8100L Series

LAYER 2-4 FAST ETHERNET STANDALONE SWITCHES

The 8100L Series offers high performance managed edge switching. This Ethernet switch series supports the advanced security features and offers the appropriate management for user connectivity at the edge of the network.

The AT-8100L Series consists of eight 10/100TX ports models in PoE and non-PoE configurations. This switch series provides two Gigabit combo (10/100/1000T-SFP) uplink ports. All PoE ports support the IEEE 802.3at (PoE+) 30W standard.

Securing the Network Edge

The 8100L Series guarantees protection and secure management of an administrator's network by providing strong security standards and an authentication mechanism for access at the edge of a network.

IEEE 802.1x port authentication methods such as PEAP, EAP-TLS and EAP-TTLS supported by the 8100L Series allows the network controller to restrict external devices from gaining unauthenticated access to the network.

The Multiple Supplicant Authentication (MSA) enables the switch to uniquely authenticate and apply the appropriate policies and VLAN for multiple users or devices on a shared port, allowing port expansion while keeping the network secure.

Ease of Management

Designed for rapid deployment with the minimum of configuration time, the 8100L Series offers features such as Voice VLAN, LLDP-MED, Enhanced Stacking and Web management GUI that facilitates a simple and effective approach to network management. Voice VLAN segregates VoIP traffic from regular Ethernet traffic and applies to it a higher QoS. It takes the complexity out of VoIP deployments, ensures high voice quality and protects time sensitive voice traffic from being flooded by other data. LLDP-MED lets the user auto-configure end stations to send preconditioned traffic that adheres to Voice VLAN configured network policies.

Enhanced Stacking with the 8100L Series enables the user to make software upgrades for multiple switches with a single command, plus update all configurations in a single management session. The industry standard CLI of AlliedWare Plus™ combined with the simple and intuitive Web management GUI reduces the training needs for those who require granularity of control, by providing a familiar interface for advanced users.

Key Features

Security

» The 8100L Series offers enhanced access security, ideal for a wide number of different edge network deployment scenarios by offering a wide list of strong security features such as Multi Supplicant Authentication, RADIUS, TACACS+, ensuring a sound and secure network.

Manageability

» Voice VLAN and LLDP-MED features ensure voice data priority for networks that handle high traffic and require segregating and prioritizing. The industry standard CLI and Web GUI offered by the 8100L Series adds to the ease of managing a network for new users and experienced professionals.

Monitoring

» sFlow and RMON together give a better visibility on the performance and use of the network, which helps management to take appropriate decisions crucial for an organization to function and manage efficiently.

Usability

» Compact size, small port count, and no-fan design (AT-8100L/8POE model comes with a fan), makes the 8100L Series suitable for wiring-constrained environments and silent operation, such as micro branch office, classroom, cafes, and cruise ships.

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Simplifying the Network

AutoQoS with the 8100L Series enables a switch administrator to enter one command to enable all the appropriate features for the recommended QoS settings on edge and uplink port so this minimizes the complexity and speeding up the QoS deployment over the network.

Environmentally Friendly

In keeping with our commitment to environmentally friendly processes and products, the 8100 Series is designed to be green from the ground up, with reduced power consumption and minimal hazardous waste.

The use of highly recyclable metal, a combination of green production processes, earth friendly packaging, high efficiency power supplies and effective power management deliver both cost savings and a reduced carbon footprint for the user.

Access Control Lists

Access Control Lists work as filters that can enable inspection and classification of incoming frames. Specific actions can then be performed on these defined frames to more effectively manage the network traffic at Layer 2 through Layer 4. ACLs are typically used as a security mechanism, either permitting or denying entry for packets on specific switch ports.

Layer 3 Routing

The switch provides static IPv4 routing at the edge of the network as well as support for RIPv1 and RIPv2.

Power over Ethernet

The AT-8100L/8POE model also supports PoE+ (IEEE 802.3at), delivering up to 30W per port.

Power over Ethernet allows users to network and power a device using a single Ethernet cable, thus eliminating the need for additional power outlets and simplifying the network installation. Also it is unaffected by local variance in AC power, offering a standardized power infrastructure.

Effective Traffic Monitoring

In order to fully understand the performance of the network and ensure the ongoing smooth delivery of critical data, users must be able to measure and analyze the traffic in real time.

The 8100L Series facilitates effective traffic monitoring with sFlow, an industry-standard technology for monitoring high-speed switched networks gives complete visibility into the use of the network enabling performance optimization, accounting, billing for usage, and even defense against security threats.

