

Summit X440 Series

The Intelligent, Affordable Edge

HIGHLIGHTS

Powered by the same robust, modular operating system as our BlackDiamond® X8 and other Summit switches, the Summit X440 utilizes the benefits of the ExtremeXOS operating system in an intelligent, affordable access edge. The Summit X440 series switches provide redundant power supplies, SummitStack capability, comprehensive security features and high performance switching in a cost effective, small access switch.

KEY FEATURES

- PoE/PoE+ for wireless access points, cameras and IP phones
- Extending Intelligent 10/100/1000
- BASE-T connectivity to the desktop
- Line rate on all ports including 2 x 10GBASE-X SFP+ uplinks
- BASE-X SFP based fiber switches, for long distance links.
- Stack using SummitStack ports or SummitStack-V over 10GBASE-X SFP+ ports
- Stack up to 8 members (Using L3 models)
- Stack with other Summit products from Extreme Networks
- Fan can switch to low speed or off for minimal noise
- Edge switching for both AC and DC powered environments



Overview

The Extreme Networks® Summit® X440 series switches extend the intelligence and resiliency of the ExtremeXOS® network operating system to the converged access edge, enabling fine grained Quality of Service (QoS), stacking, high availability features and identity aware security in a compact, cost effective switch.

Standards-based PoE/PoE+ support (802.3af / 802.3at) allows the Summit X440 series to support the large-scale rollout of converged network devices such as IP telephones, wireless access points as well as physical security devices such as video cameras.

With high density, low latency, line rate 10/100/1000 Ethernet, dedicated 10 Gbps stacking ports, available redundant power supplies, hardware-based IP support (IPv4 and IPv6) and rich Layer 2 to Layer 4 functionality in a compact, 1RU form factor, the Summit X440 also provides effective enterprise class network access.

High Availability

- Modular ExtremeXOS operating system
- Ethernet Automatic Protection Switching (EAPS) resiliency protocol
- SummitStack™ - highly available, high-speed stacking support
- External power supply for redundant power

High Performance

- High bandwidth, non-blocking architecture
- Quality of Service (QoS) with advanced traffic management capabilities
- Automatic provisioning via Universal Port capability
- Comprehensive network management functionality

- 8, 24, or 48-port Gigabit Ethernet (GbE) connectivity in a 1RU form factor
- SummitStack 40 Gbps
- 10 Gigabit Ethernet (10GbE) uplinks

Comprehensive Security Features

- Identity aware policy and host integrity enforcement
- Extensive MAC and IP security functionality to help prevent man-in-the-middle attacks
- Universal Port dynamic security profile to provide fine granular security policy in the network
- Multiple network edge authentication support with multiple endpoints per port

Software Defined Networking (SDN)

ExtremeXOS implementations of OpenFlow APIs allow an external OpenFlow-based SDN controller to access and control the forwarding plane of ExtremeXOS network devices. ExtremeXOS-based switches offer a programming interface through OpenFlow to enable high degree of automation in provisioning network services for many upper layer business critical applications running the OpenFlow-based SDN controller.

Extreme XOS-based switches also allow for integration with the OpenStack open source cloud computing platform for public and private clouds through the Extreme Networks Quantum plugin. The plugin provides a scalable, automated, rich API-driven system that enables networking-as-a-service model managing data center interconnect solutions and large multi-tenant networks.

Audio Video Bridging (AVB)

ExtremeXOS® supports IEEE Audio Video Bridging (AVB) standards to enable reliable real-time audio and video transmissions over Ethernet, for high-definition and time-sensitive multimedia streams with assigned Quality of Service (QoS). ExtremeXOS leverages AVB to identify and reserve network resources for A/V traffic streams and supports synchronous streaming capabilities to ensure reliable and high-quality A/V transmissions over Ethernet. AVB also enables time sensitive multimedia streams to be sent over the Ethernet network with low latency and provides service quality for high definition information and entertainment applications.

IEEE 802.3at PoE-plus

Summit X440 PoE+ models support both IEEE 802.3at PoE-plus and IEEE. 802.3af PoE. Summit X440 models that support PoE-plus provide a cumulative total 170 watt or 380 watt power budget, which can be allocated across all of the RJ45 ports on that particular switch.

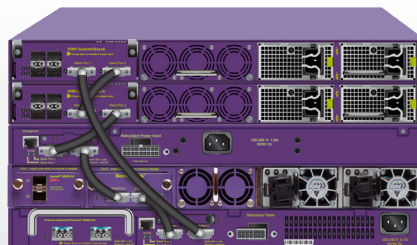
Stacking

Each of the Summit X440 models with two SummitStack stacking ports, provide a 40 Gigabit stacking solution. This stacking capability offers compatibility with other Extreme Networks stackable switches, including the Summit X250e, Summit X450a/e, Summit X460 with SummitStack module, Summit X480 with VIM2-SummitStack, and Summit X650 with VIM1-SummitStack or VIM1-10G8X - allowing up to eight units in a stack.

