Preliminary

NSG3308/NSG3309 Series

8 / 9-Port Gigabit Ethernet Switch with NAT

FEATURE HIGHLIGHTS

Comprehensive Connectivity

- Up to 9 x GbE (including optional 2 x Gbps SFP ports)
- Configurable WAN/LAN ports

Secured NAT Switch

- 1:1 NAT
- Virtual NAT
- IP Masquerade
- DMZ

Industrial Certifications

- CE/FCC/UL
- DNVGL
- RoHS & other certifications

Secured & Trusted Network

- Secure industrial network design based on IEC62443
- Access Control with IPv4/MAC ACL
- Network Monitoring with Port Mirroring
- 1 x SD Card slot for configuration backup/ restore and syslog recording

Compact & Robust Enclosure

- Dimensions (mm): 45/60 x 110 x 89.6
- Operating temp. from -40°C to +70°C
- Ambient Relative Humidity from 5% to 95%
- 12 - 48VDC-Dual input

PRODUCT DESCRIPTION

The NSG3308/NSG3309 Series are compact 8 & 9-port NAT switches, equipped with 6 to 9 GbE ports and up to 2 Gbps SFP Fiber links. With configurable WAN/LAN ports and NAT features, accessibility for internal resources is fully controlled and protected. And combined with RSTP support, rings can be set up on both WAN and LAN side for full network redundancy.

Furthermore, this switch series' IP30 metal enclosure, slim and flat shape and DIN rail mountable housing allows easy deployment in harsh environments. And being compliant with IEC62443-4-2 and IEC62443-4-1, they achieve both product security features and requirements for secure development life-cycle.

With these industrial-grade features, NSG3308/NSG3309 switches are ideal to be positioned as a proxy at the edge of networks.

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info@atop.com.tw
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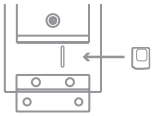
KEY FEATURES

Self-Healing Network

EH9711 supports various types of ring protocols. With ITU-T G.8032 ERPS Ring, self-recovery can be done within 25ms on full load. This helps administrators build a reliable network and improve network sustainability.



Embedded SD Card Slot

Automatically backup configurations periodically for use as the start-up configuration in the next booting. Recorded syslog can be saved in the SD card as well.

Virtual LAN

Divide local networks with 802.1q tagging to enhance data security and network efficiency.

Integrated NAT

Network deployment made simple with full NAT modes including 1:1 NAT, Virtual NAT, IP Masquerade, and DMZ.

Access Control

MAC/IPv4-based ACL is supported for LAN control.

Multi-Admin

Multiple Admin accounts with read-&-write or read-only access.

IEC62443

Development based on IEC 62443-4-1 and compliant with IEC 62443-4-2 to meet industrial network security standards.

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APPLICATION

Flexibility with Configurable WAN/LAN

Each of NSG3308 / NSG3309 series' RJ-45 GbE ports can be configured as LAN or WAN ports. With built-in NAT functions, an extra router is not required for access between interior and exterior networks.

1:1 NAT

Establish WAN to LAN communication initiating from either side. Each LAN device is allocated a dedicated IP address from the external network, without the need of extra configuration on a router/gateway, and regardless of protocols.

Virtual NAT

Virtual NAT combines 1:1 NAT and virtual routing mechanisms. With 1:1 NAT, each external IP will be mapped to a virtual IP, and with this virtual IP, a virtual route will be created for accessibility to the LAN servers.

