CentreCOM® GS900MX/MPX Series

Layer 3 Managed Gigabit Ethernet Stackable Switches

Allied Telesis CentreCOM GS900MX/MPX Series switches are cost-effective, fully managed, and stackable. The switches in this series can serve as an AMF node when an AMF Master switch is available in the network, which helps to reduce network running costs by automating and simplifying many day-to-day tasks.

Overview

With a choice of 24- and 48-port 10/100/1000T versions with 10G up link, Power over Ethernet (PoE), plus the ability to stack up to four units, the CentreCOM GS900MX/GS900MPX Series switches are ideal for demanding applications at the edge of the network.

Key Features

- Allied Telesis Management Framework™ (AMF) edge node
- AlliedWare Plus operating system
- Eco-friendly
- Mixed stacking up to four units
- IPv6 features
- IEEE 802.1x/MAC/Web authentication support
- Graphical User Interface (GUI) for easy management
- Basic L3 features supported
  - Static routing
  - RIP
- DHCP relay
- L2 Multicast 512 entries
- IPv4 ACL 256 entries

Specifications

Performance

- 40Gbps of stacking bandwidth
- Supports 9216bytes jumbo frames
- Wirespeed multicasting
- Up to 16K MAC addresses
- 512MB DDR SDRAM
- 64MB flash memory

Power Characteristics

AT-GS924MX and AT-GS948MX
AC model: 100-240 VAC, 1.0A maximum, 50/60 Hz
AT-GS924MPX and AT-GS948MPX
AC model: 100-240 VAC, 5.0A maximum, 50/60 Hz

Expandability

- Harware Virtual Chassis Stacking (VCStack™) up to four units

Flexibility and Compatibility

- Port speed and duplex configuration can be set manually or by auto-negotiation diagnostic tools
- Automatic link flap detection and port shutdown
- Optical Digital Diagnostics Monitoring (DDM)
- Ping polling and TraceRoute for IPv4 and IPv6 Port mirroring

IP Features

- IPv4 static routing and RIP
- Device management over IPv6 networks with SNMPv6, Telnetv6, SSHv6
- NTPv6 client

Management

- Front panel 7-segment LED provides at-a-glance status and fault information
- Allied Telesis Management Framework™ (AMF) enables powerful centralized management and zerotouch device installation and recovery
- Console management port on the front panel for ease of access
- Eco-friendly mode allows ports and LEDs to be disabled to save power
- Industry-standard CLI with context-sensitive help
- Powerful CLI scripting engine
- Comprehensive SNMP MIB support for standards-based device management
- Built-in text editor
- Event-based triggers allow user-defined scripts to be executed upon selected system events
- USB interface allows software release files, configurations, and other files to be stored for backup and distribution to other devices

Quality of Service (QoS)

- Eight priority queues with a hierarchy of high-priority queues for real-time traffic, and mixed scheduling, for each switch port
- Limit bandwidth per port or per traffic class down to 64kbps
- Wirespeed traffic classification with low latency essential for VoIP and real-time streaming media applications
- Policy-based QoS based on VLAN, port, MAC and general packet classifiers
- Policy-based storm protection
- Extensive remarking capabilities
- Taildrop for queue congestion control
- Strict priority, weighted round robin or mixed scheduling
- IP precedence and DiffServ marking based on Layer 2, 3 and 4 headers

Resiliency Features

- Control Plane Prioritization (CPP) ensures the CPU always has sufficient bandwidth to process network control traffic
- Dynamic link failover (host attach)
- EPSRing™ (Ethernet Protection Switched Rings) with enhanced recovery
- Loop protection: loop detection and thrash limiting
- PVST+ compatibility mode
- STP root guard
- UniDirectional Link Detection (UDLD)

Security Features

- Access Control Lists (ACLs) based on Layer 2, 3 and 4 headers
- Configurable auth-fail and guest VLANs
- Authentication, Authorization, and Accounting (AAA)
- Bootloader can be password protected for device security
- BPDU protection
- DHCP snooping, IP source guard and Dynamic ARP Inspection (DAI)
- Dynamic VLAN assignment
- Network Access and Control (NAC) features manage endpoint security
- Port-based learn limits (intrusion detection)
- Private VLANs provide security and port isolation for multiple customers using the same VLAN
- Secure Copy (SCP)
- Strong password security and encryption
- Tri-authentication: MAC-based, Web-based and IEEE 802.1x

