

# AMS Series Layer 2+ SNMP Managed Gigabit Switches

With a comprehensive range of Layer 2+, QoS, Security and OAM features, AMS series switches are the ideal solution at the edge or aggregation layer of medium to large enterprise, campus, metropolitan, and Service Provider networks.

## High Density, High Bandwidth Ports

AMS Series switch models offer flexible port configurations, with combinations of 1000Base-T 10/100/1000Mbps RJ-45, paired 1000Base-T/SFP arrays (with the SFP slot supporting 100Mbps or 1Gbps mini-GBIC modules), unpaired SFP slots (also supporting 100Mbps or 1Gbps mini-GBIC modules), and SFP+ slots for 1Gbps or 10Gbps mini-GBIC modules. Port densities range from 10 to 52 ports.

## Powerful Layer 2+ Management Features

All models in the range feature advanced Layer 2+ management functions, ensuring the high performance required by modern networks supporting data, voice and video applications. An intuitive web GUI management interface can be accessed via HTTP or HTTPS. SNMP versions 1, 2 and 3 are supported as well as RMON, allowing the network administrator to manage, configure and control the switch from any SNMP based software application. Console port, and CLI are also supported. A dual IPv4/IPv6 protocol stack is provided, supporting a wide range of IPv6 applications including Web/SSL, Telnet/SSH, Ping, SNMP, TFTP, RADIUS and Syslog. Other supported functions include: Link Aggregation Control Protocol (LACP) trunking; VLAN, IGMP and MLD; Link Layer Detection Protocol (LLDP); v1 and v2 SSH, IP Source Guard, RADIUS/TACACS+ and Access Control Lists (ACLs).

## Carrier Grade Switch

Model AMS-4T24S4SFP is a carrier grade switch designed for the particular needs of Service Providers. 20 SFP slots are provided, each supporting 100Mbps or 1Gbps copper or fibre mini-GBIC modules. A further 8 ports - 4 Gigabit UTP/SFP paired port arrays and 4 SFP+ slots for 1Gbps or 10Gigabit SFP+ modules - provide flexible high bandwidth uplink connectivity options. The AMS-4T24S4SFP provides comprehensive Carrier Ethernet management features, utilising key standards including IEEE 802.3ah MAC Layer OAM (Operations, Administration and Maintenance), 802.1ag/ ITU-T Y.1731 Ethernet CFM (Connectivity Fault Management), IEEE 1588v2 PTP (Precision Time Protocol) (or SYN-E by request) and ITU-T G8032 ERPS (Ethernet Ring Protection Switching). The switch is provided with power redundancy via an internal 100-240VAC universal power supply and a +48VDC power input.

## Standards-based Energy Efficient Green Ethernet

AMS series switches comply with the latest IEEE 802.3az Energy Efficient Green Ethernet standard to minimise power usage, with features such as Link Detection and Cable Length Detection are supported. Link Detection automatically turns the power off/on to individual ports depending on link/idle traffic status. Cable Length Detection adjusts the signal strength based on the length of the cable - when using shorter cables the power consumption is reduced.



### KEY FEATURES

### ALLOY AMS LAYER 2+ SNMP MANAGED GIGABIT SWITCHES

- Wirespeed performance - up to 130.94mpps switching architecture, 136Gbps forwarding rate
- High density port configurations - up to 52 ports
- Dual speed SFP+ slots supporting Gigabit or 10Gigabit mini-GBICs modules
- Dual speed SFP slots for Fast Ethernet or Gigabit mini-GBIC modules
- Layer 2 Plus features provide enhanced manageability, security, QoS and Performance
- Easy to use Web Based Management
- Comprehensive VLAN, GVRP, DHCP Relay, IGMP and MLD Snooping functions
- Advanced QoS features including hardware Priority Queues, SR and WRR Scheduling, all major Classification regimes, Rate limiting and IPv6 Applications
- IPv6 and s-Flow support
- IEEE 802.3az Energy Efficient Ethernet standard
- Robust security features including SSH, SSL, HTTPS, 802.1x, Layer 2 Isolation, IP Source Guard, RADIUS/TACACS+, and ACLs.
- Carrier Grade Ethernet: IEEE 802.3ah OAM 802.1ag Ethernet CFM, ITU-T Y.1731 Performance Monitoring ITU-T G.8032 (future release) and IEEE 588v2 PTP support