IP Masquerade

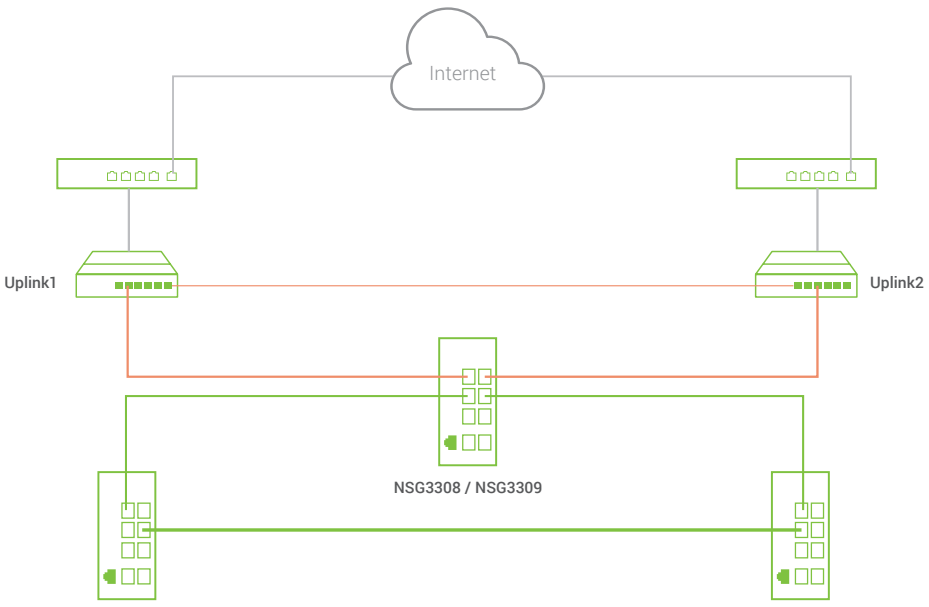
NSG3308 / NSG3309 Series can act as a network proxy, allowing access of different LAN servers via a single external IP address with different TCP/UDP ports.

DMZ

Isolate specific LAN servers in the DMZ network to allow access from the external network while keeping the internal network secured.

WAN & LAN Backup

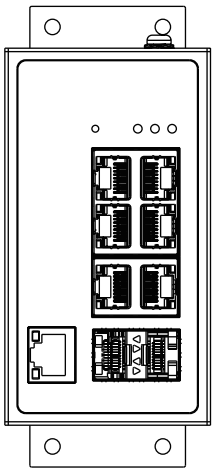
The NSG3308 / NSG3309 series are equipped with configurable WAN/LAN ports. For WAN backup, integrate switch into an RSTP ring with 2 WAN ports connecting to 2 different uplinks. As a result, the redundant uplink will take over when the main uplink router fails. Simultaneously, RSTP allows for redundant topology on the LAN side to ensure network continuity.