The Summit X440 models with two 10 Gigabit Ethernet (10GbE) links can also stack using SummitStack-V alternative stacking. This stacking method also offers compatibility with other Extreme Networks stackable switches that use 10GbE ports for SummitStack-V including Summit X450e, X450a, X460, X480, X650, X670 and X770V.

The SummitStack stacking architecture is designed for rapid failover capability with n-1 master redundancy, distributed Layer 2 and Layer 3 switching, link aggregation across the stack, and 50 millisecond failover in most cases for path failure and hitless master/backup failover.

- Single management point for up to eight units
- High-speed 40 Gbps stacking
- Rapid Failover for converged applications
- Can mix Summit X250e, Summit X440 Series, Summit X450a/e,- Series, Summit X460, Summit X480, Summit X650 and Summit X670 Series switches for SummitStack™ 40 Gbps stacking



Technical Specifications

PERFORMANCE

SWITCH MODEL	AGGREGATED SWITCH BANDWIDTH	FRAME FORWARDING RATE
Summit X440-8t	64 Gbps	48 Mpps
Summit X440-8p	64 Gbps	48 Mpps
Summit X440-24t	88 Gbps	65 Mpps
Summit X440-24tDC	88 Gbps	65 Mpps
Summit X440-24p	88 Gbps	65 Mpps
Summit X440-24x	88 Gbps	65 Mpps
Summit X440-48t	136 Gbps	101 Mpps
Summit X440-48tDC	136 Gbps	101 Mpps
Summit X440-48p	136 Gbps	101 Mpps
Summit X440-24t-10G	88 Gbps	65 Mpps
Summit X440-24p-10G	88 Gbps	65 Mpps
Summit X440-24x-10G	88 Gbps	65 Mpps
Summit X440-48t-10G	136 Gbps	101 Mpps
Summit X440-48p-10G	136 Gbps	101 Mpps

Additional Performance Specifications

- Latency: <5 μs (64-byte)
- Max Packet Size: 9KB (Jumbo Frame Support)
- Total Trunks: 128 load sharing, members per trunk: 8
- VLANs: 4,094
- Ingress ACLs: 1,024

Forwarding Tables

- Layer 2/MAC Addresses: 16K
- Layer 2/Multicast Groups: 1K
- IPv4 LPM Entries: 32
- IPv6 LPM Entries: 16
- IPv4 Host Addresses: 509
- IPv6 Host Addresses: 256
- Layer 3 Interfaces: 256
- IP Multicast Groups: 64

WEIGHT AND PHYSICAL DIMENSIONS

SWITCH MODEL	WEIGHT	PHYSICAL DIMENSION
Summit X440-8t	5.8 lb (2.640 kg)	Height: 1RU, 1.73 inches (4.4 cm) Width: 12.0 inches (30.5 cm) Depth: 10.3 inches (26.1 cm)
Summit X440-8p	6.7 lb (3.035 kg)	
Summit X440-24t	8.4 lb (3.825 kg)	Height: 1RU, 1.73 inches (4.4 cm) Width: 17.4 inches (44.1 cm) Depth: 10.0 inches (25.4 cm)
Summit X440-24p	9.8 lb (4.465 kg)	
Summit X440-24x	8.4 lb (3.825 kg)	
Summit X440-24tDC	8.5 lb (3.869 kg)	Height: 1RU, 1.73 inches (4.4 cm) Width: 17.4 inches (44.1 cm) Depth: 10.0 inches (25.4 cm)
Summit X440-48t	9.1 lb (4.125 kg)	
Summit X440-24x	9.1 lb (4.130 kg)	
Summit X440-48p	10.7 lb (4.845 kg)	Height: 1RU, 1.73 inches (4.4 cm) Width: 17.4 inches (44.1 cm) Depth: 10.0 inches (25.4 cm)
Summit X440-24t-10G	8.5 lb (3.865 kg)	
Summit X440-24p-10G	9.8 lb (4.475 kg)	
Summit X440-24x-10G	8.5 lb (3.865 kg)	

CPU, Memory

- Single Core CPU, 500 MHz clock
- 512MB ECC DRAM
- 512MB Compact Flash

QoS, Rate Limiting

- Ingress bandwidth meters: 1,024
- Ingress metering granularity: 8 Kbps
- Ingress bandwidth policing/rate limiting per flow/ACL
- Egress QoS queues/port: 8
- Egress bandwidth rate shaping per egress queue and per port
- Egress rate granularity: 64 Kbps

LED Indicators

- Per port status LED including power status
- System Status LEDs: management, fan and power

Operating Conditions

Temperature Range

- 0° C to 45° C (32° F to 113° F)
- Humidity: 10% to 95% relative humidity, non-condensing
- Altitude: 0 to 3,000 meters (9,850 feet)
- Shock (half sine): 30 m/s² (3 G), 11 ms, 60 shocks
- Random vibration: 3 to 500 Hz
- at 1.5 G rms

