

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 10/100/100T 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 Autonomous Management Framework™ (AMF) edge node
- ▶ AMF secure mode
- ▶ 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

- ▶ Hardware 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 Autonomous Management Framework™ (AMF) enables powerful centralized management and zerotouch device installation and recovery
- ▶ AMF secure mode increases network security with management traffic encryption, authorization, and monitoring
- ▶ 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

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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 X DEPTH X HEIGHT	WEIGHT	PACKAGED DIMENSIONS	WEIGHT
GS924MX	339 x 211 x 44 mm (13.4 x 8.3 x 1.72 in)	2.5 Kg (5.5 lb)	48 x 30 x 13 cm (18.9 x 11.8 x 5.1 in)	3.7 Kg (8.2 lb)
GS924MPX	441 x 356 x 44 mm (17.3 x 14.0 x 1.72 in)	5.3 Kg (11.6 lb)	56 x 51 x 15 cm (22.1 x 20.1 x 5.9 in)	7.4 Kg (16.3 lb)
GS948MX	441 x 356 x 44 mm (17.3 x 14.0 x 1.72 in)	4.5 Kg (9.9 lb)	58 x 46 x 15 cm (22.6 x 18.1 x 5.9 in)	6.2 Kg (13.6 lb)
GS948MPX	441 x 356 x 44 mm (17.3 x 14.0 x 1.72 in)	5.8 Kg (12.8 lb)	58 x 56 x 15 cm (22.8 x 22.1 x 5.9 in)	7.9 Kg (17.4 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 802.2 Logical Link Control (LLC)
 - IEEE 802.3 Ethernet
 - IEEE 802.3ab1000BASE-T
 - IEEE 802.3ae10 Gigabit Ethernet
 - IEEE 802.3af Power over Ethernet (PoE)
 - IEEE 802.3at Power over Ethernet plus (PoE+)
 - IEEE 802.3u 100BASE-X
 - IEEE 802.3x Flow control - full-duplex operation
 - IEEE 802.3z 1000BASE-X

IPv4 Features

- RFC 768 User Datagram Protocol (UDP)
- RFC 791 Internet Protocol (IP)
- RFC 792 Internet Control Message Protocol (ICMP)

- RFC 793 Transmission Control Protocol (TCP)
- 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 1027 Proxy ARP
- RFC 1035 DNS client
- 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 1191 Path MTU discovery
- RFC 1256 ICMP router discovery messages
- RFC 1518 An architecture for IP address allocation with CIDR
- RFC 1519 Classless Inter-Domain Routing (CIDR)
- RFC 1591 Domain Name System (DNS)
- RFC 1812 Requirements for IPv4 routers
- RFC 1918 IP addressing
- RFC 2581 TCP congestion control

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IPv6 Features

RFC 1981	Path MTU discovery for IPv6
RFC 2460	IPv6 specification
RFC 2464	Transmission of IPv6 packets over Ethernet networks
RFC 3484	Default address selection for IPv6
RFC 3587	IPv6 global unicast address format
RFC 3596	DNS extensions to support IPv6
RFC 4007	IPv6 scoped address architecture
RFC 4193	Unique local IPv6 unicast addresses
RFC 4213	Transition mechanisms for IPv6 hosts and routers
RFC 4291	IPv6 addressing architecture
RFC 4443	Internet Control Message Protocol (ICMPv6)
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	
AT Enterprise MIB including AMF MIB and SNMP traps	
SNMPv1, v2c and v3	
IEEE 802.1ABLink 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
RFC 1724	RIPv2 MIB extension
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 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	MIB for the Transmission Control Protocol (TCP)
RFC 4113	MIB for the User Datagram Protocol (UDP)
RFC 4188	Definitions of managed objects for bridges

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.

RFC 4292	IP forwarding table MIB
RFC 4293	MIB for the Internet Protocol (IP)
RFC 4318	Definitions of managed objects for bridges with RSTP
RFC 4560	Definitions of managed objects for remote ping, traceroute and lookup operations
RFC 5424	The Syslog protocol

Multicast Support

IGMP query solicitation	
IGMP snooping (IGMPv1, v2 and v3)	
IGMP snooping fast-leave	
MLD snooping (MLDv1 and v2)	
RFC 2715	Interoperability rules for multicast routing protocols
RFC 3306	Unicast-prefix-based IPv6 multicast addresses
RFC 4541	IGMP and MLD snooping switches

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 802.1AXLink aggregation (static and LACP)	
IEEE 802.1D	MAC bridges
IEEE 802.1s	Multiple Spanning Tree Protocol (MSTP)
IEEE 802.1w	Rapid Spanning Tree Protocol (RSTP)
IEEE 802.3ad	Static and dynamic link aggregation

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 and SSLv3	
TACACS+ Accounting, Authentication and Authorisation (AAA)	
IEEE 802.1X authentication protocols (TLS, TTLS, PEAP and MD5)	
IEEE 802.1X multi-suplicant authentication	
IEEE 802.1X port-based network access control	
RFC 2560	X.509 Online Certificate Status Protocol (OCSP)
RFC 2818	HTTP over TLS ("HTTPS")
RFC 2865	RADIUS authentication
RFC 2866	RADIUS accounting
RFC 2986	PKCS #10: certification request syntax specification v1.7
RFC 3546	Transport Layer Security (TLS) extensions
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
RFC 5246	Transport Layer Security (TLS) v1.2

RFC 5280	X.509 certificate and Certificate Revocation List (CRL) profile
RFC 5425	Transport Layer Security (TLS) transport mapping for Syslog
RFC 5656	Elliptic curve algorithm integration for SSH
RFC 6125	Domain-based application service identity within PKI using X.509 certificates with TLS
RFC 6614	Transport Layer Security (TLS) encryption for RADIUS
RFC 6668	SHA-2 data integrity verification for SSH

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	DHCPv4 client
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)

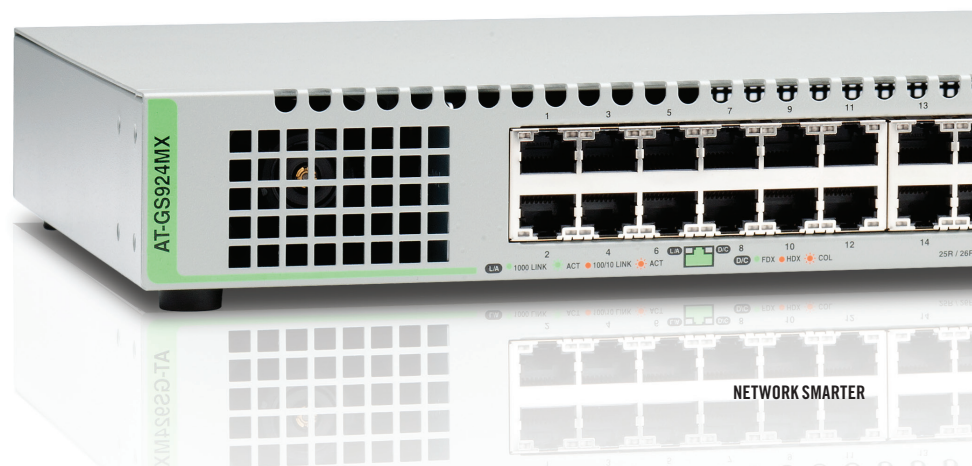
LLDP-MED ANSI/TIA-1057
Voice VLAN

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	
	GS924MX: 2,000 m (6,562 ft)
	GS924MPX: 3,000 m (9,842 ft)
	GS948MX: 2,000 m (6,562 ft)
	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





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, 1310 nm 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