Gigabit and Fast Ethernet SFP Support

The 8100L Series supports both Gigabit and Fast Ethernet Small Form-Factor Pluggable (SFP) uplinks. The dual speed ports make this series ideal for environments where Gigabit fiber switches will be phased in over time. The 8100L Series allows for connectivity to the legacy 100FX hardware until the uplink device is upgraded to Gigabit.

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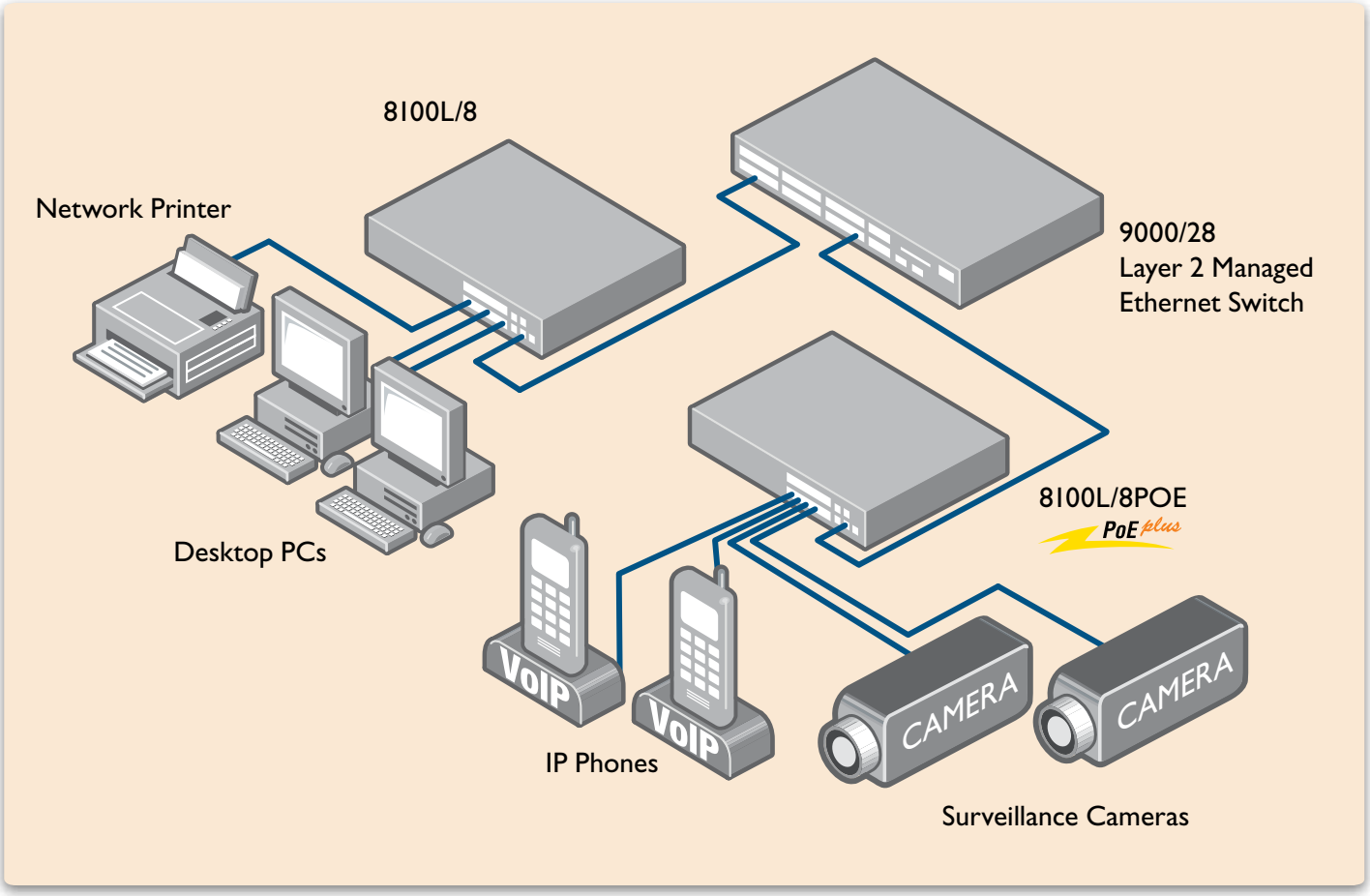

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Specifications

System Capacity
» 128MB RAM
» 16MB flash memory
» 16K MAC addresses
» 266MHz CPU

Maximum Bandwidth
» Non-blocking for all packet sizes

Wirespeed Switching (Layer 2/3) on all Ethernet Ports
» 14,880pps for 10Mbps Ethernet
» 148,800pps for 100Mbps Ethernet
» 1,488,000pps for 1000Mbps Ethernet