Storage & Transportation Conditions (Packaged)

- Transportation Temperature: -40° C to 70° C (-40° F to 158° F)
- Storage and Transportation Humidity: 10% to 95% RH, non-condensing
- Packaged Shock (Half Sine): 180 m/s² (18 G), 6ms, 600 shocks
- Packaged Sine Vibration: 5-62 Hz @ Velocity 5mm/s, 62-500 Hz @ 0.2G
- Packaged Random Vibration: 5-20 Hz @ 1.0 ASD w/-3dB/oct. from 20-200 Hz
- 14 drops min on sides & corners @ 42" (<15kg box)

EMI/EMC Standards

- FCC CFR 47 part 15 Class A (USA)
- ICES-003 Class A (Canada)
- 2004/108/EC EMC Directive
- EN 55022:2010 Class A (Emissions for ITE Equipment)
- EN 55024:2010 Class A includes EN 61000-4-2, 3, 4, 5, 6, 11
- EN 55011 :2009+A1:2010 (Emissions for Industrial, Scientific & Medical Radio Frequency Equipment)
- EN 61000-3-2: 2006+A2 2009 (Harmonics)
- EN 61000-3-3:2008 (Flicker)
- EN 61000-6-4: 2007+A1: 2011 (General Emissions for Industrial, Scientific & Medical)
- EN 61000-6-2:2005 (General Immunity for Industrial, Scientific & Medical)
- EN 50121-4:2006 (Emission and immunity of the signaling and telecommunications apparatus)

International EMC Standards

- CISPR 22:2008 Class A (International Emissions for ITE Equipment)
- CISPR 24:2010 Class A (International Immunity for ITE Equipment)
- IEC 61000-4-2:2008/EN 61000-4-2:2009 (Electrostatic Discharge, 8kV Contact, 15kV Air, Criteria A)
- IEC 61000-4-3:2010/EN 61000-4-3:2006+A12008 +A2:2010
- Radiated Immunity 20V/m, 80-960MHz, Criteria A
- Radiated Immunity 10V/m, 960-2100MHz, Criteria A
- Radiated Immunity 5V/m, 2100-2700MHz, Criteria A
- IEC 61000-4-4:2011/EN 61000-4-4: 2004+A1: 2010 Transient Burst
- Power AC, ± 2.0kV, Criteria A
- Power DC, ± 2.0kV CM, 1kV DM, Criteria A
- I/O Cables, ± 2.0kV for all I/O longer than 3m
- IEC 61000-4-5:2005/EN 61000-4-5:2006 Surge, Test to 2/4kV, Level 3
- AC Power, 1/2kV , Criteria A
- DC Power 1kV DM, 2kV CM, Criteria A
- I/O 1kV L-G, Criteria A
- IEC 61000-4-6:2008/EN 61000-4-6:2009 Conducted Immunity, 0.15-80 MHz, 10V/m unmod. RMS, Criteria A
- IEC 61000-4-8:2009/EN 61000-4-8:2010 Magnetic Immunity, Not applicable to Extreme's equipment
- IEC 61000-4-11:2004/EN 61000-4-11:2004 Power Dips & Interruptions, >30%, 25 periods, Criteria C
- VCCI Class A (Japan Emissions)
- ACMA (C-Tick) (Australia Emissions)
- CCC Mark
- KCC Mark, EMC Approval (Korea)

Telecom Standards

- ETSI EN 300 386: V1.5.1 (2010-10) EMC Telecommunications
- ETSI EN 300 019 (Environmental for Telecommunications)
- MEF 9 compliant
- MEF 14 compliant

IEEE 802.3 Media Access Standards

- IEEE 802.3ab 1000BASE-T
- IEEE 802.3z 1000BASE-X
- IEEE 802.3at PoE Plus

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 1.5G

Warranty

- Ltd. Lifetime with express Advanced Hardware Replacement
- For warranty details, visit <http://www.extremenetworks.com/go/warranty>

Safety Standards

- UL 60950-1 2nd Ed., Listed Device (U.S.)

