

EAS Series



Highlights

The Extreme Networks® EAS family of switches provides consistent, secure, cost-effective network access to support exploding mobility of users, applications and devices. These switches complement an intelligent and high-performance core and edge, providing IT managers with an enterprise-class access layer to build out their network infrastructure.

- Dense connectivity for growing enterprise access requirements.
- Cost-effective enterprise access.
- Simple and flexible management.

Overview

Growing numbers of users, applications and devices are demanding access to the network. This is pushing the limits of the typical campus network access layer and driving up costs. What is needed is dense network access connectivity supported by an enterprise-class vendor with a holistic network approach, helping to control costs.

The EAS family of Gigabit switches deliver the connectivity and cost effectiveness needed at the network access layer. These purpose-built switches, available in both PoE plus (Power over Ethernet) and non-PoE 24-port models, feature standards-based, Quality of Service (QoS) to support devices such as VoIP phones and security cameras. Traffic from the EAS family of switches is forwarded to the more advanced ExtremeXOS® edge, extending the benefits of sophisticated identity management and complementing Extreme Networks end-to-end intelligence and automation portfolio as depicted in Figure 1 below.

EAS 200-24p

The EAS 200-24p is a Layer 3-Lite Gigabit Ethernet access switch designed for the access layer of the mobile network. It provides 24 ports of 10/100/1000BASE-TX PoE plus RJ-45 connectivity. Four of these 24 ports can be optionally used for 1000BASE-X SFP. Each 10/100/1000 Mbps port supports 802.3af and 802.3at PoE standard with a power budget of 370 watts.

EAS 100-24t

The EAS 100-24t is a Layer 2+ Gigabit switch designed for simple Ethernet access connectivity for up to 24 devices using 10/100/1000BASE-TX RJ-45. Four of these 24 ports can be optionally use for 1000BASE-X SFP. In addition to being an easy fit into a standard rack with its one rack unit height, the fan-less design and short depth of the EAS 100-24t enables access to a broad range of deployments with space and noise-level constraints.