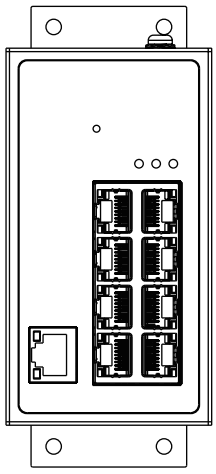
DIMENSIONS & LAYOUT

Front View

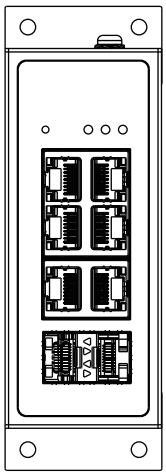
NSG3309-2SFP



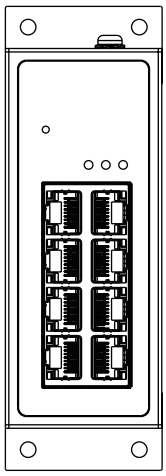
NSG3309



NSG3308-2SFP

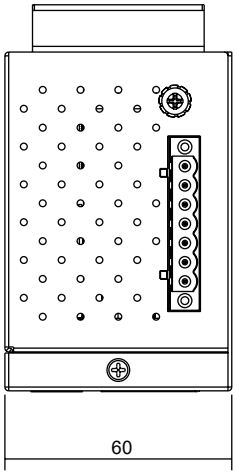


NSG3308

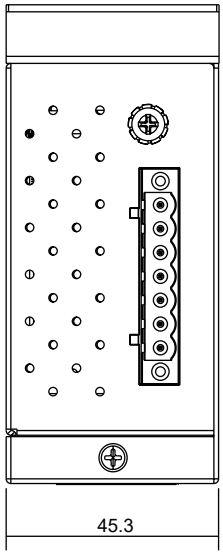


Top View

NSG3309

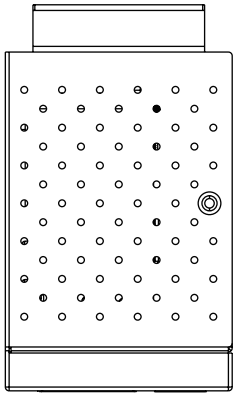


NSG3308

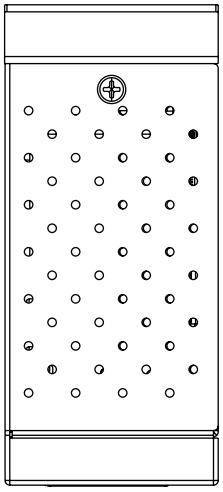


Bottom View

NSG3309

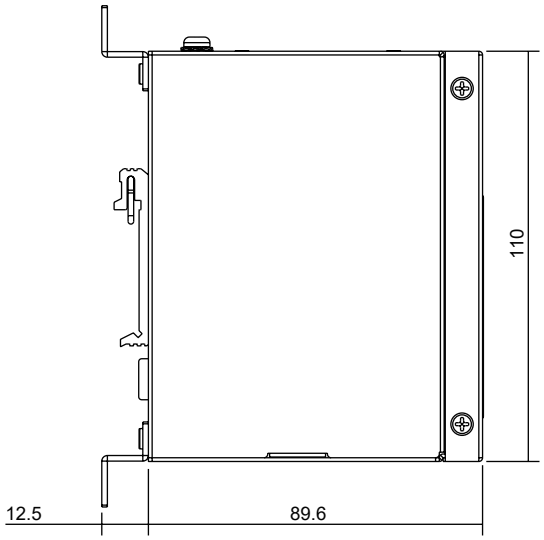


NSG3308

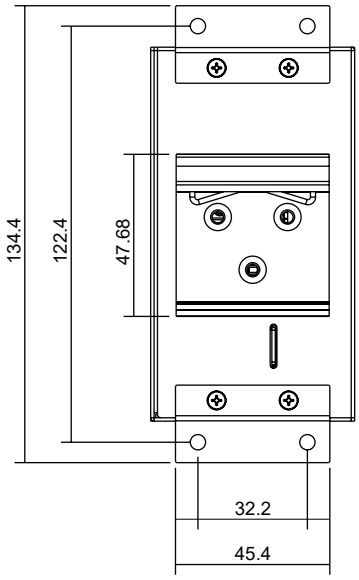


DIMENSIONS & LAYOUT

Top View



Back View



SPECIFICATIONS

Technical Specifications	
Model Name	NSG3308 Series NSG3309 Series
Interface	
RJ-45 Ports	6 x 10/100/1000BASE-T(X) for NSG3308-2SFP 7 x 10/100/1000BASE-T(X) for NSG3309-2SFP 8 x 10/100/1000BASE-T(X) for NSG3308 9 x 10/100/1000BASE-T(X) for NSG3309
Fiber Optics Ports	2 x Gb FX SFP slots for SFP models
LED Indicators	1 x P1 & P2 1 x Alarm 1 x SFP1 & SFP2 1 x LAN Ports
Relay Output	1 x Relay Output (24V/1A) with current carrying capacity of 1A @ 24 VDC
SD-Card Slot	1 x on Din-Rail side
Button	1 x Factory Reset
Capacity	
NAT Throughput	100 Mbps
Switching Capacity	16 Gbps for NSG3308 Series
	18 Gbps for NSG3309 Series
Switching Fabric	11.90 Mpps for NSG3308 Series
	13.39 Mpps for NSG3309 Series
Packet Buffer Size	2 Mb
MAC Table Size	16K
Jumbo Frame	10 KB
Networking Standards	
IP Version	IPv4
Ethernet Standards	IEEE 802.3 for 10Base-T IEEE 802.3u for 100Base-T(X) IEEE 802.3ab for 1000BaseT IEEE 802.3z for 1000BaseX IEEE 802.3x for Flow Control, back pressure flow control IEEE 802.1d-2004 for Spanning Tree Protocol IEEE 802.1w for Rapid STP IEEE 802.1s for Multiple Spanning Tree Protocol IEEE 802.1q for VLAN Tagging IEEE 802.1p for Class of Service IEEE 802.3az for Energy Efficient Ethernet IEEE 802.1AB for LLDP Auto MDI/MDI-X
Redundancy	RSTP
Routing	
Routing Type	Standard Routing