External Ports

SWITCH MODEL	PORTS
Summit X440-8t	<ul style="list-style-type: none"> • 8 x 10/100/1000BASE-T (RJ45) ports • 4 x 100/1000BASE-X (SFP) unpopulated ports • 2 x SummitStack • 1 x Serial (console port) and 1 x 10/100BASE-T out-of-band management port
Summit X440-8p	<ul style="list-style-type: none"> • 8 x 10/100/1000BASE-T PoE-plus(RJ45) ports • 4 x 100/1000BASE-X (SFP) unpopulated ports • 2 x SummitStack • 1 x Serial (console port) and 1 x 10/100BASE-T out-of-band management port
Summit X440-24t	<ul style="list-style-type: none"> • 24 x 10/100/1000BASE-T (RJ45) – 4 ports are combo ports • 4 x 100/1000BASE-X (SFP) unpopulated combo ports • 2 x SummitStack • 1 x Serial (console port) and 1 x 10/100BASE-T out-of-band management port • 1 x Redundant Power Supply connector
Summit X440-24tDC	<ul style="list-style-type: none"> • 2 x SummitStack • 24 x 10/100/1000BASE-T (RJ45) – 4 ports are combo ports • 4 x 100/1000BASE-X (SFP) unpopulated combo ports • 2 x SummitStack • 1 x Serial (console port) and 1 x 10/100BASE-T out-of-band management port • 1 x DC PSU • 1 x Redundant Power Supply connector
Summit X440-24p	<ul style="list-style-type: none"> • 24 x 10/100/1000BASE-T PoE-plus(RJ45) – 4 ports are combo ports • 4 x 100/1000BASE-X (SFP) combo ports • 2 x SummitStack • 1 x Serial (console port) and 1 x 10/100BASE-T out-of-band management port • 1 x Redundant Power Supply connector
Summit X440-24x	<ul style="list-style-type: none"> • 24 x 100/1000BASE-X (SFP) unpopulated ports – 4 ports are combo ports • 4 x 10/100/1000BASE-T (RJ45) combo ports • 2 x SummitStack • 1 x Serial (console port) and 1 x 10/100BASE-T out-of-band management port • 1 x Redundant Power Supply connector
Summit X440-48t	<ul style="list-style-type: none"> • 48 x 10/100/1000BASE-T (RJ45) – 4 ports are combo ports • 4 x 100/1000BASE-X (SFP) unpopulated combo ports • 2 x SummitStack • 1 x Serial (console port) and 1 x 10/100BASE-T out-of-band management port • 1 x Redundant Power Supply connector
Summit X440-48tDC	<ul style="list-style-type: none"> • 48 x 10/100/1000BASE-T (RJ45) – 4 ports are combo ports • 4 x 100/1000BASE-X (SFP) unpopulated combo ports • 2 x SummitStack • 1 x Serial (console port) and 1 x 10/100BASE-T out-of-band management port • 1 x DC PSU • 1 x Redundant Power Supply connector
Summit X440-48p	<ul style="list-style-type: none"> • 48 x 10/100/1000BASE-T PoE-plus(RJ45) – 4 ports are combo ports • 4 x 100/1000BASE-X (SFP) combo ports • 2 x SummitStack • 1 x Serial (console port) and 1 x 10/100BASE-T out-of-band management port • 1 x Redundant Power Supply connector
Summit X440-24t-10G	<ul style="list-style-type: none"> • 24 x 10/100/1000BASE-T (RJ45) – 4 ports are combo ports • 4 x 100/1000BASE-X (SFP) unpopulated combo ports • 2 x 10GBASE-X SFP+ (1G/10G dual speed) unpopulated • 1 x Serial (console port) and 1 x 10/100BASE-T out-of-band management port • 1 x Redundant Power Supply connector
Summit X440-24p-10G	<ul style="list-style-type: none"> • 24 x 10/100/1000BASE-T PoE-plus(RJ45) – 4 ports are combo ports • 4 x 100/1000BASE-X (SFP) combo ports • 2 x 10GBASE-X SFP+ (1G/10G dual speed) unpopulated • 1 x Serial (console port) and 1 x 10/100BASE-T out-of-band management port • 1 x Redundant Power Supply connector

External Ports - continued

SWITCH MODEL	PORTS
Summit X440-24x-10G	<ul style="list-style-type: none"> • 24 x 100/1000BASE-X (SFP) unpopulated ports – 4 ports are combo ports • 4 x 10/100/1000BASE-T (RJ45) combo ports • 2 x 10GBASE-X SFP+ (1G/10G dual speed) unpopulated • 1 x Serial (console port) and 1 x 10/100BASE-T out-of-band management port • 1 x Redundant Power Supply connector
Summit X440-48t-10G	<ul style="list-style-type: none"> • 48 x 10/100/1000BASE-T (RJ45) – 2 ports are combo ports • 2 x 100/1000BASE-X (SFP) unpopulated combo ports • 2 x 10GBASE-X SFP+ (1G/10G dual speed) unpopulated • 1 x Serial (console port) and 1 x 10/100BASE-T out-of-band management port • 1 x Redundant Power Supply connector
Summit X440-48p-10G	<ul style="list-style-type: none"> • 48 x 10/100/1000BASE-T PoE-plus(RJ45) – 2 ports are combo ports • 2 x 100/1000BASE-X (SFP) combo ports • 2 x 10GBASE-X SFP+ (1G/10G dual speed) unpopulated • 1 x Serial (console port) and 1 x 10/100BASE-T out-of-band management port • 1 x Redundant Power Supply connector