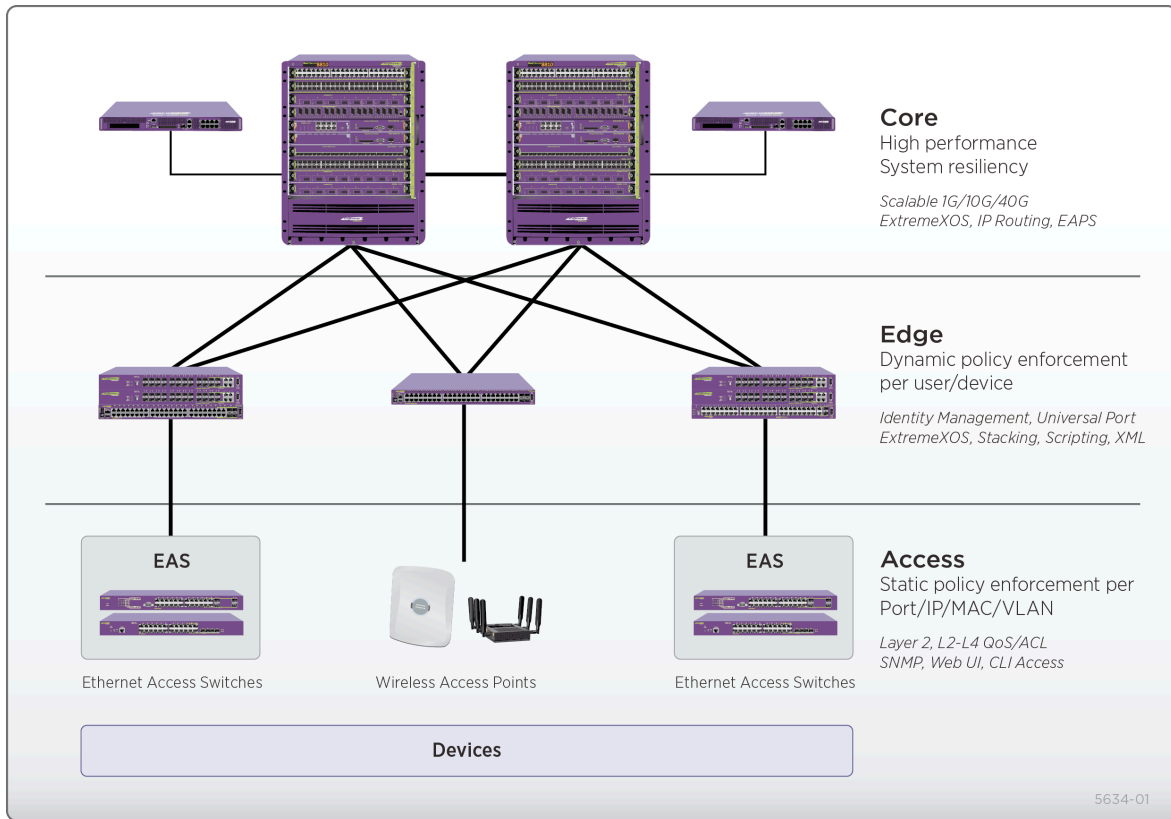


Figure 1: Enterprise Campus Network Architecture

Layer 3-Lite 24-port Gigabit PoE+ Ethernet Switch for Enterprise Access

EAS 200-24p Highlights

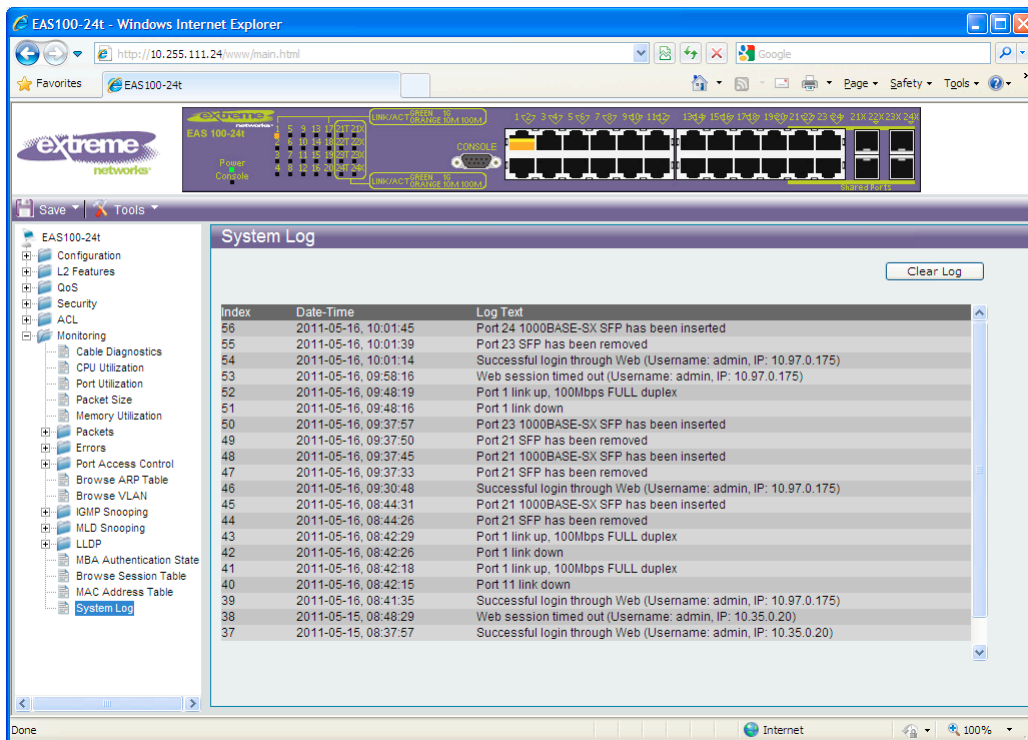
- 802.1D/802.1w/802.1s Spanning Tree Protocol (STP)
- User-friendly web-based GUI
- Loopback Detection (LBD)
- Bridge Protocol Data Unit (BPDU) filtering
- Internet Group Management Protocol/Multicast Listener Discovery (IGMP/MLD) snooping
- Port/Flow- based bandwidth control
- Granular bandwidth control down to 64Kbps
- POE plus
- Multi-Layer Access Control List (ACL)
- Dynamic Host Configuration Protocol (DHCP) Server Screening
- Address Resolution Protocol (ARP) Spoofing Prevention
- IPv6 Neighbor Discovery (ND)
- IPv6 Management

Layer 2+ 24-port Gigabit Ethernet Switch for Enterprise Access

EAS 100-24t Highlights

- 802.1D/802.1w/802.1s Spanning Tree Protocol (STP)
- User-friendly web-based GUI
- Loopback Detection (LBD)
- Bridge Protocol Data Unit (BPDU) attack protection
- Internet Group Management Protocol/Multicast Listener Discovery (IGMP/MLD) snooping
- Port/Flow- based bandwidth control
- Granular bandwidth control down to 64Kbps
- Fan-less design





Switch Management

The EAS family of switches can be managed using a command line interface (CLI), Simple Network Management Protocol (SNMP) and with a user-friendly web-based Graphical User Interface (GUI).