## Alloy Computer Products



### Melbourne

Unit 4, 585 Blackburn Road  
Notting Hill 3168  
VIC Australia

### Sydney

204 6A Glen Street  
Milson's Point, 2061  
NSW Australia

Freecall 1800 817 807  
Phone +(613) 8562 9000  
Fax +(613) 8562 9099

Email sales@alloy.com.au  
Web www.alloy.com.au

## Specifications

LAYER 2+ MANAGED GIGABIT SWITCHES

AMS Series Model:	10T2SFP	24T6SFP	48T4SFP	24T4S4SFP	48T4S4SFP	4T24S4SFP
<b>Interface</b>						
<b>Total Ports, comprising:</b>	10x GbE	26x GbE	48x GbE	28x GbE/10GbE	52x GbE/10GbE	28x GbE/10GbE
<b>UTP (10/100/1000Mbps)</b>	8	20	44	20	44	4
<b>UTP/SFP Array (100Mbps/1Gbps)</b>	2	4	4	4	4	4
<b>SFP (100Mbps/1Gbps)</b>	•	2	•	•	•	20
<b>SFP+ (1Gbps/10Gbps)</b>	•	•	•	4	4	4
<b>General</b>						
<b>Jumbo frames</b>	9Kb on Gigabit Interfaces					
<b>MAC Table</b>	8K	32K	32K	32K	32K	8K
<b>Performance</b>						
<b>Switching capacity</b>	14.88mpps	38.69mpps	71.42mpps	95.23mpps	130.94mpps	95.23mpps
<b>Forwarding rate</b>	20Gbps	52Gbps	96Gbps	128Gbps	136Gbps	128Gbps
<b>Layer 2+ Switching</b>						
<b>Spanning Tree</b>	Spanning Tree Protocols supported: STP, RSTP, MSTP					
<b>LACP Trunking</b>	5 groups, 10 ports per group	12 groups, 8 ports per group	24 groups, 12 ports per group	14 groups, 8 ports per group	24 groups, 12 ports per group	14 groups, 12 ports per group
<b>VLAN</b>	4K VLAN's: Port based VLAN's; 802.1Q; MAC Based VLAN's; Management VLAN; Private VLAN					
<b>Voice VLAN</b>	Voice traffic is automatically assigned to a voice-specific VLAN and treated with appropriate levels of QoS					
<b>GVRP</b>	Supported					
<b>DHCP Relay</b>	Relay of DHCP traffic to DHCP server in different VLAN. Works with DHCP Option 82					
<b>IGMP Snooping</b>	V1, V2 and v3 . Supports 1024 Multicast Groups					
<b>IGMP Querier</b>	Supported					
<b>IGMP Proxy</b>	Supported					
<b>MLD Snooping</b>	v1 and v2					
<b>Security</b>						
<b>SSH</b>	v1 and v2 are supported					
<b>SSL</b>	Supported					
<b>IEEE 802.1x</b>	IEEE802.1x: RADIUS authentication, authorisation and accounting, MD5 hash, guest VLAN, single/multiple host mode and single/multiple sessions. Supports IGMP-RADIUS based 802.1x Dynamic VLAN assignment.					
<b>Layer 2 isolation</b>	PVE (Private VLAN Edge, aka protected ports) for L2 isolation between clients in the same VLAN. Supports multiple uplinks.					
<b>Port Security</b>	Locks MAC Addresses to ports, and limits the number of learned MAC addresses					
<b>IP Source Guard</b>	Supports illegal IP address from accessing to specific port in the switch.					
<b>RADIUS/ TACACS+</b>	Supports RADIUS and TACACS+ authentication. Switch as a client.					
<b>Storm control</b>	Broadcast, multicast, or unicast storm on a port.					
<b>ACLs</b>	Supports up to 256 entries Drop or rate limitation based on source and destination MAC, VLAN ID or IP address, protocol, port, differentiated services code point (DSCP) / IP precedence, TCP/ UDP source and destination ports, 802.1p priority, Ethernet type, Internet Control Message Protocol (ICMP) packets, IGMP packets, TCP flag.					
<b>Port Security</b>	Locks MAC Addresses to ports, and limits the number of learned MAC addresses					