Fan Speed and Acoustic Noise

SWITCH MODEL	LOW SPEED		HIGH SPEED	
	RPM	dB(A) Sound Pressure (LpA)	RPM	dB(A) Sound Pressure (LpA)
Summit X440-8t	0 (no fan)	0 (no fan)	0 (no fan)	0 (no fan)
Summit X440-8p	6800	44	11000	55
Summit X440-24t	0 (fan not on)	0 (fan not on)	11000	55
Summit X440-24tDC	0 (fan not on)	15	10500	51
Summit X440-24p	5900	42	11000	57
Summit X440-24x	0 (fan not on)	0 (fan not on)	11000	52
Summit X440-48t	5900	39	11000	55
Summit X440-48tDC	5900	39	10500	52
Summit X440-48p	5900	42	11000	57
Summit X440-24t-10G	0 (fan not on)	0 (fan not on)	11000	55

Fan Speed and Acoustic Noise

SWITCH MODEL	LOW SPEED		HIGH SPEED	
	RPM	dB(A) Sound Pressure (LpA)	RPM	dB(A) Sound Pressure (LpA)
Summit X440-24x-10G	5900	42	11000	57
Summit X440-24x-10G	5900	42	11000	53
Summit X440-48t-10G	5900	39	11000	55
Summit X440-48p-10G	5900	42	11000	57

Note: Sound pressure is measured in accordance with ISO 7779:2010(E).

Power Specifications

SWITCH MODEL	EFFICIENCY	POE BUDGET	EFFICIENCY
Summit X440-8t	39W		70%
Summit X440-8p	240W	170W	70%
Summit X440-24t	44W		70%
Summit X440-24tDC	38W		79%
Summit X440-24p	585W	380W	70%
Summit X440-24x	46W		70%
Summit X440-48t	60W		70%
Summit X440-48tDC	57W		82%
Summit X440-48p	600W	380W	69%
Summit X440-24t-10G	44W		75%
Summit X440-24p-10G	585W	380W	75%
Summit X440-24x-10G	46W		75%
Summit X440-48t-10G	95W		66%

Accessories

EXTERNAL POWER SUPPLY

EPS-C2

The EPS-C2 is an external power supply that supplies redundant power to Summit X440 switches. The EPS-C2 is a standalone unit that can be rack mounted in a regular 19-inch rack system. The EPS-C2 can be populated with up to three Summit 750W PoE AC PSU to provide a total redundant power budget of up to 2250W. The EPS-C2 can connect up to five Summit X440 switches, actively providing power to all five if needed.



Front View of the EPS-C2 Populated with 3 750W Power Supplies



Rear View of the EPS-C2



EPS-C2 Connected to a Summit X440

EPS-500

EPS-500 is a redundant AC Power Supply for X440 switches including Power-over-Ethernet enabled models. EPS-500 is one rack unit height and works in standalone. EPS-500 can be rack mounted in a regular 19 inch rack system. EPS-500 comes with a DC output cable to connect between the Summit X440 and EPS-500.



EPS MODEL	REDUNDANT POWER SUPPLY OUTPUT BLOCKS
EPS-C2	1 terminal block of 2x9 pins - used for other Summit switches 5 terminal blocks of 2x7 pins - used by Summit X440s Low Speed
EPS-500	1 terminal block of 2x7 pins - used by Summit X440s

EPS MODEL	ALLOWABLE PSU	ALLOWABLE PSU	POWER CORD INPUT PLUG/INPUT SOCKET	POWER CORD INPUT PLUG/INPUT SOCKET
EPS-C2	Summit 750W PoE AC PSU	IEC 320 C14	IEC 320 C13/C14	Min 18AWG
EPS-500	Built-in so not applicable	IEC320 C14	IEC320 C13/C14	Min 18AWG

EPS MODEL	WEIGHT	ALLOWABLE PSU
EPS-C2	2.27 lb (5.0 kg)	Height: 1RU, 1.73 inches (4.4 cm) Width: 17.4 inches (44.1 cm) Depth: 15.1 inches (38.4 cm)
EPS-500	10.8 Lbs (4.9 Kg)	Height: 1.73 Inches (4.4 cm) Width: 17.4 Inches (44 cm) Depth: 7.6 Inches (19.3 cm)

