

# 5320 Series



### Highlights

- Intuitive and centralized cloud-managed switching with ExtremeCloud $^{\rm TM}$  IQ and ExtremeCloud IQ Site Engine
- Fabric-enabled operations with Extreme Fabric Connect for simplified and secure network provisioning and automation
- Choice of operating system (OS) with universal dual-persona hardware

### **Key Hardware Features**

- 30W PoE (Power over Ethernet) support for powering connected devices
- 4 x 10Gb SFP+ uplink ports on 16-port models / 8 x 10Gb SFP+ uplink ports on 24- and 48-port models
- Silent operation at up to 35°C (95°F) on 16-port models
- Extended temperature range switch models (0°C–60°C)
- Choice of AC or DC power option on 16port models
- 40Gb per unit stacking of up to eight switches
- Secure link encryption with MACsec across both access and uplink ports
- · Non-blocking wire speed design



### Universal Edge Switch Platform

The 5320 Series is a family of high-performance, feature-rich edge switches designed for the next-generation digital enterprise. Available in 16, 24, and 48-port gigabit models, the 5320 is a stackable universal hardware switching platform, providing end-to-end secure network segmentation and advanced policy capabilities. Compatible with a choice of Extreme's flagship switch operating systems, the 5320 is a uniquely flexible platform that can be deployed across a range of edge and wiring-closet environments.

### **Cloud-Based Network Management**

The 5320 can be managed by ExtremeCloud IQ and ExtremeCloud IQ Site Engine for centralized switch management, giving you a consolidated view of users, devices, and applications across wired and wireless networks for efficient inventory and network topology management. ExtremeCloud IQ enables zero touch provisioning, allowing you to quickly bring new 5320 switches online as well as select the OS persona.

Alternatively, 5320 on-box management can be done manually via a web-based GUI or generic command-line interface (CLI).

### **Ethernet Fabric Services**

The 5320 supports a variety of Ethernet Fabric services, including Extreme's Fabric Connect when running Fabric Engine and Extreme's IP Fabric when running Switch Engine. It also supports Fabric Attach for automated connection to either Layer 2 or Layer 3 Fabric services.

Extreme's Fabric Connect and IP Fabric enable the creation of virtualized networks that automate network operations, simplify network provisioning, and enhance security, all while reducing the strain on network and IT personnel.

### **Universal Hardware Platform**

The 5320 comes with a dual-persona capability, allowing you to choose your OS. Either the Switch Engine (EXOS)<sup>1</sup> or Fabric Engine (VOSS)<sup>2</sup> OS can be selected at switch start-up or changed at a later stage. When selected, the switch assumes the features and capabilities of that OS.

5320 OS selection can also be automated with ExtremeCloud IQ so that the desired OS can be automatically loaded at switch start-up, facilitating remote OS enablement.

<sup>1</sup> Switch Engine is the new name for ExtremeXOS (EXOS) on all universal switch platforms, starting with Version 31.6.

<sup>2</sup> Fabric Engine is the new name for the VSP Operating System Software (VOSS) on all universal switch platforms, starting with Version 8.6.

### **Power Over Ethernet (PoE)**

All 5320 models support 30W PoE that conforms with IEEE 802.3at. This enables the 5320 to address the needs of powered edge devices, while eliminating the need for additional electrical cabling and circuits. In addition, 5320 PoE models support perpetual and fast PoE for even more efficient and reliable powered edge device operation.

## **Audio Video Bridging**

The 5320 Series supports IEEE 802.1 Audio Video Bridging (AVB)<sup>1</sup> when running Switch Engine OS. This allows 5320 models to deliver reliable, real-time audio/video transmission over Ethernet, meeting the quality of service required for today's high-definition, time-sensitive multimedia streams

<sup>1</sup> The extended temperature switch models do not support this feature in their initial release.

## **Extended Temperature Operation**

The 5320 Series offers 24- and 48-port switch models that support extended temperature operation<sup>1</sup> of 0°C to 60°C. The 48-port switch model provides a combination of Fiber and Copper ports enabling flexible deployment use cases. Both switch models include 4x10G SFP+ for uplinks and/or stacking. The extended temperature switch models come with one fixed power supply and support an optional external Redundant Power Supply (RPS) as well.

<sup>1</sup> The extended temperature switch models will support Switch Engine at GA. Fabric Engine is targeted for a later release.

# **Silent Operation**

Silent mode operation at temperatures up to 35°C is supported on 5320 16-port AC and DC-powered models. This makes these models ideal for classrooms, hospitality suites, retail sites, or other noise sensitive environments, especially outside of the wiring closet environment.