Technical Specifications

EAS 200-24p

General Specifications

Interface

- 24 ports of 10/100/1000BASE-TX PoE+ RJ-45 with 4 ports shared 1000BASE-X SFP

Console Port

- RJ-45

Performance

Switching Capacity

- 48 Gbps

CPU

- MIPS
- 400 MHz

Packet Forwarding Rate

- 64-Byte
- 65.48 Mpps

Packet Buffer Memory

- 2 MB

Flash Memory

- 32 MB

PoE

PoE Standard

- IEEE 802.3af
- IEEE 802.3at

PoE Power Budget

- 370 watts

MTBF (Hours)

- >282k

Acoustics Max

- TBD

Heat Dissipation

- 1382 BTU/h (with 370W PoE load)

Power Input

- 100 to 240VAC, 50 to 60 Hz Internal Universal Power Supply

Max Power Consumption

- 404.9 Watts

Dimensions (W x D x H)

- 440 x 310 x 44 mm / 17.3 x 12.2 x 1.7 inches

Weight

- 5.3 kg / 11.7 lbs

Ventilation

- Smart Fan (> 40° C; High Speed; < 35°; Low Speed)

Operating Temperature

- 0 to 50° C

Storage Temperature

- -40 to 70° C

Operating Humidity

- 10% to 90% RH

Storage Humidity

- 10% to 90% RH

Layer 2 Features

- MAC Address Table: 16K
- Flow Control
 - 802.3x Flow Control
 - HOL Blocking Prevention
- Jumbo Frame up to 13K Bytes
- Spanning Tree Protocols
 - 802.1D STP
 - 802.1w RSTP
 - 802.1s MSTP
 - BPDU Filtering
 - Root Restriction
- Loopback Detection

Technical Specifications

Layer 2 Features (cont.)

- 802.3ad Link Aggregation
 - Max. 12 groups per device/ 8 Gigabit ports per group
 - LACP
 - Port Mirroring
 - One-to-One
 - Many-to-One
 - Flow-based
 - RSPAN Mirroring

Layer 2 Multicasting

- IGMP Snooping
 - IGMP v1/v2 Snooping
 - IGMP v3 Awareness
 - Supports 1024 IGMP groups
 - Host-based IGMP Snooping Fast Leave
- Up to 24 IGMP filtering profiles, 32 ranges per profile
- MLD Snooping
 - MLD v1 Snooping, MLD v2 Aware
 - Support 1024 MLD Groups
 - Host-based MLD Snooping Fast Leave

VLAN

- VLAN IDs
 - Max. 4K VLAN IDs
- GVRP
 - Max. 255 Dynamic VLAN Groups
- 802.1Q Tagged VLAN
- Port-based VLAN
- 802.1v Protocol VLAN
- Voice VLAN
- MAC-based VLAN
- Asymmetric VLAN
- Private VLAN
- VLAN Trunking

Layer 3 Routing

- Static route
 - Support 16 IP interfaces
 - Support 512 static routes

QoS (Quality of Service)

- 802.1p
- 8 queues per port
- Queue Handling
 - Strict Priority
 - Weighted Round Robin (WRR)
 - Strict + WRR
- CoS (Class of Service)
 - VLAN ID
 - 802.1p Priority Queues
 - MAC Address
 - IPv4 Address
 - DSCP
 - Protocol Type
 - TCP/UDP Port
 - User-Defined Packet Content
 - IPv6 Address
 - IPv6 Traffic Class
 - IPv6 Flow Label
- Bandwidth Control
 - Port-based (Ingress/Egress, Min. Granularity 64 Kbps)
 - Flow-based (Ingress/Egress, Min. Granularity 64 Kbps)

Access Control List (ACL)

- Ingress ACL: support 6 profiles and 256 rules
- Egress ACL: support 4 profiles and 128 rules