# ed Gigabit Switches



## Specifications (continued)

AMS Series Model: 10T2SFP 24T6SFP 48T4SFP 24T4S4SFP 48T4S4SFP 4T24S4SFP

### Quality of Service

**H/W Priority Queue** Supports 8 hardware priority queues

**Scheduling** Strict priority and weighted round-robin (WRR). Queue assignment based on DSCP and class of service (802.1p/ CoS)

**Classification** Port based; 802.1p VLAN priority based; IPv4/IPv6 precedence/ type of service (ToS) / DSCP based; Differentiated Services (DiffServ); classification and re-marking ACLs, trusted QoS

**Rate Limiting** Ingress policer; egress shaping and rate control; per VLAN, per port and flow based

**IPv6 applications** Web/SSL, Telnet/SSH, Ping, Simple Network Time Protocol (SNTP), Trivial File Transfer Protocol (TFTP), SNMP, RADIUS, Syslog

### Management

**Web GUI interface** HTTP/ HTTPS

**Dual Image** Dual image provides independent primary and secondary OS files for backup while upgrading.

**SNMP** SNMP v1, 2c and 3

**RMON** RMON (Remote Monitoring) groups 1,2,3,9

**IPv4 and IPv6** Dual protocol stack supported

**Firmware Upgrade** Web browser upgrade (HTTP/ HTTPS) and TFTP Upgrade through console port also supported.

**Port mirroring** Up to 8 source ports can be mirrored to single destination port

**s-Flow** Monitoring for high speed switched networks supported

**UPnP** Universal Plug and Play supported

### Green Ethernet

**Link detection** Compliant with IEEE802.3az Energy Efficient Ethernet. Automatically turns off power on Gigabit Ethernet RJ-45 port when detecting link down or client idle. Active mode is resumed without loss of any packets when the switch detects link up.

**Cable length detection** Adjusts the signal strength based on the cable length. Reduces the power consumption for shorter cables.

### Discovery

**LLDP** IEEE802.1AB - Link Layer Detection Protocol with LLDP-MED extensions

### Carrier Ethernet Protocols and Features

	10T2SFP	24T6SFP	48T4SFP	24T4S4SFP	48T4S4SFP	4T24S4SFP
<b>IEEE 802.3ah Ethernet OAM</b>	•	•	•	•	•	•
<b>IEEE 802.1ag Ethernet CFM</b>	•	•	•	•	•	•
<b>Syn-E and IEEE1588v2</b>	•	•	•	•	•	•
<b>ITU-T Y.1731</b>	•	•	•	•	•	•
<b>ITU-T G.8032</b>	•	•	•	•	•	•
<b>MEF E-tree</b>	•	•	•	•	•	•

Simple link fault management (LFM) for Ethernet as defined in IEEE 802.3ah (MAC Layer OAM)

IEEE 802.1ag Ethernet CFM function that provides connectivity fault management

Both IEEE 1588v2 and ITU-T Sync-E Ethernet synchronization protocols, and can emulate link OAM and service OAM protocols (by request).

Both IEEE 1588v2 and ITU-T Sync-E Ethernet synchronization protocols, and can emulate link OAM and service OAM protocols.

ITU-T service OAM standard Y.1731 divides a network into maintenance domains in the form of hierarchy levels (to be released in v1.20 firmware)

MEF E-tree service over MPLS (including E-LINE, E-LAN and E-TREE (EP-TREE, EVP-TREE)). Available on release of v1.20 firmware.