# **External Interfaces**

Switch Model	Interfaces
5320-16P-4XE	16 x 10/100/1000BASE-T 802.3at (30W) ports  Full / Half-Duplex (autosensing)  MACsec-capable  4 x 1/10Gb SFP+ uplink ports (includes 2 x Stacking ports)  MACsec-capable  1 x Serial console port (RJ-45)  1 x USB A ports for management or external USB flash  1 x USB Micro-B console port
5320-16P-4XE-DC	16 x 10/100/1000BASE-T 802.3at (30W) ports  Full / Half-Duplex (autosensing)  MACsec-capable  4 x 1/10Gb SFP+ uplink ports (includes 2 x Stacking ports)  MACsec-capable  1 x Serial console port (RJ-45)  1 x USB A ports for management or external USB flash  1 x USB Micro-B console port
5320-24T-8XE	24 x 10/100/1000BASE-T ports  Full/Half-Duplex (autosensing)  MACsec-capable  8 x 1/10Gb SFP+ uplink ports (includes 2 x Stacking ports)  MACsec-capable  100Mb operation supported on last 4 uplink ports  x Serial console port (RJ-45)  x USB A ports for management or external USB flash  x USB Micro-B console port
5320-24P-8XE	24 x 10/100/1000BASE-T 802.3at (30W) ports  Full / Half-Duplex (autosensing)  MACsec-capable  8 x 1/10Gb SFP+ uplink ports (includes 2 x Stacking ports)  MACsec-capable  100Mb operation supported on last 4 uplink ports  x Serial console port (RJ-45)  x USB A ports for management or external USB flash  x USB Micro-B console port
5320-48T-8XE	48 x 10/100/1000BASE-T ports  Full/Half-Duplex (autosensing)  MACsec-capable  8 x 1/10Gb SFP+ uplink ports (includes 2 x Stacking ports)  MACsec-capable  100Mb operation supported on last 4 uplink ports  1 x Serial console port (RJ-45)  1 x USB A ports for management or external USB flash  1 x USB Micro-B console port

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Switch Model	Interfaces
5320-48P-8XE	48 x 10/100/1000BASE-T 802.3at (30W) ports  • Full/Half-Duplex (autosensing)  • MACsec-capable  8 x 1/10Gb SFP+ uplink ports (includes 2 x Stacking ports)  • MACsec-capable  • 100Mb operation supported on last 4 uplink ports  1 x Serial console port (RJ-45)  1 x USB A ports for management or external USB flash  1 x USB Micro-B console port
5320-24T-4X-XT	24 x 10/100/1000BASE-T ports  • Full/Half-Duplex (autosensing)  4 x 1/10Gb SFP+ uplink ports (includes 2 x Stacking ports)  1 x Serial console port (RJ-45)  1 x 10/100/1000BASE-T out-of-band management port  1 x USB A ports for management or external USB flash  1 x USB Micro-B console port  0°C to 60°C operating temperature range
5320-24T-24S-4XE-XT	24 x 10/100/1000BASE-T ports  Full/Half-Duplex (autosensing)  MACsec-capable  24 x 100Mb/1Gb SFP uplink ports  MACsec-capable  4 x 1/10Gb SFP+ uplink ports (includes 2 x Stacking ports)  MACsec-capable  1 x Serial console port (RJ-45)  1 x 10/100/1000BASE-T out-of-band management port  1 x USB A ports for management or external USB flash  1 x USB Micro-B console port  0°C to 60°C operating temperature range

# **Performance and Scale**

Switch Model	Max Active 10/100/ 1000Mb ports	Max Active 1Gb/10GbSFP/ SFP+ ports*	Max Active 10Gb Stacking ports	Aggregated Switch Bandwidth	Max Frame Forwarding Rate
5320-16P-4XE	16	4	2	112Gbps	83.3Mpps
5320-16P-4XE-DC	16	4	2	112Gbps	83.3Mpps
5320-24T-8XE	24	8	2	208Gbps	154.8Mpps
5320-24P-8XE	24	8	2	208Gbps	154.8Mpps
5320-48T-8XE	48	8	2	256Gbps	190.5Mpps
5320-48P-8XE	48	8	2	256Gbps	190.5Mpps
5320-24T-4X-XT	24	4	2	208Gbps	154.8Mpps
5320-24T-24S-4XE-XT	24	24x100Mb/1Gb SFP 4x1Gb/10Gb SFP+	2	256Gbps	190.5Mpps

<sup>\*</sup> As of versions 32.6 of Switch Engine and 9.0 of Fabric Engine, the capable ports in all 5320 switches will support 10Gb without requiring a port upgrade license.

