Datasheet | **Switches**

Allied Telesis™



# AT-8000S/48POE

## Layer 2 Stackable Fast Ethernet Switch

### AT-8000S/48POE

48 port stackable 10/100TX Power over Ethernet switch with 2 active SFP bays (unpopulated) and 2 standby 10/100/1000T ports (RJ-45)

### Overview

One of a series of stackable switches from Allied Telesis, the AT-8000S/48POE provides high performance Layer 2 switching in an affordable fixed configuration platform combined with Power over Ethernet to provide power to edge devices including IP phones and wireless access points. This switch offers 48 10/100 ports, two fixed SFP combo slots plus two integrated stacking connectors that deliver a total of 4Gbps 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.

### Combined Ethernet and Power Delivery for 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 where power is needed for remote devices. 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.

### Easy Access Networking

Featuring an industry standard CLI and Allied Telesis' intuitive yet fully featured Web interface the advanced features of the AT-8000S/48POE 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 8000S 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 your data, it is important to control access to your 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 your network offering guests such benefits as Internet access while ensuring the integrity of your private network data.

### Gigabit and Fast Ethernet SFP Support

All switches in the 8000S family support both Gigabit and Fast Ethernet Small Form-factor Pluggables (SFPs). This makes the 8000S series an ideal family for environments where Gigabit fiber switches will be phased-in over time. The 8000S family allows for connectivity to the legacy 100FX hardware until it is upgraded to Gigabit. Support for both speeds of SFPs allows organizations to stay within budget as they migrate to faster technologies.

### 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

**Power over Ethernet**
- Provides standards based IEEE 802.3af Power over Ethernet to all 48 10/100 ports
- Support for up to 48 class 2 powered devices at 7.3 watts
- Support for up to 24 class 3 powered devices at 15.4 watts

**Affordable Truly Stackable 10/100 Switching Platform**
- Single IP address stack management.
- 4G 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 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 connect only to services defined by IT e.g. Internet*
- TACACS+: *for ease of management security administration*
- Layer 2 and Layer 3 ACL
- Port MAC address security options

# AT-8000S/48POE | Layer 2 Stackable Fast Ethernet Switch

## System Configuration

| | |
|---|---|
| Dimensions | 44cm x 34.7cm x 4.3cm |
| (W x D x H) | (17.3" x 13.7" x 1.7") |
| Weight | 5.6kg |
| Mounting | 19" rack-mountable hardware included |

## System Capacity

64MB RAM
16MB flash memory
400Mhz CPU
Up to 4,096 VLAN ID
8,000 MAC address

| | |
|---|---|
| Packet buffer memory | 1Mbit |

## Performance

Wirespeed switching on all Ethernet ports for all packet sizes

| | |
|---|---|
| Throughput | 13.09Mpps |
| Switching capacity | 17.6Gbps |
| MTBF | 197,009 hours |

Store and forward mode
Non-blocking switch fabric
Auto MDI/MDI-X

Latency

| | |
|---|---|
| 10Mbit | 88.60 µsec |
| 100Mbit | 18.06 µsec |

Port speed

| | |
|---|---|
| 10/100TX | RJ-45 |
| 10/100/1000T | RJ-45 |
| 100FX, 1000SX, 1000LX | SFP slot |
| RS232 | DB9 pin, male port |

Internal power supply

## Power over Ethernet

| | |
|---|---|
| Total power budget | 465W |
| For switch | 12V/ 90W |
| PoE budget | 50V/ 375W |
| PoE max supported IEEE 802.3af class 3 devices (15.4W): | 24 ports |
| PoE max supported IEEE 802.3af class 2 devices (7.3W): | 48 ports |
| IEEE 802.af | Power over Ethernet (mode B) |

## Interface Standards

| | |
|---|---|
| IEEE 802.3 | 10T |
| IEEE 802.3u | 100TX and 100FX |
| IEEE 802.3z | 1000SX |
| IEEE 802.3ab | 1000T |

## General Standards

| | |
|---|---|
| IEEE 802.1D | Bridging |
| IEEE 802.3x | BackPressure/ flow control |

## Redundancy Standards

| | |
|---|---|
| IEEE 802.1D | Spanning-Tree Protocol |
| IEEE 802.1W | Rapid Spanning-Tree |
| IEEE 802.1s | Multiple Spanning-Tree |
| BPDU guard[1] | |
| IEEE 802.3ad | LACP link aggregation (with up to eight members per group and up to eight groups per device) |

Static port trunk

## Quality of Services (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

## VLANs

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

## Multicast Standards

| | |
|---|---|
| RFC 1112 | IGMP snooping (ver. 1) |
| RFC 2236 | IGMP snooping (ver. 2) |
| RFC 3376 | IGMP snooping (ver. 3) |
| RFC 3376 | IGMP querier |