EPS MODEL	POWER SUPPLY INPUT SOCKET	POWER CORD INPUT PLUG/ INPUT SOCKET	POWER SUPPLY CORD GAUGE	REDUNDANT POWER SUPPLY INPUT SOCKET
Summit X440-8t	IEC 320 C14	IEC 320 C13/C14	Min 18AWG	n/a
Summit X440-8p	IEC 320 C14	IEC 320 C13/C14	Min 18AWG	n/a
Summit X440-24t	IEC 320 C14	IEC 320 C13/C14	Min 18AWG	2x7 pin terminal block
Summit X440-24tDC	#6 Terminal Block	#6, Crimp lugs, 16/14 AWG	Min 14 AWG	2x7 pin terminal block
Summit X440-24p	IEC 320 C14	IEC 320 C13/C14	Min 18AWG	2x7 pin terminal block
Summit X440-24x	IEC 320 C14	IEC 320 C13/C14	Min 18AWG	2x7 pin terminal block
Summit X440-48t	IEC 320 C14	IEC 320 C13/C14	Min 18AWG	2x7 pin terminal block
Summit X440-24tDC	#6 Terminal Block	#6, Crimp lugs, 16/14 AWG	Min 14 AWG	2x7 pin terminal block
Summit X440-48p	IEC 320 C14	IEC 320 C13/C14	Min 18AWG	2x7 pin terminal block
Summit X440-24t-10G	IEC 320 C14	IEC 320 C13/C14	Min 18AWG	2x7 pin terminal block
Summit X440-24p-10G	IEC 320 C14	IEC 320 C13/C14	Min 18AWG	2x7 pin terminal block
Summit X440-24x-10G	IEC 320 C14	IEC 320 C13/C14	Min 18AWG	2x7 pin terminal block

750W AC PSU (Model 10931) for PoE switches

PHYSICAL SPECIFICATIONS	
Dimensions	Height 40 mm (1.57 inches) Width 80 mm (3.15 inches) Depth 241.5 mm (9.5 inches)
Weight	2.25 lb (1.02kg)
POWER SPECIFICATIONS	
Voltage input range	85-264 VAC
Nominal input ratings	100 to 240 VAC, 50 to 60 Hz, 10 A
Nominal input current at full load	10 A at 90 VAC (low-line) 3.7 A at 230 VAC (high-line)
Line frequency range	47 to 63 Hz
Maximum inrush current	35 A
Output	12 VDC, 25 A maximum, 300 Watts 55 VDC, 8.18 A maximum, 450 Watts 3.3 VDC, 3.03 A maximum, 10 Watts
Power Supply input socket	IEC 320 C14
Power cord input plug	IEC 320 C13
Efficiency	Low Line: 88% at 50% load and 86% at 100% load High Line: 90% at 50% and 100% loads
ENVIRONMENTAL SPECIFICATIONS	
Operating Temperature	0 deg C to 45 deg C normal operation
Storage Temperature	-40 deg C to 70 deg C
Operating Humidity	20% to 90% relative humidity, non-condensing
Operational Shock	30 m/s ² (3g)

Ordering Information

PART NUMBER	NAME	DESCRIPTION
16501	Summit X440-8t	8 10/100/1000BASE-T, 4 1000BASE-X unpopulated SFP, SummitStack Stacking ports, 1 AC PSU, ExtremeXOS Edge license
16501T	Summit X440-8t-TAA	8 10/100/1000BASE-T, 4 1000BASE-X unpopulated SFP, SummitStack Stacking ports, 1 AC PSU, ExtremeXOS Edge license, TAA model
16502	Summit X440-8p	8 10/100/1000BASE-T PoE-plus, 4 1000BASE-X unpopulated SFP, SummitStack Stacking ports, 1 AC PSU, ExtremeXOS Edge license
16502T	Summit X440-8p-TAA	8 10/100/1000BASE-T PoE-plus, 4 1000BASE-X unpopulated SFP, SummitStack Stacking ports, 1 AC PSU, ExtremeXOS Edge license, TAA model
16503	Summit X440-24t	24 10/100/1000BASE-T, 4 1000BASE-X unpopulated SFP (4 SFP ports shared with 10/100/1000BASE-T ports), SummitStack Stacking ports, 1 AC PSU, ExtremeXOS Edge license, connector for external power supply
16503T	Summit X440-24t-TAA	24 10/100/1000BASE-T, 4 1000BASE-X unpopulated SFP (4 SFP ports shared with 10/100/1000BASE-T ports), Summit Stack Stacking ports, 1 AC PSU, ExtremeXOS Edge license, connector for external power supply, TAA model
16519	Summit X440-24tDC	24 10/100/1000BASE-T, 4 1000BASE-X unpopulated SFP (4 SFP ports shared with 10/100/1000BASE-T ports), Summit Stack Stacking ports, 1 DC PSU, ExtremeXOS Edge license, connector for external power supply.
16504	Summit X440-24p	24 10/100/1000BASE-T PoE-plus, 4 1000BASE-X unpopulated SFP (4 SFP ports shared with 10/100/1000BASE-T ports), SummitStack Stacking ports, 1 AC PSU, ExtremeXOS Edge license, connector for external power supply

