying
- MLD snooping and proxy
- Immediate leave and leave proxy
- Throttling and filtering

Security

- IP and MAC-based access control (128)
- ACL (support IPv4/IPv6)(256)
- 802.1X (port-base)
- Guest VLAN
- Port security
- MAC address limit
- Layer 2 MAC filtering
- Static MAC forwarding
- Multiple RADIUS servers
- RADIUS/TACACS+ authentication
- RADIUS/TACACS+ authorization
- SSL (certificate key length 2048 bits)
- SSL (support SHA-2)
- Management VLAN
- CPU defense engine
- IP source guard
- ARP inspection

QoS

- 802.1p priority queues per port
- 802.1p queuing method (scheduler)
- Input priority mapping
- Queue egress shaper
- Rate limiting, port based (accuracy of ingress/egress is 1 kbps on TCP)
- 802.3x flow control

Class of Service (CoS)

- Voice VLAN (OUI, LLDP)
- 802.1p Class of Service (SPQ, WRR)
- Port-based CoS
- IP TOS precedence
- DSCP
- 8 queue per port

Manageability

- SNMP v1, v2c, v3
- ICMP echo reply
- Syslog
- Ethernet copper connection diagnostic tool

MIB

- RFC 2233 IF MIB
- RFC1213 MIB II
- RFC 1757 RMON 1, 2, 3, 9
- RFC1215 generic traps
- RFC1493 bridge
- Private MIB
- RFC 2674 Q-Bridge MIB
- LLDP-MIB
- LLDP-EXT-MED MIB

Discovery

- 802.1AB LLDP
- 802.1AB LLDP MED

IPv6 management

- IPv6 over Ethernet (RFC 2464)
- IPv6 addressing architecture (RFC 4291)
- Dual stack (RFC4213)
- ICMPv6 (RFC4884)
- Static IPv6 address and prefix length
- Static IPv6 default gateway

Device Management

- Web interface
- HTTP/HTTPS
- IPv6 management (Web)
- CLI (support console)
- Telnet (5 sessions)
- Firmware upgrade by web
- Firmware upgrade by TFTP
- Configuration download/upload by Web
- Configuration download/upload by cli via TFTP
- DHCP client
- DHCP relay
- DHCP snooping
- DHCP option 82
- SNTP
- Daylight saving setting
- Schedule PoE
- PoE MCU firmware upgradable
- Port mirroring
- Per VLAN mirroring
- Reset button (HW reset)
- Dual image
- EEE support
- Cable diagnostics

Note: SSH feature is removed after v1.00 FCS+2.

Industrial Case/Installation

- Slim IP30 metal case protection
- DIN rail and wall mount design
- Dual power design
- Supports lightning surge protection:
  - Ethernet port: 2 KV
  - Power input: 2 KV
- Supports ESD protection (Air/Contact): 8 KV/6 KV
- Supports EFT protection: 4 KV
- -40°C to 75°C operating temperature

Accessories

Transceivers (Optional)

Model	Speed	Connector	Wavelength	Max. Distance	DDMI
SFP-1000T	Gigabit	RJ-45	-	0.1 km (109 yd)	-
SFP-SX-D	Gigabit	LC	850 nm	0.55 km (601 yd)	Yes
SFP-SX-E	Gigabit	LC	850 nm	0.55 km (601 yd)	Yes
SFP-LX-10-D	Gigabit	LC	1310 nm	10 km (10936 yd)	Yes
SFP-LX-10-E	Gigabit	LC	1310 nm	10 km (10936 yd)	Yes
SFP-LHX1310-40-D	Gigabit	LC	1310 nm	40 km (43744 yd)	Yes
SFP-ZX-80-D	Gigabit	LC	1550 nm	80 km (87488 yd)	Yes
SFP-BX1310-10-D	Gigabit	LC	1310 nm (Tx) 1490 nm (Rx)	10 km (10936 yd)	Yes
SFP-BX1310-E	Gigabit	LC	1310 nm (Tx) 1550 nm (Rx)	20 km (21872 yd)	Yes
SFP-BX1490-10-D	Gigabit	LC	1490 nm (Tx) 1310 nm (Rx)	10 km (10936 yd)	Yes
SFP-BX1550-E	Gigabit	LC/SC	1550 nm (Tx) 1310 nm (Rx)	20 km (21872 yd)	Yes

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