CentreCOM® SE240 Series

Multi-Gigabit Edge Switches

Allied Telesis CentreCOM SE240 Series Layer 2+ multi-gigabit switches are compact and feature-rich, making them ideal for high-speed application connectivity at the network edge.

PoE plus

AlliedWare Plus OPERATING SYSTEM

Overview

Allied Telesis CentreCOM SE240 Series switches provide flexible edge connectivity with 10M/100M/1/2.5/5G speeds supporting both legacy and high-speed end devices, as well as performance upgrades over existing Cat5e building cables. Power over Ethernet (PoE++) models enable connecting and powering next-generation wireless access points, video surveillance cameras and more with up to 90W power delivery. With 8, 16, or 24 multi-gigabit ports and 10 gigabit SFP+ uplinks, the SE240 Series meets modern network edge demands.

Specifications

Performance

- Up to 32K MAC addresses
- Up to 100 multicast entries
- 1GB DDR4 SDRAM
- 4094 configurable VLANs
- 256MB flash memory
- Packet Buffer memory: 3MB
- Supports 9KB L2 jumbo frames
- Wirespeed forwarding

Diagnostic tools

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

IP Features

- Device management over IPv6 networks with SNMPv6, Telnetv6, SSHv6
- DHCPv4 client and relay

Management

- Allied Telesis Autonomous Management Framework™ Plus (AMF Plus) enables powerful centralized management, zero-touch device installation and recovery, and the intent-based management features in Vista Manager EX (from v3.10.1)
- Manage the SE240 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
- 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
- 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
- Management stacking allows up to 24 devices to be managed from a single console
- Web-based Graphical User Interface (GUI)
- sFlow enables traffic monitoring in switched networks
- A USB socket allows software releases, configuration, 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
- RRP snooping
- Spanning Tree Protocols (STP, RSTP, MSTP)
- PVST+ compatibility mode
- STP root guard

Security Features

- Access Control Lists (ACLs) based on Layer 2, 3 and 4 headers
- Dynamic ACLs assigned via port authentication
- ACL Groups enable multiple hosts/ports to be included in a single ACL, reducing configuration
- Configurable auth-fail and guest VLANs
- RADIUS and TACACS+ 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)

Key Features

- Autonomous Management Framework™ Plus (AMF Plus) edge node
- Vista Manager compatible
- 10M/100M/1/2.5/5G multi-gigabit ports
- 10 Gigabit uplinks
- Up to 90W PoE++ power per port
- EPSR™ for resilient ring-based topologies
- Active Fiber Monitoring (AFM)
- Link Monitoring
- Flexible ACLs
- NETCONF/RESTCONF with YANG data modelling

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

Product Specifications

PRODUCT	10M/100M/1/2.5/5 GIGABIT PORTS	1/10 GIGABIT SFP+ PORTS	TOTAL PORTS	POE ENABLED PORTS	SWITCHING FABRIC	FORWARDING RATE
SE240-10GHXm	8	2	10	8	120Gbps	89.3Mpps
SE240-10GTXm	8	2	10	-	120Gbps	89.3Mpps
SE240-18GHXm[1]	16	2	18	16	200Gbps	148.8Mpps
SE240-18GTXm[1]	16	2	18	-	200Gbps	148.8Mpps
SE240-26GHXm[2]	24	2	26	24	280Gbps	208.3Mpps
SE240-26GTXm[2]	24	2	26	-	280Gbps	208.3Mpps

Physical specifications

PRODUCT	WIDTH X DEPTH X HEIGHT	WEIGHT	PACKAGED DIMENSIONS	WEIGHT
SE240-10GHXm	210 x 346 x 42.5 mm (8.27 x 13.62 x 1.67 in)	2.7 kg	461 x 371 x 153 mm (18.15 x 14.60 x 6.02 in)	3.8 kg
SE240-10GTXm	210 x 275 x 42.5 mm (8.27 x 10.83 x 1.67 in)	1.9 kg	433 x 257 x 102 mm (17.44 x 10.12 x 4.01 in)	2.6 kg
SE240-18GHXm[1]	341 x 231 x 44 mm (13.42 x 9.09 x 1.73 in)	TBD	TBD	TBD
SE240-18GTXm[1]	341 x 231 x 44 mm (13.42 x 9.09 x 1.73 in)	TBD	TBD	TBD
SE240-26GHXm[2]	440 x 290 x 44 mm (17.32 x 11.42 x 1.73 in)	4.3 kg	547 x 364 x 115 mm (21.53 x 14.33 x 4.53 in)	5.6 kg
SE240-26GTXm[2]	440 x 290 x 44 mm (17.32 x 11.42 x 1.73 in)	3.7 kg	547 x 364 x 115 mm (21.53 x 14.33 x 4.53 in)	5.0 kg