Environmental Specifications
» Operating temperature: 0ºC to 40ºC
» Storage temperature: -25ºC to 70ºC
» Operating humidity: 5% to 90% non-condensing
» Storage humidity: 5% to 95% non-condensing
» Max operating altitude: 3,048 m (10,000 ft)

Port Configuration
» Auto-negotiation, duplex, MDI/MDI-X, IEEE 802.3x flow control/back pressure
» Head of Line (HoL) blocking prevention
» Broadcast storm control
» Link flap protection
» Group link control
» Port mirroring

Ethernet Specifications
» RFC 894 Ethernet II encapsulation
» IEEE 802.1D MAC bridges
» IEEE 802.1Q Virtual LANs
» IEEE 802.2 Logical link control
» IEEE 802.3ac VLAN TAG
» IEEE 802.1ax-2008 (LACP) link aggregation
» IEEE 802.3u 100TX
» IEEE 802.3x Full-duplex operation
» IEEE 802.3z Gigabit Ethernet
» IEEE 802.3af Power over Ethernet class 3
» IEEE 802.3at Power over Ethernet class 4
» Jumbo frames (9198 bytes)

Quality of Service (QoS)
» Eight egress queues per port
» Engless rate limiting
» Voice VLAN
» Automatic QoS
» IEEE 802.1p Class of Service with strict and weighted round robin scheduling
» RFC 2474 DSCP for IP-based QoS
» RFC 2475 Differentiated services architecture
» Layer 2, 3 and 4 criteria

Link Aggregation
» IEEE 802.3ad LACP - eight groups
» Static link aggregation - 24 groups

Link Discovery
» IEEE 802.1ab Link Layer Discovery Protocol (LLDP)
» Link Layer Discovery Protocol-Media Endpoint (LLDP-MED)

Spanning-Tree Protocol
» IEEE 802.1D Spanning-Tree Protocol
» IEEE 802.1D-2004 Rapid Spanning-Tree Protocol
» IEEE 802.1q-2005 Multiple Spanning-Tree Protocol (15 instances)
» BPDU guard
» Loop guard
» Root guard

Management
» RFC 854 Telnet server
» Console management port
» AlliedWare Plus CLI
» Web GUI
» Enhanced Stacking
» RFC 1866 HTML
» RFC 2068 HTTP
» RFC 2616 HTTPS
» RFC 1350 TFTP
» zModem
» RFC 1305 SNTP
» RFC 1155 MIB
» RFC 1157 SNMPv1
» RFC 1901 SNMPv2c
» RFC 3411 SNMPv3
» RFC 1757 RMON 4 groups: Stats, History, Alarms and Events
» RFC 3164 Syslog protocol (client)
» Event log
» RFC 3176 sFlow
» Auto config

MIB Support
» RFC 1213 MIB-II
» RFC 1215 TRAP MIB
» RFC 1493 Bridge MIB
» RFC 2863 Interfaces group MIB
» RFC 1643 Ethernet-like MIB
» RFC 2618 RMON MIB
» RFC 2674 IEEE 802.1Q MIB
» RFC 2096 IP forwarding table MIB
» Allied Telesis managed switch MIB

VLAN
» 4096 VLANs (IEEE 802.1Q)
» Port-based VLANs
» MAC-based VLANs – 256
» IP subnet-based VLANs – 256
» Port-based private VLANs
» GARP VLAN Registration Protocol (GVRP)

IP Multicast
» RFC 1112 IGMPv1 snooping
» RFC 2236 IGMPv2 snooping
» IGMPv2 snooping querier
» Multicast groups – 255

General Protocols
» RFC 768 UDP
» RFC 791 IP
» RFC 792 ICMP
» RFC 793 TCP
» RFC 826 ARP
» RFC 950 Subnetting, ICMP
» RFC 1027 Proxy ARP
» RFC 1035 DNS
» RFC 1122 Internet host requirements
» DHCP client
» DHCP snooping
» DHCP option 82
» RFC 3046 DHCP relay
» RFC 951 BootP