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NAT	
1:1 NAT	Y
Virtual NAT	Y
IP Masquerading	Y
Port Forwarding	Y
DMZ	Y
VLAN	
Max. Number of VLAN	4KB
VLAN ID	2 (Optional)
VLAN Type	Management VLAN Port-Based VLAN 802.1q Tag-Based VLAN
Security	
Access Control List	MAC, IPv4
Time Synchronization	
Network Time Sync.	NTP Server/Client, SNTP
Management	
Web Interface	HTTP, HTTPS
SNMP	SNMPv1/v2c/v3, SNMP Trap/Inform
SNMP MIB	RFC1213, Ethernet-like MIB, IF MIB, LLDP MIB
LLDP	Y
Syslog	Y
DHCP Support	DHCP Server (port-based), DHCP Client
Backup/Restore	Configuration backup periodically to SD card
Diagnostics Utilities	RMON History, Port Mirror
Physical	
Housing	IP30 SPCC, Black
Dimension (W x H x D)	60 x 110 x 89.6 mm for NSG3309 Series 45.3 x 110 x 89.6 mm for NSG3308 Series
Weight	400g (0.88lb)
Installation	DIN-Rail mount / Wall mount (optional kit)
Operating Temperature	-40°C to +70°C (-40°F to +158°F)
Storage Temperature	-40°C to +85°C (-40°F to +185°F)
Ambient Relative Humidity	5% to 95% (Non-condensing test @ 55°C)
Input Voltage	12 - 48VDC-Dual input
Input Current	(*TBD)
Connector	1 x 7-Pin 5.08mm Lockable Terminal Blocks for Power Input
Reverse Polarity Protection	Y

REGULATORY APPROVALS

Regulatory Approvals					
Safety	UL				
Maritime	DNVGL				
EMI	FCC	FCC Part 15, Subpart B, Class A			
	CE	EN 55032:2015, Class A EN 61000-6-4: 2007 + A1: 2011 EN 61000-3-2: 2014, Class A EN 61000-3-3: 2013			
EMS	CE	EN 55024:2010			
RoHS	Y				
Test	**Type**	**Description**	**Value**	**Level**	**Criterion**
IEC 61000-4-2	ESD	Contact Discharge	±6KV	3	B
		Air Discharge	±8KV	3	B
IEC 61000-4-3	RS	80-1000MHz	10(V/m)	3	A
		1.4-6.0GHz	3(V/m)	3	A
IEC 61000-4-4	EFT	DC Power Port	±2.0KV	3	B
		Signal Port	±1.0KV	3	B
IEC 61000-4-5	Surge	DC Power Port	Line-to-Line ±1.0KV	3	B
			Line-to-Earth ±2.0KV	3	B
		Signal Port	Line-to-Earth ±2.0KV	3	B
IEC 61000-4-6	CS	0.15-80MHz	10V rms	3	A
IEC 61000-4-8	PFMF	Enclosure	30A/m	3	A

ORDERING INFORMATION

Ordering Information

Model name	Part Number	RJ-45 (10/100/ 1000BASE-T)	SFP (1000FX)	NAT Throughput	Input Power
NSG3308	1P1EH971100001G	8	-	100 Mbps	12-48VDC Dual input
NSG3308-2SFP	1P1EH971100002G	6	2	100 Mbps	12-48VDC Dual input
NSG3309	1P1NSG33090001G	9	-	100 Mbps	12-48VDC Dual input
NSG3309-2SFP	1P1NSG33090002G	7	2	100 Mbps	12-48VDC Dual input

Optional Accessories

Model name	Part Number	Description
SDR-75-24	505007522400001G	75W/3.2A DIN-Rail 24VDC power supply 88 to 264VAC / 124 to 370VDC input
AXGD-5854-0513	522AXGD5854001G	SFP Transceiver, 1250Mbps, 850nm, Multi-mode, 550m, 3.3V, -40 to +85°C, DDMI
AXGD-1354-0523	522AXGD1354001G	SFP Transceiver, 1250Mbps, 1310nm, Multi-mode, 2km, 3.3V, -40 to +85°C, DDMI
AXGD-1354-0533	522AXGD1354011G	SFP Transceiver, 1250Mbps, 1310nm, Single-mode, 10km, 3.3V, -40 to +85°C, DDMI
AXGD-3354-0593	522AXGD3354001G	SFP Transceiver, 1250Mbps, 1310nm, Single-mode, 40km, 3.3V, -40 to +85°C, DDMI