CentreCOM® GS980M Series

Managed Gigabit Edge Switch

The Allied Telesis CentreCOM GS980M Series of Layer 3 Gigabit switches enable a cost-effective and fully managed network. A high-density, space saving solution, with Power over Ethernet (PoE+) to connect and power devices such as video surveillance cameras and IP phones, makes the GS980M Series ideal for applications at the network edge.

PoE plus | AlliedWare Plus OPERATING SYSTEM | IPv6 READY

Overview

Allied Telesis GS980M Series switches provide an excellent access solution for today's networks, supporting Gigabit to the desktop for maximum performance. Deploying the GS980M as an AMF Plus edge node when an AMF Plus Master switch is available in the network, helps reduce network running costs by automating and simplifying many day-to-day administration tasks. 48 Gigabit ports and 4 SFP uplinks enable high-density and secure connectivity at the network edge, and the PoE+ model can supply up to 30 Watts to powered end-points.

Specifications

Performance

- Up to 16K MAC addresses
- Route: 16(IPv4), 16(IPv6)
- Up to 2K multicast entries
- 512MB DDR SDRAM
- 128MB flash memory
- 4094 configurable VLANs
- Packet Buffer memory: 3MB
- 10KB L2 jumbo frames

Reliability

- Modular AlliedWare Plus operating system
- Full environmental monitoring of PSU internal temperature and internal voltages
- SNMP traps alert network managers in case of any failure

Diagnostic tools

- Active Fiber Monitoring detects tampering on optical links
- Built-In Self Test (BIST)
- Find-me device locator
- Optical Digital Diagnostics Monitoring (DDM)
- Automatic link flap detection and port shutdown
- Ping polling for IPv4 and IPv6
- Port and VLAN mirroring (RSPAN)
- TraceRoute for IPv4 and IPv6

IP Features

- IPv4 static routing and RIP
- IPv6 static routing
- IPv6 Ready certified

Management

- Allied Telesis Autonomous Management Framework Plus (AMF Plus) enables powerful centralized management and zero-touch device installation and recovery
- Manage the GS980M Series with Vista Manager EX—our graphical single-pane-of-glass monitoring and management tool for AMF Plus networks, which also supports wireless and third party devices
- From AW+ 5.5.2-2, an AMF Plus license operating in the network provides all standard AMF network management and automation features, and also enables the AMF Plus intent-based networking features in Vista Manager EX (from version 3.10.1 onwards)
- IPFIX exports IP flow data in a network for analysis, so administrators have information for accounting, capacity planning, and optimization.
- Console management port on the front panel for ease of access
- NETCONF/RESTCONF northbound interface with YANG data modelling
- Eco-friendly mode allows ports and LEDs to be disabled to save power
- Industry-standard CLI with context-sensitive help
- Powerful CLI scripting engine with built-in text editor
- Web-based Graphical User Interface (GUI)
- USB interface allows software release files, configurations and other files to be stored for backup and distribution to other devices
- Comprehensive SNMP MIB support for standards based device management
- Event-based triggers allow user-defined scripts to be executed upon selected system events Wirespeed forwarding

Quality of Service (QoS)

- 8 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

Key Features

- AlliedWare Plus operating system
- Autonomous Management Framework™ Plus (AMF Plus) edge node
- Vista Manager EX compatible
- Active Fiber Monitoring
- PoE+ supplies up to 30W per port
- PoE power budget of 740 Watts
- Continuous PoE
- Ethernet Protection Switched Ring (EPSR™)
- Static routing and RIP
- DHCP snooping
- IEEE 802.1x/MAC/Web authentication support
- Loop Protection
- Eco-friendly
- Web-based Graphical User Interface (GUI)
- NETCONF/RESTCONF with YANG data modelling
- IPFIX (IP Flow Information Export)

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 for extra resiliency
- Loop protection: loop detection and thrash limiting
- PVST+ compatibility mode
- RRP snooping
- STP root guard

Security Features

- Access Control Lists (ACLs) based on Layer 3 and 4 headers, per VLAN or port
- Configurable ACLs for management traffic
- Dynamic ACLs assigned via port authentication
- ACL Groups enable multiple hosts/ports to be included in a single ACL, reducing configuration

AMF PLUS | VISTA MANAGER™ EX | EPSRING™ | ACTIVE FIBER MONITORING™

Specifications

PRODUCT	10/100/1000T (RJ-45) COPPER PORTS	100/1000X SFP PORTS	MAX POE+ ENABLED	TOTAL PORTS	SWITCHING FABRIC	FORWARDING RATE
GS980M/52PS	48	4	48	52	104Gbps	77.4Mpps
GS980M/52	48	4	-	52	104Gbps	77.4Mpps

