# 8000GS Series

## Stackable Gigabit Edge Switches

**AT-8000GS/24-xx**
8-port 10/100/1000TX managed switch

**AT-8000GS/24POE-xx**
24-port stackable 10/100/1000TX Power over Ethernet switch

**AT-8000GS/48-xx**
48-port stackable 10/100/1000TX Layer 2 switch

Allied Telesis 8000GS Series Gigabit Ethernet switches are low-cost, managed and stackable. At 1RU high, they are also rack mountable. Some switches in this series feature optional PoE.

Allied Telesis 8000GS Series switches offer 24 and 48 x 10/100/1000 ports, with four combo 1Gbps SFP slots. Two integrated stacking connectors deliver a total of 20Gbps stacking bandwidth. The stacking capability integrated into this platform is configured as a resilient ring topology designed to provide high reliability and simplified management for higher port density applications. Support for jumbo Ethernet frames enables higher throughput of time-sensitive data.

### Near-Silent Operation

Specifically designed to be usable in an open office or retail store environment, the Allied Telesis AT-8000GS/24 and 48-port versions use the latest in low power technologies to minimize both power consumption and the need for excessive cooling fans.

### Ideal Branch Office and Wiring Closet Connectivity

Powerful line-rate performance and stackability make this switch ideal for branch offices or the wiring closet of larger offices. The state-of-the-art QoS capability of this product ensures reliable delivery of advanced network services such as voice while effectively controlling the continually increasing traffic needs found in today's networks.

### Ideal Where Gigabit Power over Ethernet is Needed

Powerful line rate performance and Power over Ethernet (PoE) make this switch ideal for branch offices or the wiring closet of larger offices. They

## Key Features

**Easy, Well-Known Management**

- Industry-standard CLI
- Simple, intuitive, fully-featured Allied Telesis Web Interface
- Secure, encrypted Web and CLI management with SSHv2 and SSL
- SNMP
- Two-level access privileges

**Affordable Truly Stackable 10/100/1000TX Switching Platform**

- Single IP address stack management
- 20G resilient ring stacking architecture
- Across stack link aggregation
- Across stack VLAN configuration
- Across stack port mirroring
- Redundant standby stack master

**All the QoS Needed in the Wiring Closet for Today's Voice and Data Networking**

- Eight priorities assigned to four queues
- IEEE 802.1p for Layer 2 QoS
- DSCP (DiffServ) for Layer 3 QoS
- IEEE 802.1p to DSCP remarking traffic ready for transport to the Layer 3 core of the network
- Layer 2 and Layer 3 Access Control List (ACL)

**Securing the Network at its Most Vulnerable Point**

- IEEE 802.1x and RADIUS network login: for advanced control of user authentication and accountability
- Guest VLAN: to ensure visitors or unauthorized users only connect to services defined by IT such as Internet services
- TACACS+: for ease of management of security administration
- Layer 2 and Layer 3 ACL
- Port MAC address security options

**ACLs**

- ACLs enable inspection of incoming frames and classify them based on various criteria. Specific actions can then be applied to these frames to more effectively manage the network traffic. Typically, ACLs are used as a security mechanism, either permitting or denying entry (hence the name Access Control) for frames in a group, but ACLs can also be applied to QoS.
- Supported ACL types are:
  - IP ACLs: applicable to IP packet type. All classification fields are related to IP packets.
  - MAC ACLs: classification fields are based on Layer 2 fields.

enable powered devices (PDs) like IP cameras, IP phones, etc., to be used in any location—without regard for power plug location.

## Easy Access Networking

Featuring an industry-standard CLI and Allied Telesis' intuitive, yet fully featured, Web interface, the advanced features of the AT-8000GS/24 and 48-port version are accessible to a wide range of system administrators. The well known CLI and Web interfaces significantly reduce learning time and minimize the cost of deployment.

## Secure Management

Only authorized administrators can access the management interface of the 8000GS series. Protocols such as SSL, SSH and SNMPv3 facilitate this protection of your network with local or remote connections.

## Securing the Network Edge

To ensure the protection of the data, it is important to control access to the network. Protocols such as IEEE 802.1x port-based authentication guarantee that only known users are connected to the network. Unknown users who physically connect can be isolated to a pre-determined part of the network offering guests such benefits as Internet access while ensuring the integrity of private network data.