- Each rule can be associated to a single port, multiple ports, or all ports
- ACL Keys
 - 802.1p Priority
 - VLAN ID
 - MAC Address
 - Ether Type
 - IPv4 Address
 - DSCP
 - Protocol Type
 - TCP/UDP Port Number
 - User-Defined Packet Content
 - IPv6 Address
 - IPv6 Flow Label
 - IPv6 Traffic Class
- Time-based ACL

Security

- SSH v2
- SSL v1/v2/v3
- Port Security
 - Support max 3k MAC's per system
- Broadcast/Multicast/Unicast Storm Control
- Traffic Segmentation
- Password Recovery
- Password Encryption
- Trusted Host

AAA

- 802.1X:
 - Port-based Access Control
 - Host-based Access Control: max 448 MAC's per port per system
 - Be able to configure 802.1X packet transparency / filtering when 802.1X is disabled
 - Support EAD, OTP, TLS, TTLS and PEAP
 - Support MD5 authentication
 - Be able to force the 802.1X client to be off-line
 - Support 802.1X session timeout attribute
 - VLAN assignment
- Web Authentication Support:
 - Local/RADIUS database
 - Port-based authentication
 - Host-based authentication
 - Dynamic VLAN assignment
 - Logout and logout timer function
 - HTTPS: detailed description for port's auth_state
- MAC Authentication Support:
 - Local/RADIUS database
 - Port-based authentication
 - Host-based authentication
 - Dynamic VLAN assignment
- Guest VLAN
- Database Failover
- RADIUS Accounting
- RADIUS/TACACS/TACACS+/Local authentication
- Support 3 Level User Account
 - User (Read only)
 - Operator (Read/write, without user account modification)
 - Admin

Green Features

- Compliant with RoHS
- Power Saving by Link Status
- Power Saving by Cable Length
- Time-based PoE

Operation, Administration & Management (OAM)

- Cable Diagnostics

Management

- Web-based GUI (Supports IPv4/v6)
- Command Line Interface (CLI)
- Telnet Server (Supports IPv4/v6)
- Telnet Client (Supports IPv4/v6)
- TFTP Client (Supports IPv4/v6) ZModem
- SNMP v1/v2c/v3
- SNMP Traps
- System Log (Supports IPv4/v6 Log Server)
- RMON v1:
 - Supports 1,2,3,9 groups
- RMON v2:
 - Supports Probe
- BootP/DHCP Client
- DHCP Auto-Configuration
- DHCP Relay
 - DHCP Relay Option 82
- Multiple Images

RFC Standard Compliance

- RFC 1213 MIB II
- RFC 1493, 4188 Bridge MIB
- RFC 1157, 2571-2576 SNMP MIB
- RFC 1907 SNMPv2 MIB
- RFC 1757, 2819 RMON MIB
- RFC 2021 RMONv2 MIB
- RFC 1398, 1643, 1650, 2358, 2665 Ether-like MIB
- RFC 2233, 2863 IF MIB
- RFC 2618 RADIUS Authentication Client MIB
- RFC 2620 RADIUS Accounting Client MIB
- RFC 2925 PING & TRACEROUTE MIB
- RFC 4363 802.1p MIB
- RFC 1215 MIB Traps Convention
- RFC 783 TFTP
- RFC 854 Telnet
- RFC 951, 1542 BootP
- RFC 2068 HTTP
- RFC 3164, 3195 SYSLOG
- RFC 4293 IP MIB
- RFC 4022 TCP MIB
- RFC 2866 RADIUS Accounting
- RFC 1157, 1901, 1908, 2570, 2571, 2572, 2573, 2574, 2575 SNMP
- RFC 768 UDP
- RFC 791 IP
- RFC 792, 2463, 4443 ICMP
- RFC 793 TCP RFC 826 ARP
- RFC 3513, 4291, IPv6 Addressing Architecture
- RFC 2893, 4213 IPv4/IPv6 dual stack function
- RFC 2463, 4443 ICMPv6
- RFC 2462, 4862 IPv6 Stateless Address Auto Configuration
- RFC 2464 IPv6 Ethernet and definition
- RFC 1981 Path MTU Discovery for IPv6
- RFC 2460 IPv6
- RFC 2461, 4861 Neighbor Discovery for IPv6
- RFC 1492 TACACS
- RFC 2474, 3260 DiffServ
- RFC 1321, 2284, 2865, 3580, 3748 Extensible Authentication Protocol (EAP)