Physical Specifications

PRODUCT	WIDTH X DEPTH X HEIGHT	MOUNTING	WEIGHT		PACKAGED DIMENSIONS
			UNPACKAGED	PACKAGED	
GS980M/52PS	441 x 359 x 44 mm (17.36 x 14.13 x 1.73 in)	1RU Rack-mount	5.8 kg (12.79 lbs)	7.8 kg (17.20 lbs)	575 x 520 x 150 mm (22.64 x 20.47 x 5.90 in)
GS980M/52	441 x 323 x 44 mm (17.36 x 12.72 x 1.73 in)	1RU Rack-mount	4.5 kg (9.92 lbs)	6.4 kg (14.12 lbs)	575 x 445 x 150 mm (22.64 x 17.52 x 5.90 in)

Power and Noise Characteristics

PRODUCT	NO POE LOAD			FULL POE+ LOAD (PWR800)				POE SOURCING PORTS	
	MAX POWER CONSUMPTION	MAX HEAT DISSIPATION	NOISE	MAX POWER CONSUMPTION	MAX HEAT DISSIPATION	NOISE	POE POWER BUDGET	POE (15W)	POE+ (30W)
GS980M/52PS	48W	164 BTU/h	42 dBA	909W	3102 BTU/h	42 dBA	740W	48	24
GS980M/52	47W	160 BTU/h	39 dBA	-	-	-	-	-	-

Noise: tested to ISO7779; front bystander position

Latency

PRODUCT	PORT SPEED		
	10MPS	100MBPS	1GBPS
GS980M/52PS	39.6µs	6.8µs	3.8µs
GS980M/52	35.1µs	5.5µs	2.6µs

- 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)
- DoS attack blocking and virus throttling
- Dynamic VLAN assignment
- MAC address filtering and MAC address lock down
- 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

Environmental specifications

- Operating temperature range:
  0°C to 50°C (32°F to 122°F)
  Derated by 1°C per 305 meters (1,000 ft)
- Storage temperature range:
  -25°C to 70°C (-13°F to 158°F)
- Operating relative humidity range:
  5% to 90% non-condensing
- Storage relative humidity range:
  5% to 95% non-condensing
- Operating altitude:
  3,048 meters maximum (10,000 ft)

Electrical approvals and compliances

- EMC: EN55022 class A, FCC class A, VCCI class A
- Immunity: EN55024, EN61000-3-levels 2 (Harmonics), and 3 (Flicker) – AC models only

Safety

- Standards: UL60950-1, CAN/CSA-C22.2 No. 60950-1-03, EN60950-1, EN60825-1, AS/NZS 60950.1
- Certifications: UL, cUL, UL-EU

Restrictions on Hazardous Substances (RoHS) Compliance

- EU RoHS compliant
- China RoHS compliant

Standards and Protocols

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 802.3ab 1000BASE-T
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 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 1518	An architecture for IP address allocation with CIDR
RFC 1519	Classless Inter-Domain Routing (CIDR)
RFC 1812	Requirements for IPv4 routers
RFC 1918	IP addressing
RFC 2581	TCP congestion control

Management

AMF Plus edge node[1]
AT Enterprise MIB including AMF Plus MIB and SNMP traps
Optical DDM 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

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

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
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 Syslog protocol
RFC 7011 IPFIX: a method of exporting IP flow data in a network for analysis

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, 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 802.1AX Link 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
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 2560 X.509 Online Certificate Status Protocol (OCSP)
RFC 2818 HTTP over TLS ("HTTPS")
RFC 2986 PKCS #10: certification request syntax specification v1.7
RFC 3546 Transport Layer Security (TLS) extensions
RFC 3579 RADIUS support for Extensible Authentication Protocol (EAP)
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 5176 RADIUS CoA (Change of Authorization)
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 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 3315 DHCPv6 client
RFC 4330 Simple Network Time Protocol (SNTP) version 4
RFC 5905 Network Time Protocol (NTP) version

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

Feature Licenses

NAME	DESCRIPTION	INCLUDES
AT-FL-GS98M-CP	Continuous PoE license	▶ CPoE

[2] The tri-speed AT-SPSX only supports Gigabit connectivity in the GS980M Series

Ordering Information

19 inch rack-mount brackets included

AT-GS980M/52-xx
48 10/100/1000T switch with 4 SFP slots

AT-GS980M/52PS-xx
48 10/100/1000T-POE+ switch with 4 SFP slots

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

AT-SPTX
1000T 100 m copper

AT-SPSX[2]
1000SX GbE multi-mode 850 nm fiber up to 550 m

AT-SPSX/I
1000SX GbE multi-mode 850 nm fiber up to 550 m industrial temperature

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-SPBD40-13/I
1000LX GbE single-mode Bi-Di (1310 nm Tx, 1490 nm Rx) fiber up to 40 km, industrial temperature

AT-SPBD40-14/I
1000LX GbE single-mode Bi-Di (1490 nm Tx, 1310 nm Rx) fiber up to 40 km, industrial temperature

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

617-000658 RevK