# Specifications

### System Capacity

128MB RAM
16MB flash memory Up to 4,096 VLAN ID
8K MAC addresses
Packet buffer memory: 3Mbit

### Performance

Wirespeed switching on all Ethernet ports for all packet sizes including jumbo frames up to 10Kbytes

| | |
|---|---|
| Throughput up to: | 50.6Mpps |
| | 86.3Mpps (8000GS/48) |
| Switching capacity: | 68Gbps |
| | 116Gbps (8000GS/48) |
| Switch fabric speed: | 88Gbps |
| | 136Gbps (AT-8000GS/48) |
| MTBF: | 100,000 hours (8000GS/2) |
| | 90,000 hours (8000GS/48) |
| | 80,000 hours (8000GS/24PoE) |

Auto-negotiation, duplex, MDI/MDI-X

| | |
|---|---|
| Port speed: | |
| 10/100TX | RJ-45 |
| 100FX | SFP support (not on 8000GS/48) |
| 10/100/1000T | RJ-45 |
| 1000SX, 1000LX | SFP slot |
| Console RS232 | RJ-45 connector |

| | |
|---|---|
| Latency: | |
| 10Mbit | 77.21 usec |
| 100Mbit | 9.47 usec |
| 1000Mbit | 2.23 usec |

### Environmental Specifications

| | |
|---|---|
| Operating temperature: | 0°C to 40°C (32°F to 104°F) |
| Storage temperature: | 25°C to 70°C (-13°F to 158°F) |
| Operating humidity: | 5% to 80% non-condensing |
| Storage humidity: | 5% to 95% non-condensing |
| Max operating altitude: | 3,000 m (9,843 ft) |

### QoS

QoS in Layer 2
(IEEE 802.1p compliant Class of Service)
Traffic prioritization using IEEE 802.1p, ToS, DSCP fields
Map IEEE 802.1p priorities to CoS queues to prioritize traffic at egress
Strict scheduling and weighted round robin

### Management and Monitoring

WEB, CLI, Telnet, SSH, serial console port

| | |
|---|---|
| RFC 1157 | SNMPv1/v2c |
| RFC 2570 | SNMPv3 |
| RFC 1213 | MIB-II |
| RFC 1573 | Evolution of MIB-II |
| RFC 1215 | TRAP MIB |
| RFC 1493 | Bridge MIB |
| RFC 2863 | Interfaces group MIB |
| RFC 1643 | Ethernet like MIB |
| RFC 1757 | RMON 4 groups: Stats, History, Alarms, Events |
| RFC 2674 | IEEE 802.1Q MIB |
| RFC 1866 | HTML |
| RFC 2068 | HTTP |
| RFC 854 | Telnet |
| RFC 783 | TFTP |

LLDP
IEEE 802.1ab
LLDP-MED
IP address allocation
RFC 951/ RFC 1542 BootP/ DHCP manual
DHCP snooping
RFC 2030 SNTP, Simple Network Time Protocol
Syslog event
Dual software images

Stacking:
Up to six units with a mix of AT-8000GS/24, AT-8000GS/24POE and AT-8000GS/48 can be stacked together in any combination using a 1m HDMI stacking cable
Single system appearance
Single IP management Backup master
Redundant ring stacking topology with 20Gbps performance
Link aggregation/trunking across stack
Port mirroring across stack
VLAN across stack

### VLAN

IEEE 802.1Q VLAN tagging
Up to 256 active VLANs
Port-based VLANs
MAC-based VLANs
Private VLANs
GARP VLAN Registration Protocol (GVRP)

### General Standards

IEEE 802.1D Bridging
IEEE 802.3x BackPressure/flow control

### Interface Standards

IEEE 802.3 10T and 10FL
IEEE 802.3u 100TX
IEEE 802.3z 1000SX
IEEE 802.3ab1000T

### Redundancy Standards

IEEE 802.1D Spanning-Tree Protocol with optional fast link capability
IEEE 802.1W Rapid Spanning-Tree
IEEE 802.1s Multiple Spanning-Tree
BPDU guard
IEEE 802.3adLACP link aggregation (with up to eight members per group and up to eight groups per device)
Static port trunk

### IP Multicast

RFC 1112 IGMP snooping (ver. 1)
RFC 2236 IGMP snooping (ver. 2)
RFC 3376 IGMP snooping (ver. 3) RFC 3376
IGMP querier
Support for 256 multicasts
Unregistered multicasts are dropped by default

### Security / IEEE 802.1x

Management security: username and password protection
SSHv2 for Telnet management
SSLv3 for Web management
RFC 1492 TACACS+
RFC 2618 RADIUS authentication
IEEE 802.1x Dynamic VLAN
IEEE 802.1x RADIUS accounting
IEEE 802.1x Multi-session mode
IEEE 802.1x Action on violation
IEEE 802.1x Single-host violation
IEEE 802.1x Guest VLAN timeout
IEEE 802.1x Authentication not-required security login banner
RFC 2865 IEEE 802.1x port-based network access control