PART NUMBER	NAME	DESCRIPTION
16504T	Summit X440-24p-TAA	24 10/100/1000BASE-T PoE-plus, 4 1000BASE-X unpopulated SFP (4 SFP ports shared with 10/100/1000BASE-T ports), Summit Stack Stacking ports, 1 AC PSU, ExtremeXOS Edge license, connector for external power supply, TAA model
16513	Summit X440-24x	24 100/1000BASE-X SFP ports, 4 gigabit combo ports (4 RJ45 ports shared with 100/1000BASE-X ports), SummitStack Stacking ports, 1 AC PSU, ExtremeXOS Edge license, connector for external power supply
16505	Summit X440-48t	48 10/100/1000BASE-T, 4 1000BASE-X unpopulated SFP (4 SFP ports shared with 10/100/1000BASE-T ports), SummitStack Stacking ports, 1 AC PSU, ExtremeXOS Edge license, connector for external power supply
16520	Summit X440-48tDC	48 10/100/1000BASE-T, 4 1000BASE-X unpopulated SFP (4 SFP ports shared with 10/100/1000BASE-T ports), Summit Stack Stacking ports, 1 DC PSU, ExtremeXOS Edge license, connector for external power supply.
16505T	Summit X440-48t-TAA	48 10/100/1000BASE-T, 4 1000BASE-X unpopulated SFP (4 SFP ports shared with 10/100/1000BASE-T ports), SummitStack Stacking ports, 1 AC PSU, ExtremeXOS Edge license, connector for external power supply, TAA model
16506	Summit X440-48p	48 10/100/1000BASE-T PoE-plus, 4 1000BASE-X unpopulated SFP (4 SFP ports shared with 10/100/1000BASE-T ports), SummitStack Stacking ports, 1 AC PSU, ExtremeXOS Edge license, connector for external power supply
16506T	Summit X440-48p-TAA	48 10/100/1000BASE-T PoE-plus, 4 1000BASE-X unpopulated SFP (4 SFP ports shared with 10/100/1000BASE-T ports), SummitStack Stacking ports, 1 AC PSU, ExtremeXOS Edge license, connector for external power supply, TAA model
16507	Summit X440-24t-10G	24 10/100/1000BASE-T, 2 1000BASE-X unpopulated SFP (2 SFP ports shared with 10/100/1000BASE-T ports), 2 10GBASE-X SFP+, 1 AC PSU, ExtremeXOS Edge license, connector for external power supply
16507T	Summit X440-24t-10G-TAA	24 10/100/1000BASE-T, 4 1000BASE-X unpopulated SFP (2 4 SFP ports shared with 10/100/1000BASE-T ports), 2 10GBASE-X SFP+, 1 AC PSU, ExtremeXOS Edge license, connector for external power supply, TAA model
16508	Summit X440-24p-10G	24 10/100/1000BASE-T PoE-plus, 2 1000BASE-X unpopulated SFP (2 SFP ports shared with 10/100/1000BASE-T ports), 2 10GBASE-X SFP+, 1 AC PSU, ExtremeXOS Edge license, connector for external power supply
16508T	Summit X440-24p-10G-TAA	24 10/100/1000BASE-T PoE-plus, 4 1000BASE-X unpopulated SFP (2 4 SFP ports shared with 10/100/1000BASE-T ports), 2 10GBASE-X SFP+, 1 AC PSU, ExtremeXOS Edge license, connector for external power supply, TAA model
16514	Summit X440-24x-10G	24 100/1000BASE-X SFP ports, 4 gigabit combo ports (4 RJ45 ports shared with 100/1000BASE-X ports), 2 10GBASE-X SFP+, 1 AC PSU, ExtremeXOS Edge license, connector for external power supply
16509	Summit X440-48t-10G	48 10/100/1000BASE-T, 2 1000BASE-X unpopulated SFP (2 SFP ports shared with 10/100/1000BASE-T ports), 2 10GBASE-X SFP+, 1 AC PSU, ExtremeXOS Edge license, connector for external power supply
16509T	Summit X440-48t-10G-TAA	48 10/100/1000BASE-T, 2 1000BASE-X unpopulated SFP (2 SFP ports shared with 10/100/1000BASE-T ports), 2 10GBASE-X SFP+, 1 AC PSU, ExtremeXOS Edge license, connector for external power supply, TAA model
16510	Summit X440-48p-10G	48 10/100/1000BASE-T PoE-plus, 2 1000BASE-X unpopulated SFP (2 SFP ports shared with 10/100/1000BASE-T ports), 2 10GBASE-X SFP+, 1 AC PSU, ExtremeXOS Edge license, connector for external power supply
16510T	Summit X440-48p-10G-TAA	48 10/100/1000BASE-T PoE-plus, 2 1000BASE-X unpopulated SFP (2 SFP ports shared with 10/100/1000BASE-T ports), 2 10GBASE-X SFP+, 1 AC PSU, ExtremeXOS Edge license, connector for external power supply, TAA model
16513	Summit X440-24x	24 100/1000BASE-X SFP ports, 4 gigabit combo ports (4 RJ45 ports shared with 100/1000BASE-X ports), SummitStack Stacking ports, 1 AC PSU, ExtremeXOS Edge license, connector for external power supply
16521	Summit X440 Adv. Edge License	ExtremeXOS Advanced Edge License for Summit X440 Series Switches
16522	Summit X440 OpenFlow FeaturePack	ExtremeXOS SDN - OpenFlow Feature Pack for Summit X440 series switches
16523	X440 Multimedia(AVB) Feature Pack	ExtremeXOS Audio Video Bridging Feature Pack for Summit X440 series switches
10936	EPS-C2	External Power System Chassis 2. Accepts up to three Summit 750W AC PoE PSU 48V power supplies. Accepts up to 3 EPS-CBL-2x7 or up to 1 EPS-CBL-2x9 cables.
10939	EPS-CBL-2x7	External Power System Cable (IM) that connects EPS to any Summit X440 for providing redundant DC power.