Specifications

PRODUCT	10/100/1000T (RJ-45) COPPER PORTS	COMBO (100/1000X SFP PORTS OR 10/100/1000T, RJ-45 PORTS)	10 GIGABIT SFP+ PORTS OR 10 GIGABIT STACKING PORTS	MAX POE+ ENABLED PORTS	SWITCHING FABRIC	FORWARDING RATE
GS924MX	24	2	2		92Gbps	68.44Mpps
GS924MPX	24	2	2	24	92Gbps	68.44Mpps
GS948MX	48	2	2		140Gbps	104.16Mpps
GS948MPX	48	2	2	48	140Gbps	104.16Mpps

Physical Specifications

PRODUCT	WIDTH	DEPTH	HEIGHT	WEIGHT
GS924MX	339 mm (13.4 in)	211 mm (8.3 in)	44 mm (1.72 in)	2.5 Kg (5.5 lb)
GS924MPX	441 mm (17.3 in)	356 mm (14 in)	44 mm (1.72 in)	5.3 Kg (11.6 lb)
GS948MX	441 mm (17.3 in)	356 mm (14 in)	44 mm (1.72 in)	4.5 Kg (9.9 lb)
GS948MPX	441 mm (17.3 in)	356 mm (14 in)	44 mm (1.72 in)	5.8 Kg (12.8 lb)

Power and Noise Characteristics

PRODUCT	NO POE LOAD				FULL POE+ LOAD				
	MAX POWER CONSUMPTION	MAX HEAT DISSIPATION	TYPICAL NOISE	MAX NOISE	TYPICAL POWER CONSUMPTION	MAX POWER CONSUMPTION	MAX SYSTEM HEAT DISSIPATION	TYPICAL NOISE	MAX NOISE
GS924MX	30.7W	104.6 BTU/hr	27.1 dB	52.7 dB					
GS924MPX	53.6W	182.9 BTU/hr			464.3W	94.3W	321.7 BTU/hr	43.7 dB	57.7 dB
GS948MX	50.7W	173.1 BTU/hr	33.8 dB	58.1 dB					
GS948MPX	70.2W	239.5 BTU/hr			480.6W	110.6W	377.4 BTU/hr	42.0 dB	58.4 dB

PRODUCT	MAX POE POWER	MAX POE PORTS AT 7.0W PER PORT	MAX POE PORTS AT 15.4W PER PORT	MAX POE PORTS AT 30W PER PORT
GS924MPX	370W	24	24	12
GS948MPX	370W	48	24	12

Latency

PRODUCT	64byte			1518byte		
	10Mbps	100Mbps	1000Mbps	10Mbps	100Mbps	1000Mbps
GS924MX	21.1µs	3.6µs	3.5µs	22.7µs	3.7µs	3.7µs
GS924MPX	21.1µs	3.6µs	3.5µs	22.7µs	3.7µs	3.7µs
GS948MX	21.1µs	3.6µs	3.5µs	22.7µs	3.7µs	3.7µs
GS948MPX	21.1µs	3.6µs	3.5µs	22.7µs	3.7µs	3.7µs

Cryptographic Algorithms

FIPS Approved Algorithms

Encryption (Block Ciphers):

- AES (ECB, CBC, CFB and OFB Modes)
- 3DES (ECB, CBC, CFB and OFB Modes)

Block Cipher Modes:

- CCM
- CMAC
- GCM
- XTS

Digital Signatures & Asymmetric Key Generation:

- DSA
- ECDSA
- RSA

Secure Hashing:

- SHA-1
- SHA-2 (SHA-224, SHA-256, SHA-384. SHA-512)

Message Authentication:

- HMAC (SHA-1, SHA-2(224, 256, 384, 512)

Random Number Generation:

- DRBG (Hash, HMAC and Counter)

Non FIPS Approved Algorithms

RNG (AES128/192/256)
DES
MD5

Ethernet

IEEE 802.1AX Link aggregation (static and LACP)
IEEE 802.2 Logical Link Control (LLC)
IEEE 802.3 Ethernet
IEEE 802.3ab1000T
IEEE 802.3ae10 Gigabit Ethernet
IEEE 802.3ad Static and dynamic link aggregation
IEEE 802.3af Powr over Ethernet (PoE)
IEEE 802.3at Power over Ethernet plus (PoE+)
IEEE 802.3az Energy Efficient Ethernet (EEE)
IEEE 802.3u 100X
IEEE 802.3x Flow control - full-duplex operation
IEEE 802.3z 1000X