Option to forward/filtering of unregistered MC frames[1]

## IPv6[1]

| | |
|---|---|
| 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 |

## Management and Monitoring

WEB, CLI, Serial

| | |
|---|---|
| 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[1] | |
| LLDP-MED[1] | |

IP address allocation
RFC 951/ RFC 1542 BootP/ DHCP
Manual

RFC 2030 SNTP, Simple Network Time Protocol
Syslog event
Dual software images

Stacking
Up to six units
Single system appearance
Single IP management
Back-up master
Full-duplex link with 2Gbps performance
Link aggregation/trunking across stack
Port mirroring across stack
VLAN across stack

## Security

Management security: username and password protection

| | |
|---|---|
| SSHv2 | Telnet management |
| SSLv3 | Web management |
| RFC 1492 | TACACS+ |
| RFC 2138 | RADIUS authentication |
| IEEE 802.1x | Port-based network access control |
| IEEE 802.1x | Dynamic VLAN[1] |
| IEEE 802.1x | RADIUS accounting[1] |
| IEEE 802.1x | Multi-session mode[1] |
| IEEE 802.1x | Action on violation[1] |
| IEEE 802.1x | Guest VLAN timeout[1] |
| IEEE 802.1x | Authentication not-required[1] |

Security login banner[1]
Guest VLANs

| | |
|---|---|
| RFC 2865 | IEEE 802.1x port-based network access control |

MAC-based network access control
ACL - Access Control Lists

# AT-8000S/48POE | Layer 2 Stackable Fast Ethernet Switch

## Fault Protection

Broadcast storm control

## Power Characteristics

| | |
|---|---|
| Voltage input | 100-240V AC |
| Voltage output | 48vDC |
| Current | 8A |
| Power consumption | 494W[2] |
| Power supply efficiency | 64.20% |
| Heat dissipation | 1,587.9 BTU/hour |
| Clock frequency | 166Mhz |
| Acoustic noise | 49.1dB |

## Environmental Specifications

| | |
|---|---|
| Operating temp | 0°C to 40°C (32°F to 104°F) |
| Storage temp | -25°C to 70°C (-13°F to 158°F) |
| Relative humidity | 10% to 90% non-condensing |
| Storage humidity | 5% to 95% non-condensing |
| Operating altitude | Maximum 3,000m (9,843ft) |

## Electrical/ Mechanical Approvals

| | |
|---|---|
| Safety | UL 1950 (UL/cUL), EN60950 (TUV) |
| EMI | FCC Class A, EN55022 Class A, VCCI Class A, C-Tick, EN61000-3-2, EN61000-3-3 |
| Immunity | EN55024 |
| RoHS compliant | |

## Package Description

One AT-8000S/48POE switch
Power cord AC
Rack-mount kit
Rubber feet for desktop installation
RS232 management cable
Stacking cable
Install guide and user guide in CD and at
    www.alliedtelesis.com

## Country of Origin

China

## Ordering Information

**AT-8000/48POE-xx**
48 port stackable 10/100TX PoE Layer 2 switch with 2 active SFP bays (unpopulated) and 2 standby 10/100/1000T ports (RJ-45)

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 cord

## Accessories
### Small Form Pluggables (SFPs)

**AT-SPFX/2**
Multi-mode Fiber, 2km, 100FX, SFP, 1310nm

**AT-SPFX/15**
Single-mode Fiber, 15km, 100FX, SFP, 1310nm

**AT-SPFX/40**
Single-mode Fiber, 40km, 100FX, SFP, 1310nm

**AT-SPTX**
Copper, GbE Small Form-factor Pluggable (SFP)

**AT-SPSX**
Multi-mode Fiber, GbE Small Form-factor Pluggable (SFP) 850nm

**AT-SPLX10**
Single-mode Fiber, 10km, GbE SFP, 1310nm

**AT-SPLX40**
Single-mode Fiber, 40km, GbE SFP, 1310nm

**AT-SPLX40/1550**
Single-mode Fiber, 40km, GbE SFP, 1550nm

**AT-SPZX80**
Single-mode Fiber, 80km, GbE SFP, 1550nm

**AT-SPZX80/xxxx**
Single-mode Fiber, CWDM, 80km GbE SFP

CWDM wavelengths:
Where xxxx = 1470
                    1490
                    1510
                    1530
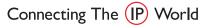                    1550
                    1570
                    1590
                    1610

[1] New feature on AT-S94 version 3.0.0.32

[2] Worst case load condition for actual measured power on sample unit

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