Technical Specifications

EAS 100-24t

General Specifications

Interface

- 24 ports of 10/100/1000BASE-TX RJ-45 with 4 ports shared 1000BASE-X SFP

Console Port

- Female DCE RS-232 DB-9

Performance

Switching Capacity

- 48 Gbps

CPU

- Integrated 32-bit MIPS processor

Packet Forwarding Rate

- 64-Byte
- 35.7 Mpps

Packet Buffer Memory

- 512 kB

Flash Memory

- 16 MB

MTBF (Hours)

- >756k

Acoustics Max

- N/A (Fan-less)

Heat Dissipation

- 83 BTU/h

Power Input

- 100 to 240 VAC, 50 to 60 Hz Internal Universal Power Supply

Max Power Consumption

- 45.74 Watts

Dimensions (W x D x H)

- 441 x 207 x 44 mm / 17.4 x 8.2 x 1.7 inches

Weight

- 2.61 kg

Ventilation

- Air (Fan-less)

Operating Temperature

- 0 to 40° C

Storage Temperature

- -40 to 70° C

Operating Humidity

- 10% to 90% RH

Storage Humidity

- 10% to 90% RH

Layer 2 Features

- MAC Address Table: 8K
- Flow Control
 - 802.3x Flow Control
- Jumbo Frame up to 9K Bytes
- Spanning Tree Protocols
 - 802.1D STP

- 802.1w RSTP
- 802.1s MSTP
- BPDU Filtering
- Root Restriction
- Loopback Detection
- 802.3ad Link Aggregation
 - Max. 8 groups per device/ 8 Gigabit ports per group
- Port Mirroring
 - One-to-One
 - Many-to-One
 - Flow-based

Layer 2 Multicasting

- IGMP Snooping
 - IGMP v1/v2 Snooping
 - IGMP v3 Awareness
 - Supports 128 IGMP groups
 - Port/Host-based IGMP Snooping Fast Leave
- MLD Snooping
 - MLD v1 Snooping, MLD v2 Aware
 - Support 128 MLD Groups
 - Host-based MLD Snooping Fast Leave

VLAN

- VLAN IDs
 - Max. 4K VLAN IDs
- GVRP
 - Max. 255 Dynamic VLAN Groups
- 802.1Q Tagged VLAN
- Port-based VLAN
- MAC-based VLAN
- Asymmetric VLAN

QoS (Quality of Service)

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- Queue Handling
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 - Weighted Round Robin (WRR)
 - Strict + WRR
- CoS (Class of Service)
 - VLAN ID
 - 802.1p Priority Queues
 - MAC Address
 - IPv4 Address
 - DSCP
 - Protocol Type
 - TCP/UDP Port
 - User-Defined Packet Content

Operation, Administration & Management (OAM)

- Cable Diagnostics

Access Control List (ACL)

- Access Profiles/Rules
 - Max 256 profiles, 256 rules
 - Support 256 rules per port
- ACL Keys
 - 802.1p Priority
 - VLAN ID
 - MAC Address
 - Ether Type
 - IPv4 Address
 - DSCP
 - Protocol Type
 - TCP/UDP Port Number

- User-Defined Packet Content

Security

- SSH v2
- SSL v1/v2/v3
- Port Security
 - Up to 64 MAC addresses per port/VLAN
- Broadcast Storm Control

AAA

- 802.1X:
 - Port-based Access Control
 - Host-based Access Control
 - Identity-driven Policy (VLAN, ACL or QoS Assignment)
- MAC-based Access Control (MAC):
 - Port-based Access Control
 - Host-based Access Control
 - Identity-driven Policy (VLAN, ACL or QoS Assignment)
- RADIUS Accounting
- RADIUS and TACACS authentication for switch access