PART NUMBER	NAME	DESCRIPTION
10931	Summit 750W PoE AC PSU	PoE AC Power Supply module for EPS-C2 Chassis Redundant Power Supply
10911	EPS-500	External Power Supply Unit 500 Watts, Power cord ordered separately
10301	10GBASE-SR SFP+	10GBASE-SR SFP+, 850nm, LC Connector, transmission length of up to 300m on MMF
10302	10GBASE-LR SFP+	10GBASE-LR SFP+, 1310nm, LC Connector, transmission length of up to 10km on SMF
10309	10GBASE-ER SFP+	10GBASE-ER SFP+, 1550nm, LC connector, transmission length of up to 40km on SMF
10310	10GBASE-ZR SFP+	10GBASE-ZR SFP+ 1550nm, LC connector, transmission length up to 80km on SMF
10303	SFP+ LRM Module	10 Gigabit Ethernet SFP+ module, 1310nm, legacy MMF 220m link, LC connector
10304	10GBASE-CR SFP+ 1m	10GBASE-CR SFP+ pre-terminated twin-ax copper cable with link lengths of 1m
10305	10GBASE-CR SFP+ 3m	10GBASE-CR SFP+ pre-terminated twin-ax copper cable with link lengths of 3m
10306	10GBASE-CR SFP+ 5m	10GBASE-CR SFP+ pre-terminated twin-ax copper cable with link lengths of 5m
10307	10GBASE-CR SFP+ 10m	10GBASE-CR SFP+ pre-terminated twin-ax copper cable with link lengths of 10m
10051H	1000BASE-SX SFP, Hi	1000BASE-SX SFP,, MMF 220 & 550 meters, LC Connector, Industrial Temp
10052H	1000BASE-LX SFP, Hi	1000BASE-LX SFP, LC Connector, Industrial Temp
10053 H	1000BASE-ZX SFP	1000BASE-ZX SFP, SMF 70 km, LC Connector, Industrial Temp
10056H	1000BASE-BX-D SFP, Hi	1000BASE-BX-D SFP, SMF (1490nm TX/1310nm RX Wavelength), Industrial Temp
10057H	1000BASE-BX-U SFP, Hi	1000BASE-BX-U SFP, SMF (1310nm TX/1490nm RX Wavelength), Industrial Temp
10060	100FX/1000LX SFP	100FX/1000LX SFP, SMF, LC Connector (Requires MCP and 6dB Attenuator for 100FX-MMF Operation)
10063	100FX SFP	100FX SFP, MMF, LC Connector
10064	1000BASE-LX100 SFP	1000BASE-LX100 SFP, Extra Long Distance SMF 100 km/30dB Budget, LC Connector
10065	10/100/1000Base-T SFP	10/100/1000BASE-T SFP module, Category 5 cable 100m link, RJ45-Connector
10067	100BASE-FX SFP	100M SFP, 100FX MMF, (1310nm, 2km multimode transmission) LC connector
10066	100BASE-LX10 SFP	100M SFP, 100LX10 SMF, (1310nm 10km single mode transmission) LC connector

PART NUMBER	NAME	DESCRIPTION
10059	100BASE-BX-U SFP	100M SFP, 100BASE-BX-U, SMF (1310nm TX/1550nm RX wavelength), 100 Mbps bidirectional
10071H	1000BASE-SX SFP 10 Pack, Hi	1000BASE-SX SFP 10 Pack, Industrial Temp
10072H	1000BASE-LX SFP 10 Pack, Hi	1000BASE-LX SFP 10 Pack, Industrial Temp
16106	Stacking Cable, 0.5M	SummitStack/UniStack™ Stacking Cable, 0.5M
16107	Stacking Cable, 1.5M	SummitStack/UniStack Stacking Cable, 1.5M
16108	Stacking Cable, 3.0M	SummitStack/UniStack Stacking Cable, 3.0M
16105	Stacking Cable, 5.0M	SummitStack Stacking Cable, 5.0M

Protocols and Standards

A list of supported protocols and standards is available on the Extreme Networks website at:
<http://www.extremenetworks.com/products/extreme-xos.aspx>



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