**Environmental specifications for the AMS Series Switch Series on back page**



# AMS Series Layer 2+ SNMP Managed Gigabit Switches

Building on our established Layer 2 management technologies, Alloy's AMS switch series brings together the latest generation Gigabit MAC and PHY chip design plus new advanced Layer 2+ plus functions to provide a comprehensive range of switch solutions with unrivaled advantages for SMB, enterprise and carrier networks. The AMS series is a complete product portfolio, with individual models offering from 10 Gigabit ports to 52 Gigabit/10Gigabit ports. All models feature high performance wirespeed architecture. Strong security is ensured with features such as SSH/SSL, ACL, Port Security, Private VLAN Edge, IP Source Guard, Radius/TACACS+ and Storm Control. Management features are designed to promote ease of use, and include LLDP for central management and auto-discovery, port configuration routines for IP phone, WiFi and IP camera clients and fast QoS and security function setup. All models in the series have a power saving design, utilising the latest IEEE 802.3az Energy Efficient Green Ethernet standard supporting Link and Cable Length Detection.



The AMS-4T24S4SFP offers a complete Carrier Grade Ethernet solution for Service Providers via the support of advanced features such as IEEE 802.3ah OAM, 802.1ag Ethernet CFM, ITU-T Y.1731 Performance Monitoring, ITU-T G.8032 (future release) and IEEE 588v2 PTP support. This models has 20 SFP slots, 4 Gigabit RJ-45 ports and 4 10 Gigabit SFP+ slots.

## AMS Series L2+ SNMP Gigabit Switches: Part Numbers and Ports

**AMS-10T2SFP** 1Gig Switch: 8x RJ45, 2x RJ45/SFP

**AMS-24T6SFP** 1Gig Switch: 20x RJ45, 4x RJ45/SFP, 2x SFP

**AMS-48T4SFP** 1Gig Switch: 44x RJ45, 4x RJ45/SFP

**AMS-24T4S4SFP** 1Gig/10Gig: 20x RJ45, 4x RJ45/SFP, 4x SFP+

**AMS-48T4S4SFP** 1Gig/10Gig: 44x RJ45, 4x RJ45/SFP, 4x SFP+

**AMS-4T24S4SFP** 1Gig/10Gig: 20x SFP, 4x RJ45/SFP, 4x SFP+

AMS Series Model:	10T2SFP	A24T6SFP	48T4SFP	24T4S4SFP	48T4S4SFP	4T24S4SFP
<b>Environmental Specifications</b>						
<b>Dimensions (WxHxD, mm)</b>	280x44x166	442x44x300			442 x 44 x 385	
<b>Case</b>	Desktop				1RU rackmount (mounting kit included), all metal case	
<b>Weight</b>	1.382Kg	3.84Kg			5Kg	
<b>Temperature</b>	0° to 50° operating; -20° to 70° storage			0° to 40° operating; -20° to 70° storage		
<b>Humidity</b>	10% to 90% , relative, non-condensing					
<b>Power Supply</b>	100-240VAC 50-60Hz, internal , universal				100-240VAC 50-60Hz, internal, universal; -48VDC dual power input	
<b>Certification</b>	CE Mark, FCC Part 15 (CFR47) Class A, C-Tick					
<b>Minimum Requirements</b>						
<b>Web Browser</b>	Mozilla Firefox version 2.5 or later, Microsoft Internet Explorer version 6 or later					
<b>Network Cable</b>	Category 5 UTP or STP Ethernet network cable (or higher)					
<b>Network Protocol</b>	TCP/IP. Network Adapter and Network Operating System (e.g. MS Windows, Linux, Mac OSX) installed on all network PC's					
<b>Package Contents</b>						
Individual AMS series switch model; power cord; 19" rackmount kit (inc. AMS-10T2SFP); serial console cable; user manual (PDF on CD-ROM)						

[Complete technical specifications for the AMS Series Switch Series on inner pages](#)

## Alloy Computer Products



### Melbourne

Unit 4, 585 Blackburn Road  
Notting Hill 3168  
VIC Australia

### Sydney

204 6A Glen Street  
Milson's Point, 2061  
NSW Australia

Freecall 1800 817 807  
Phone +(613) 8562 9000  
Fax +(613) 8562 9099

Email sales@alloy.com.au  
Web www.alloy.com.au