Management

- Web-based GUI (Supports IPv4/v6)
- Command Line Interface (CLI)
- Telnet Server (Supports IPv4/v6)
- Telnet Client (Supports IPv4)
- TFTP Client (Supports IPv4/v6) ZModem
- SNMP v1/v2c/v3
- SNMP Traps
- System Log (Supports IPv4 Log Server)
- RMON v1:
 - Supports 1,2,3,9 groups
- RMON v2:
 - Supports Probe
- BootP/DHCP Client
- DHCP Auto-Configuration
- Dual Image
- DHCP Relay (no Option 82)
- RFC 1769 SNTp
- RFC 1213 MIB II
- RFC 1493 Bridge MIB
- RFC 2571-2576 SNMP MIB
- RFC 1907 SNMPv2 MIB
- RFC 2819 RMON MIB
- RFC 2021 RMONv2 MIB
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- RFC 4363 802.1p MIB
- RFC 2233 IF MIB
- RFC 2620 RADIUS Accounting Client MIB
- RFC 2925 PING & TRACEROUTE MIB
- RFC 4363 802.1p MIB
- RFC 4293 MIB
- LLDP MIB
- LLDP-DOT1 MIB
- LLDP-DOT3 MIB

Technical Specifications

Safety Standards

North American Safety of ITE

- UL 60950-1 2nd Ed., Listed Device (U.S.)
- CSA 22.2 #60950-1-03 2nd Ed. (Canada)
- Complies with FCC 21CFR 1040.10 (U.S. Laser Safety)
- CDRH Letter of Approval (US FDA Approval)

European Safety of ITE

- EN 60950-1:2007 2nd Ed.
- EN 60825-1+A2:2001 (Lasers Safety)
- TUV-R GS Mark by German Notified Body
- 2006/95/EC Low Voltage Directive

International Safety of ITE

- CB Report & Certificate per IEC 60950-1 2nd Ed. + National Differences
- AS/NZX 60950-1 (Australia /New Zealand)

EMI/EMC Standards

North America EMC for ITE

- FCC CFR 47 part 15 Class A (USA)
- ICES-003 Class A (Canada)

European EMC Standards

- EN 55022:2006+A1:2007 Class A
- EN 55024:A2-2003 Class A includes IEC 61000-4-2, 3, 4, 5, 6, 11
- EN 61000-3-2,8-2006 (Harmonics)

- EN 61000-3-3 2008 (Flicker)
- ETSI EN 300 386 v1.4.1, 2008-04 (EMC Telecommunications)
- 2004/108/EC EMC Directive

International EMC Certifications

- CISPR 22: 2006 Ed 5.2, Class A (International Emissions)
- CISPR 24:A2:2003 Class A (International Immunity)
- EC 61000-4-2:2008/EN 61000-4-2:2009 Electrostatic Discharge, 8kV Contact, 15 kV Air, Criteria A
- IEC 61000-4-3:2008/EN 61000-4-3:2006+A1:2008 Radiated Immunity 10V/m, Criteria A
- IEC 61000-4-4:2004 am1 ed.2./EN 61000-4-4:2004/A1:2010 Transient Burst, 1 kV, Criteria A
- IEC 61000-4-5:2005 /EN 61000-4-5:2006 Surge, 2 kV L-L, 2 kV L-G, Level 3, Criteria A
- EC 61000-4-6:2008/EN 61000-4-6:2009 Conducted Immunity, 0.15-80 MHz, 10V/m unmod. RMS, Criteria A
- IEC/EN 61000-4-11:2004 Power Dips & Interruptions, >30%, 25 periods, Criteria C

Country Specific

- VCCI Class A (Japan Emissions)
- ACMA (C-Tick) (Australia Emissions)
- CCC Mark
- KCC Mark, EMC Approval (Korea)

Telecom Standards

- ETSI EN 300 386:2001 (EMC Telecommunications)
- ETSI EN 300 019 (Environmental for Telecommunications)
- IEEE 802.3 Media Access Standards
- IEEE 802.3ab 1000BASE-T
- IEEE 802.3z 1000BASE-X
- IEEE 802.3at PoE Plus

Environmental Data

Environmental Standards

- EN/ETSI 300 019-2-1 v2.1.2 - Class 1.2 Storage
- EN/ETSI 300 019-2-2 v2.1.2 - Class 2.3 Transportation
- EN/ETSI 300 019-2-3 v2.1.2 - Class 3.1e Operational
- EN/ETSI 300 753 (1997-10) - Acoustic Noise
- ASTM D3580 Random Vibration Unpackaged 1.5 G

Ordering Information

Part Number	Description
16602	EAS 200-24p 24-port 10/100/1000BASE-TX PoE+ switch with 4-port shared 1000BASE-X SFP
16601	EAS 100-24t 24-port 10/100/1000BASE-TX switch with 4-port shared 1000BASE-X SFP



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