Power characteristics

PRODUCT	NO POE LOAD			FULL POE+ LOAD			MAX POE POWER (W)	POE SOURCING PORTS					
	MAX POWER CONSUMPTION (W)	MAX HEAT DISSIPATION (BTU/H)	NOISE* (DBA)	MAX POWER CONSUMPTION (W)	MAX HEAT DISSIPATION (BTU/H)	NOISE* (DBA)		POE (7.5W)	POE (15.4W)	POE + (30W)	POE ++ (45W)	POE ++ (60W)	POE ++ (90W)
SE240-10GHXm	44	150	32-39	340	1200	39-55	240	8	8	8	5	4	2
SE240-10GTXm	38	130	32-39	-	-	-	-	-	-	-	-	-	-
SE240-18GHXm[1]	TBD	TBD	TBD	TBD	TBD	TBD	247	16	16	8	5	4	2
SE240-18GTXm[1]	TBD	TBD	TBD	-	-	-	-	-	-	-	-	-	-
SE240-26GHXm[2]	86	290	38-52	540	1900	41-58	370	24	24	12	8	6	4
SE240-26GTXm[2]	83	280	38-45	-	-	-	-	-	-	-	-	-	-

* NOISE Under 30°C to 50°C

Latency (microseconds)

PRODUCT				
	1GBPS	2.5GBPS	5GBPS	10GBPS
SE240-10GHXm	5.6	8.7	6.1	2.9
SE240-10GTXm	4.5	8.7	5.9	2.9
SE240-18GHXm[1]	TBD	TBD	TBD	TBD
SE240-18GTXm[1]	TBD	TBD	TBD	TBD
SE240-26GHXm[2]	4.5	8.6	6.0	3.0
SE240-26GTXm[2]	4.4	8.6	5.9	2.9

[1] 18-port models available in the future
[2] 26-port models available in the future

- 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)
- Secure Copy (SCP)
- Strong password security and encryption
- Tri-authentication: MAC-based, Web-based and IEEE 802.1x
- Secure File Transfer Protocol (SFTP)

VLAN Support

- Voice VLAN
- Private VLANs provide security and port isolation for multiple customers using the same VLAN

Environmental Specifications

Operating ambient temp.	0°C to 50°C (32°F to 122°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 3,000 m (9,842 ft)
Maximum Non operating	Altitude 4,000 m (13,100 ft)

Electrical Approvals and Compliances

- EMC: EN55032 class A, FCC class A, VCCI class A, ICES-003 class A
- Immunity: EN55035, EN61000-3-levels 2 (Harmonics), and 3 (Flicker) – AC models only

Safety

- Standards: UL62368-1, CAN/CSA-C22.2 No.62368-1, EN62368-1, EN60825-1, AS/NZS62368.1
- Certification: UL, cUL

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 802.3ae 10 Gigabit Ethernet
IEEE 802.3af Power over Ethernet (PoE)
IEEE 802.3at Power over Ethernet up to 30W (PoE+)
IEEE 802.3az Energy Efficient Ethernet (EEE)
IEEE 802.3bt Power over Ethernet up to 90W (PoE++)
IEEE 802.3bz 2.5GBASE-T and 5GBASE-T ("multi-gigabit")
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

IPv6 Features

RFC 1981 Path MTU discovery for IPv6
RFC 2460 IPv6 specification
RFC 2464 Transmission of IPv6 packets over Ethernet networks
RFC 2711 IPv6 router alert option
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 Plus edge node[3]
AT Enterprise MIB including AMF Plus MIB and SNMP traps
SNMPv1, v2c and v3
ANSI/TIA-1057 LLDP-Media Endpoint Detection
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 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 3176 sFlow: a method for monitoring traffic in switched and routed networks
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 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 802.3adStatic 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 2868 RADIUS attributes for tunnel protocol support
RFC 2818 HTTP over TLS ("HTTPS")
RFC 2865 RADIUS authentication
RFC 2866 RADIUS accounting
RFC 2868 RADIUS attributes for tunnel protocol support
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 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 6614 Transport Layer Security (TLS) encryption for RADIUS
RFC 6668 SHA-2 data integrity verification for SSH Services