IPv4 Features

RFC 791 Internet Protocol (IP)
RFC 792 Internet Control Message Protocol (ICMP)
RFC 826 Address Resolution Protocol (ARP)
RFC 894 Standard for the transmission of IP datagrams over Ethernet networks
RFC 919 Broadcasting Internet datagrams
RFC 922 Broadcasting Internet datagrams in the presence of subnets
RFC 932 Subnetwork addressing scheme
RFC 950 Internet standard subnetting procedure
RFC 1042 Standard for the transmission of IP datagrams over IEEE 802 networks
RFC 1071 Computing the Internet checksum
RFC 1122 Internet host requirements
RFC 1256 ICMP router discovery messages
RFC 1518 An architecture for IP address allocation with CIDR
RFC 1519 Classless Inter-Domain Routing (CIDR)
RFC 1918 IP addressing

IPv6 Features

RFC 2460 IPv6 specification
RFC 2464 Transmission of IPv6 packets over Ethernet networks
RFC 3484 Default address selection for IPv6
RFC 3596 DNS extensions to support IPv6
RFC 4007 IPv6 scoped address architecture
RFC 4193 Unique local IPv6 unicast addresses
RFC 4291 IPv6 addressing architecture
RFC 4861 Neighbor discovery for IPv6
RFC 4862 IPv6 Stateless Address Auto-Configuration (SLAAC)

RFC 5014 IPv6 socket API for source address selection
RFC 5095 Deprecation of type 0 routing headers in IPv6

Management

AMF edge node[1]
AMF MIB and SNMP traps
AT Enterprise MIB
SNMPv1, v2c and v3
IEEE 802.1AB Link Layer Discovery Protocol (LLDP)
RFC 1155 Structure and identification of management information for TCP/IP-based Internets
RFC 1157 Simple Network Management Protocol (SNMP)
RFC 1212 Concise MIB definitions
RFC 1213 MIB for network management of TCP/IP-based Internets: MIB-II
RFC 1215 Convention for defining traps for use with the SNMP
RFC 1227 SNMP MUX protocol and MIB
RFC 1239 Standard MIB
0RFC 2096 IP forwarding table MIB
RFC 2578 Structure of Management Information v2 (SMIv2)
RFC 2579 Textual conventions for SMIv2
RFC 2580 Conformance statements for SMIv2
RFC 2674 Definitions of managed objects for bridges with traffic classes, multicast filtering and VLAN extensions
RFC 2741 Agent extensibility (AgentX) protocol
RFC 2819 RMON MIB (groups 1,2,3 and 9)
RFC 2863 Interfaces group MIB
RFC 3164 Syslog protocol
RFC 3411 An architecture for describing SNMP management frameworks
RFC 3412 Message processing and dispatching for the SNMP
RFC 3413 SNMP applications
RFC 3414 User-based Security Model (USM) for SNMPv3
RFC 3415 View-based Access Control Model (VACM) for SNMP
RFC 3416 Version 2 of the protocol operations for the SNMP
RFC 3417 Transport mappings for the SNMP
RFC 3418 MIB for SNMP
RFC 3621 Power over Ethernet (PoE) MIB
RFC 3635 Definitions of managed objects for the Ethernet-like interface types
RFC 3636 IEEE 802.3 MAU MIB
RFC 4022 SNMPv2 MIB for TCP using SMIv2
RFC 4113 SNMPv2 MIB for UDP using SMIv2
RFC 4293 SNMPv2 MIB for IP using SMIv2
RFC 4188 Definitions of managed objects for bridges
RFC 4318 Definitions of managed objects for bridges with RSTP
RFC 4560 Definitions of managed objects for remote ping, traceroute and lookup operations

Multicast Support

IGMP snooping (v1, v2 and v3)
IGMP snooping fast-leave
MLD snooping (v1 and v2)

Quality of Service (QoS)

IEEE 802.1p Priority tagging
RFC 2211 Specification of the controlled-load network element service
RFC 2474 DiffServ precedence for eight queues/port
RFC 2475 DiffServ architecture
RFC 2597 DiffServ Assured Forwarding (AF)
RFC 2697 A single-rate three-color marker
RFC 2698 A two-rate three-color marker
RFC 3246 DiffServ Expedited Forwarding (EF)

Resiliency Features

IEEE 802.1D MAC bridges
IEEE 802.1s Multiple Spanning Tree Protocol (MSTP)
IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)

Routing Information Protocol (RIP)

RFC 1058 Routing Information Protocol (RIP)
RFC 2082 RIP-2 MD5 authentication
RFC 2453 RIPv2