Security / IEEE 802.1x
» TACACS+
» RFC 2865 RADIUS client
» RFC 2866 RADIUS accounting
» IEEE 802.1x port-based Network Access Control (NAC)
» Supplicant
» Authenticator
» IEEE 802.1x multiple supplicant mode
» Piggy-back mode
» Per port MAC address limiting
» Per port MAC address filtering
» MAC address security/lockdown
» RFC 1321 MD-5
» EAP, EAP-TLS, LEAP, PEAP, TTLS
» Dynamic VLANs
» Guest VLANs
» Secure VLANs
» Layer 2/3/4/ Access Control Lists (ACLs)
» SSLv3 for Web management
» SSL
» SSH
» SSH session time out
» Microsoft NAP compliant
» Symantec NAC support

IPv6
» IPv6 host
» IPv6 ACL
» ICMPv6
» Dual-stack IPv4/IPv6 management
» IPv6 applications: WEB/SSL, Telnet server/SSH,

IP Routing
» Static IPv4 routing – 4K
» RIPv1, v2
» Proxy ARP

Compliance Standards
» IEEE 802.3 – 10T
» IEEE 802.3u – 100TX with auto-negotiation
» IEEE 802.3ab – 1000T Gigabit Ethernet
» 100FX SFP support
» 1000X SFP support

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Safety and Electromagnetic Emissions Certifications

» EMI: FCC class A, CISPR class A, EN55022 class A, C-TICK, VCCI Class A, CE, EN601000-3-2, EN601000-3-3

» Immunity: EN55024

» Safety: UL 60950-1 (cUlus), EN60950-1 (TUV), EN60825

RoHS Standards

» Compliant with European and China RoHS standards

Package Description

» AT-8100L/xx switch

» AC power cord

» Management cable (RJ-45 to DB-9)

» Rubber feet for desktop installation

» Install guide and CLI users guide available at alliedtelesis.com

PRODUCT	SWITCHING CAPACITY	FORWARDING RATE	LATENCY	
			10Mb	100MB
AT-8100L/8	5.6Gbps	8.3Mpps	80µs	10µs
AT-8100L/8POE	5.6Gbps	8.3Mpps	80µs	10µs

Physical Specifications and MTBF Figures

PRODUCT	WIDTH	DEPTH	HEIGHT	WEIGHT	MTBF (HOURS)
AT-8100L/8	33.0 cm (13.0 in)	20.3 cm (8.1 in)	4.4 cm (1.7 in)	1.9 kg (4.2 lb)	830,000
AT-8100L/8POE	33.0 cm (13.0 in)	20.3 cm (8.1 in)	4.4 cm (1.7 in)	2.3 kg (5.1 lb)	130,000

Power and Noise Characteristics

PRODUCT	MAX POWER CONSUMPTION	MAX HEAT DISSIPATION	NOISE	VOLTAGE	FREQUENCY
AT-8100L/8	9.1W	31 BTU/hr	Fanless	100-240V AC (10% auto-ranging)	47-63Hz
AT-8100L/8POE	229.1W*	150 BTU/hr	51.8 dBA	100-240V AC (10% auto-ranging)	47-63Hz

* with maximum PoE+ load

Power over Ethernet Specifications

POWER SUPPLY UNIT	POE POWER AVAILABLE	MAXIMUM POE PORTS SUPPORTED		
		IEEE 802.3af CLASS 2	IEEE 802.3af CLASS 3	IEEE 802.3at CLASS 4
AT-8100L/8POE	185W	8	8	6

IEEE 803.at PoE+ LLDP-MED classification requires PD to be fully compliant with IEEE 802.3at standard

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Ordering Information

8100L series

Fast Ethernet Switches

AT-8100L/8-xx
8-port 10/100TX
2 combo ports (10/100/1000T-100/1000 SFP)
Standard one AC power supply

AT-8100L/8POE-xx
8-port 10/100TX PoE+
2 combo ports (10/100/1000T-100/1000 SFP)
Standard one AC power supply

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

Small Form Pluggable Optics Modules

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

AT-SPSX/I
SFP, MMF, 1000Mbps, 220 / 550m, 850 nm, LC
Extended temperature: -40°C to 85°C

AT-SPEX
SFP, MMF, 1000Mbps, 2 km, 1310 nm, LC

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

AT-SPLX10/I
SFP, SMF, 1000Mbps, 10 km, 1310 nm, LC
Extended temperature: -40°C to 85°C

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

AT-SPZX80
SFP, SMF, 1000Mbps, 80 km, 1550 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-SPFX/2
SFP, MMF, 100Mbps, 2 km, 1310 nm, LC

AT-SPFXBD-LC-13
SFP, SMF, 100Mbps, 10 km, 1310/1510 nm, LC-BiDi

AT-SPFXBD-LC-15
SFP, SMF, 100Mbps, 10 km, 1510/1310 nm, LC-BiDi

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

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Allied Telesis
the solution : the network

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