MAC-based network access control
Guest VLANs
ACL – Access Control Lists (max 256 entries)

### IPv6

| | |
|---|---|
| IPv6 | QoS |
| IPv6 | ACL |
| IPv6 | Host |
| RFC 2461 | IPv6 neighbor discovery |
| RFC 2463 | ICMPv6: Internet Control Message Protocol version 6 |
| RFC 1981 | Path MTU discovery |
| Dual-stack IPv4/IPv6 protocol | |
| IPv6 | Tunnelling over IPv4 |
| IPv6 | Network management |
| IPv6 | Applications: WEB/SSL Telnet server/SSH, AAA/Radius, Management ACLs, SNTP, PING, TFTP/Copy, Syslog |

### Fault Protection

Broadcast storm control

### Electrical/Mechanical Approvals

| | |
|---|---|
| Safety | UL 1950, CSA22.2 no.950, TUV (EN60950), CE |
| EMI | FCC Class A, EN55022 Class A, VCCI Class A, C-TICK |
| EMC | EN61000-3-2, EN61000-3-3 |
| Immunity | EN50082-1, EN55024 |
| RoHS | 6/6 compliant |
| Environmental | |
| Standard | ATI QLT 1220 |

### Package Description

Switch
AC power cord
Rack-mount kit
Rubber feet for desktop installation
RS232 management cable (RJ-45)
HDMI stacking cable (1m)
Install Guide and CLI users guide available at alliedtelesis.com

### Physical Specifications

| | |
|---|---|
| Dimensions (W x D x H): | 44 x 25.7 x 4.32 cm<br>(17.32 x 10.16 x 1.7 in) |
| Weight: | 3.15 kg / 6.94 lb (8000GS/24)<br>3.50 kg / 7.7 lb (8000GS/24PoE)<br>3.38 kg / 7.45 lb (8000GS/48) |

Mounting: 19" rack-mountable hardware included

### Power Characteristics

| | |
|---|---|
| Voltage input: | 100-240V AC / 50-60Hz |
| Current: | 3.25A<br>1.5A (8000GS/48) |
| Power supply efficiency: | 75% (8000GS/24)<br>85% (8000GS/48) |
| Acoustic noise: | 35.4dB (8000GS/24)<br>61dB (8000GS/24PoE)<br>44dB (8000GS/48) |
| Maximum heat dissipation: | 135.1 BTU/hour (8000GS/24)<br>715.65 BTU/hour (24PoE)<br>221.23 BTU/hour (8000GS/48) |

### Power Consumption

Maximum power consumption: 39.6W (8000GS/24)
Maximum power consumption: 64.82W (8000GS/48)

### Country of Origin

China

## Ordering Information

**AT-8000GS/24-xx**
24-port stackable 10/100/1000TX Layer 2 switch with four standby SFP bays (unpopulated)

**AT-8000GS/24POE-xx**
24-port stackable 10/100/1000TX Power over Ethernet Layer 2 switch with four standby SFP bays (unpopulated)

**AT-8000GS/48-xx**
48-port stackable 10/100/1000TX Layer 2 switch with four standby SFP bays (unpopulated)

Where xx = 10 for US power cord
20 for no power cord
30 for UK power cord
40 for Australian power cord
50 for European power coed

### Associated Products

Small Form Pluggables (SFPs)

**AT-SPFX/2**
SFP, MMF, 100Mbps, 2 km, 1310 nm, LC

**AT-SPFX/15**
SFP, SMF, 100Mbps, 15 km, 1310 nm, LC

**AT-SPFX/40**
SFP, SMF, 100Mbps, 40 km, 1310 nm, LC

**AT-SPBD10-13**
SFP, SMF, 1000Mbps, 10 km, 1310/1490 nm, LC-BiDi

**AT-SPBD10-14**
SFP, SMF, 1000Mbps, 10 km, 1490/1310 nm, LC-BiDi

**AT-SPSX**
SFP, MMF, 1000Mbps, 220 / 500 m, 850 nm, LC

**AT-SPLX10**
SFP, SMF, 1000Mbps, 10 km, 1310 nm, LC

**AT-SPLX40**
SFP, SMF, 1000Mbps, 40 km, 1310 nm, LC

**AT-SPZX80**
SFP, SMF, 1000Mbps, 80 km, 1550 nm, LC



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