Security Features

SSH remote login
SSLv2
TACACS+ Accounting, Authentication, Authorization (AAA)
IEEE 802.1X authentication protocols (TLS, TTLS, PEAP and MD5)
IEEE 802.1X multi-supplicant authentication
IEEE 802.1X port-based network access control
RFC 2246 TLS protocol v1.0
RFC 2865 RADIUS
RFC 2866 RADIUS accounting
RFC 2868 RADIUS attributes for tunnel protocol support
RFC 3546 Transport Layer Security (TLS) extensions
RFC 3579 RADIUS support for Extensible Authentication Protocol (EAP)
RFC 3580 IEEE 802.1x RADIUS usage guidelines
RFC 3748 PPP Extensible Authentication Protocol (EAP)
RFC 4251 Secure Shell (SSHv2) protocol architecture
RFC 4252 Secure Shell (SSHv2) authentication protocol
RFC 4253 Secure Shell (SSHv2) transport layer protocol
RFC 4254 Secure Shell (SSHv2) connection protocol

Services

RFC 854 Telnet protocol specification
RFC 855 Telnet option specifications
RFC 857 Telnet echo option
RFC 858 Telnet suppress go ahead option
RFC 1091 Telnet terminal-type option
RFC 1350 Trivial File Transfer Protocol (TFTP)
RFC 1985 SMTP service extension
RFC 2049 MIME
RFC 2131 DHCP
RFC 2132 DHCP options and BootP vendor extensions
RFC 2554 SMTP service extension for authentication
RFC 2616 Hypertext Transfer Protocol - HTTP/1.1
RFC 2821 Simple Mail Transfer Protocol (SMTP)
RFC 2822 Internet message format
RFC 4330 Simple Network Time Protocol (SNTP) version 4
RFC 5905 Network Time Protocol (NTP) version 4

VLAN support

IEEE 802.1Q Virtual LAN (VLAN) bridges
IEEE 802.1v VLAN classification by protocol and port
IEEE 802.3ac VLAN tagging

Voice over IP (VoIP)

LLDP-MED ANSI/TIA-1057
Voice VLAN

Environmental Specifications

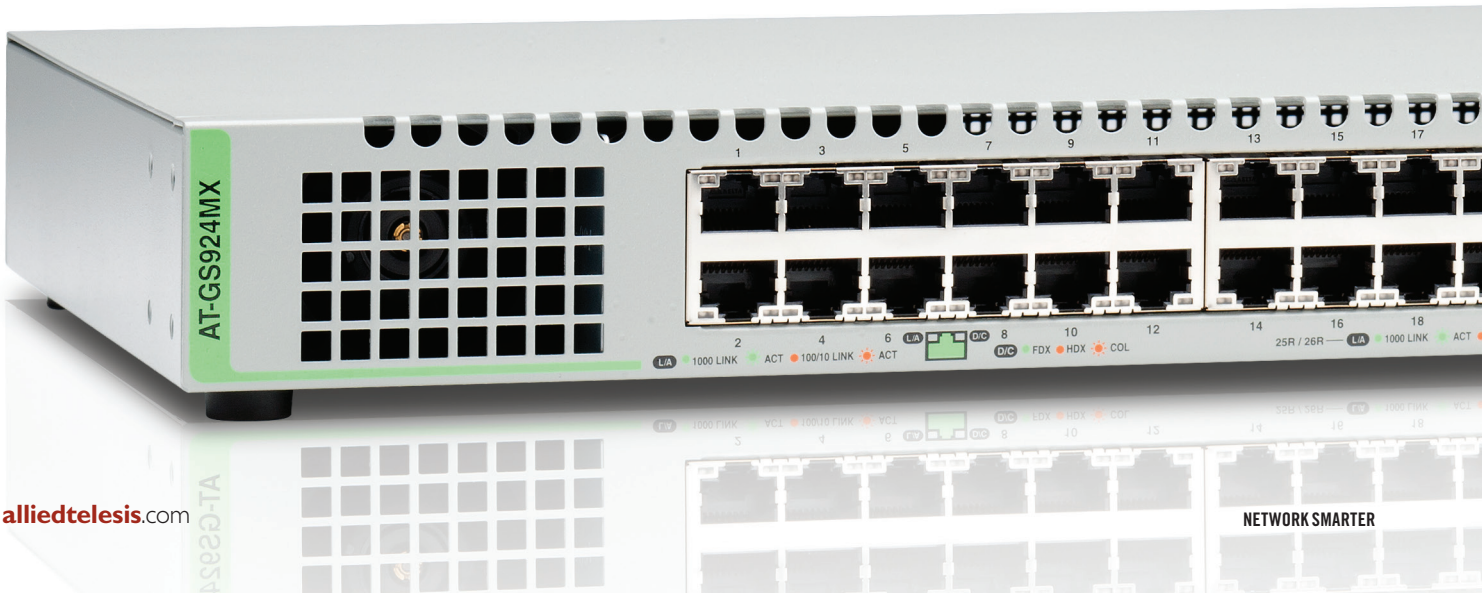
Operating ambient temp.	0°C to 50°C (32°F to 113°F)
Storage temp.	-25°C to 70°C (-13°F to 158°F)
Operating humidity	5% to 90% non-condensing
Storage humidity	5% to 95% non-condensing
Maximum Operating Altitude	AT-GS924MX: 2,000 m (6,562 ft) AT-GS924MPX: 3,000 m (9,842 ft) AT-GS948MX: 2,000 m (6,562 ft) AT-GS948MPX: 3,000 m (9,842 ft)
Maximum Non operating	Altitude 4,000 m (13,100 ft)