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 3046 DHCP relay agent information option (DHCP option 82)
RFC 3396 Encoding long options in DHCPv4
RFC 3993 Subscriber-ID suboption for DHCP relay agent option
RFC 4330 Simple Network Time Protocol (SNTP) version 4
RFC 4954 SMTP service extension for authentication
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

[3] 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.

Ordering Information

AT-SE240-10GTXm
8-port 10M/100M/1/2.5/5G L2+ switch with 2 SFP+ ports

AT-SE240-10GHXm
8-port 10M/100M/1/2.5/5G PoE++ L2+ switch with 2 SFP+ ports

AT-SE240-18GTXm
16-port 10M/100M/1/2.5/5G L2+ switch with 2 SFP+ ports

AT-SE240-18GHXm
16-port 10M/100M/1/2.5/5G PoE++ L2+ switch with 2 SFP+ ports

AT-SE240-26GTXm
24-port 10M/100M/1/2.5/5G L2+ switch with 2 SFP+ ports

AT-SE240-26GHXm
24-port 10M/100M/1/2.5/5G PoE++ L2+ switch with 2 SFP+ ports

AT-RKMT-J13
Rack mount kit for SE240-18GTXm/18GHXm

AT-RKMT-J14
Rack mount kit for SE240-10GTXm/10GHXm

AT-RKMT-J15
Rack mount tray for SE240-10GTXm/10GHXm

AT-BRKT-J24
Wall mount bracket

AT-STND-J03
Stand-kit for SE240-10GTXm/10GHXm/18GTXm/18GHXm

10G 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-SP10LRa/I
10GLR 1310 nm medium-haul, 10 km with SMF industrial temperature, TAA[4]

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

AT-SP10TM
1G/10G, 100m copper, TAA[4]

AT-SP10BD10/I-12
10 GbE Bi-Di (1270 nm Tx, 1330 nm Rx) fiber up to 10 km industrial temperature, TAA[4]

AT-SP10BD10/I-13
10 GbE Bi-Di (1330 nm Tx, 1270 nm Rx) fiber up to 10 km industrial temperature, TAA[4]

AT-SP10BD20-12
10 GbE Bi-Di (1270 nm Tx, 1330 nm Rx) fiber up to 20 km, TAA[4]

AT-SP10BD20-13
10 GbE Bi-Di (1330 nm Tx, 1270 nm Rx) fiber up to 20 km, TAA[4]

AT-SP10BD40/I-12
10 GbE Bi-Di (1270 nm Tx, 1330 nm Rx) fiber up to 40 km industrial temperature, TAA[4]

AT-SP10BD40/I-13
10 GbE Bi-Di (1330 nm Tx, 1270 nm Rx) fiber up to 40 km industrial temperature, TAA[4]

AT-SP10BD80/I-14
10 GbE Bi-Di (1270 nm Tx, 1330 nm Rx) fiber up to 80 km industrial temperature, TAA[4]

AT-SP10BD80/I-15
10 GbE Bi-Di (1330 nm Tx, 1270 nm Rx) fiber up to 80 km industrial temperature, TAA[4]

AT-SP10TW1
1 meter SFP+ direct attach cable

AT-SP10TW3
3 meter SFP+ direct attach cable

1G SFP Modules

AT-SPTXc
100 m, 10/100/1000T SFP, RJ-45

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

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

AT-SPLX10a
1000LX SFP, LC, SMF, 1310nm (10km), TAA[2]

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

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

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

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

AT-SPBD20-13/I
1000LX (LC) GbE single-mode Bi-Di (1310 nm Tx, 1490 nm Rx) fiber up to 20 km, industrial temperature

AT-SPBD20-14/I
1000LX (LC) GbE single-mode Bi-Di (1490 nm Tx, 1310 nm Rx) fiber up to 20 km, industrial temperature

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

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

[4] Trade Agreement Act compliant

617-000714 RevC