Safety and Electromagnetic Emissions

EMI (Emissions) :	FCC Class A, EN55022 Class A, EN61000-3-2, EN61000-3-3, VCCI Class A, CISPR Class A, RCM, CE
EMC (Immunity) :	EN55024
Electrical and Laser Safety :	EN60950-1 (TUV), UL 60950-1(cULus), EN60825-1

Compliance Marks CE, cULus, TUV, RCM

[1] AMF edge is for products used at the edge of the network, and only support a single AMF link. They cannot use cross links or virtual links.



Ordering Information

GS900MX and GS900MPX Series

AT-GS924MX-xx
24-port 10/100/1000T stackable switch with 2 combo ports (10/100/1000T or 100/1000X SFP) and 2 SFP+ stacking/user ports

AT-GS924MPX-xx
24-port 10/100/1000T PoE+ stackable switch with 2 combo ports (10/100/1000T or 100/1000X SFP) and 2 SFP+ stacking/user ports

AT-GS948MX-xx
48-port 10/100/1000T stackable switch with 2 combo ports (10/100/1000T or 100/1000X SFP) and 2 SFP+ stacking/user ports

AT-GS948MPX-xx
48-port 10/100/1000T PoE+ stackable switch with 2 combo ports (10/100/1000T or 100/1000X SFP) and 2 SFP+ stacking/user ports

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

1000Mbps SFP Modules
1G SFP speed on 10G port is not supported.

AT-SPSX
1000SX GbE multi-mode 850 nm fiber up to 550 m

AT-SPEX
1000X GbE multi-mode 1310 nm fiber up to 2 km

AT-SPLX10
1000LX GbE single-mode 1310 nm fiber up to 10 km

AT-SPLX10/I
1000LX GbE single-mode 1310 nm fiber up to 10 km industrial temperature

AT-SPBD10-13
1000LX GbE Bi-Di (1310 nm Tx, 1490 nm Rx) fiber up to 10 km

AT-SPBD10-14
1000LX GbE Bi-Di (1490 nm Tx, 1310 nm Rx) fiber up to 10 km

AT-SPLX40
1000LX GbE single-mode 1310 nm fiber up to 40 km

AT-SPZX80
1000ZX GbE single-mode 1550 nm fiber up to 80 km

AT-SPBD20-13/I
1000BX GbE Bi-Di (1310 nm Tx, 1550 nm Rx) fiber up to 20 km

AT-SPBD20-14/I
1000BX GbE Bi-Di (1490 nm Tx, 1310 nm Rx) fiber up to 20 km

100Mbps SFP Modules

AT-SPFX/2
100FX multi-mode 1310 nm fiber up to 2 km

AT-SPFX/15
100FX single-mode 1310 nm fiber up to 15 km

AT-SPFXBD-LC-13
100BX Bi-Di (1310 nm Tx, 1550 nm Rx) fiber up to 10 km

AT-SPFXBD-LC-15
100BX Bi-Di (1550 nm Tx, 1310nm Rx) fiber up to 10 km

10GbE SFP+ Modules

AT-SP10SR
10GSR 850 nm short-haul, 300 m with MMF

AT-SP10SR/I
10GSR 850 nm short-haul, 300 m with MMF industrial temperature

AT-SP10LRM
10GLRM 1310 nm short-haul, 220 m with MMF

AT-SP10LR
10GLR 1310 nm medium-haul, 10 km with SMF

AT-SP10LR/I
10GLR 1310 nm medium-haul, 10 km with SMF industrial temperature

AT-SP10LR20/I
10GER 1310 nm long-haul, 20 km with SMF industrial temperature

AT-SP10ER40/I
10GER 1310 nm long-haul, 40 km with SMF industrial temperature

AT-SP10ZR80/I
10GER 1550 nm long-haul, 80 km with SMF industrial temperature

AT-SP10TW1
1 meter SFP+ direct attach cable, can also be used for stacking

Feature Licenses

NAME	DESCRIPTION	INCLUDES
AT-FL-GS9X-UDLD	UniDirectional Link Detection	▶ UDLD

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