# **Software Scaling Values**

## **Switch Engine**

	5320-48P-8XE 5320-48T-8XE 5320-24T-24S-4XE-XT	5320-24P-8XE 5320-24T-8XE 5320-16P-4XE (AC & DC)	5320-24T-4X-XT
MAC Table	32,000	32,000	32,000
IPv4 ARP Table	16,000	16,000	4,000
IPv6 Neighbor Table	6,000	6,000	2,000
VLANs	4,094	4,094	4,094
IPv4 Route Table	12,000	8,000	1,000
IPv6 Route Table	6,000	4,000	500
IP Route Interfaces	1,533	509	509
Multicast (S,G,V)	6,000	6,000	1,500
VRF	1024	16 local-only	16 local-only
ACL, Ingress	8K	8K	2K
ACL, Egress	1K	512	512
Policy Profiles	63	63	63
Policy Profile Rules ACL/Traditional	4,024/1,976	4,024/1,976	952/440

# **Fabric Engine**

	5320-48P-8XE 5320-48T-8XE	5320-24P-8XE 5320-24T-8XE 5320-16P-4XE (AC & DC)
MAC Table (without Fabric enabled)	32,000	32,000
MAC Table (with Fabric enabled)	16,000	16,000
IPv4 ARP Table	15,000	8,000
IPv6 Neighbor Table	6,000	6,000
VLANs	4,059	4,059
IPv4 Route Table	12,000	8,000
IPv6 Route Table	6,000	4,000
IP Route Interfaces	248	248
Multicast (S,G,V)	4,000	2,000
VRF	24	1
ACL, Ingress	1,024	1,024
ACL, Egress	400	190

	5320-48P-8XE 5320-48T-8XE	5320-24P-8XE 5320-24T-8XE 5320-16P-4XE (AC & DC)
Max Fabric nodes	500	500
L2VSN	500	250
L3VSN	64	1

# **Weights and Dimensions**

Switch Model	Weight	Physical Dimensions
5320-16P-4XE	3.0 kg (6.6 lb.)	Height: 43.2 mm (1.7 in.)
5320-16P-4XE-DC	3.0 kg (6.6 lb.)	Width: 309.9 mm (12.2 in.) Depth: 299.7 mm (11.8 in.)
5320-24T-8XE	3.7 kg (8.2 lb.)	Height: 43.2 mm (1.7 in.)
5320-24P-8XE	4.0 kg (8.8 lb.)	Width: 439.4 mm (17.3 in.) Depth: 279.4 mm (11.0 in.)
5320-48T-8XE	4.2 kg (9.3 lb.)	Height: 43.2 mm (1.7 in.) Width: 439.4 mm (17.3 in.) Depth: 279.4 mm (11.0 in.)
5320-48P-8XE	5.0 kg (11.0 lb.)	Height: 43.2 mm (1.7 in.) Width: 439.4 mm (17.3 in.) Depth: 330.20 mm (13.0 in.)
5320-24T-4X-XT	3.2 kg (7.1 lb.)	Height: 43.5 mm (1.7 in.) Width: 441.0 mm (17.3 in.) Depth: 253.8 mm (10.0 in.)
5320-24T-24S-4XE-XT	4.0 kg (8.8 lb.)	Height: 43.5 mm (1.7 in.) Width: 441.0 mm (17.3 in.) Depth: 253.8 mm (10.0 in.)

# Minimum/Maximum Power Consumption and Heat Dissipation

Switch Model	Minimum Power Consumption (W)	Minimum Heat Dissipation (BTU/hr)	Maximum Power Consumption (W)*	Maximum Heat Dissipation (BTU/hr)**
5320-16P-4XE	17	57	246	208
5320-16P-4XE-DC	20	67	260	256
5320-24T-8XE	18	60	50	171
5320-24P-8XE	21	70	480	375
5320-48T-8XE	25	85	64	217
5320-48P-8XE	30	104	924	629

Switch Model	Minimum Power Consumption (W)	Minimum Heat Dissipation (BTU/hr)	Maximum Power Consumption (W)*	Maximum Heat Dissipation (BTU/hr)**
5320-24T-4X-XT	14	35	49	119
5320-24T-24S-4XE-XT	25	96	87	328

 $<sup>^{\</sup>ast}$  Includes maximum PoE load (W) through the switch

# **5320 Max PoE Power Budget**

Switch Model	PoE Budget
5320-16P-4XE	185W
5320-16P-4XE-DC	185W
5320-24P-8XE	370W
5320-48P-8XE	740W

# **5320 Acoustic Noise**

Switch Model	Bystander Sound Pressure (dB(A))	<b>Declared Sound Power (Bels)</b>	
	All ports link up with full traffic, 8 PoE ports		
5320-16P-4XE	Fan off 0°C to 35°C (32°F to 95°F) 19.8 (35°C to 40°C)	Fan off 0°C to 35°C (32°F to 95°F) 2.94 (35°C to 40°C)	
	All ports link up with full tra	iffic, 8 PoE ports	
5320-16P-4XE-DC	Fan off 0°C to 35°C (32°F to 95°F) 19.0 (35°C to 40°C)	Fan off 0°C to 35°C (32°F to 95°F) 2.91 (35°C to 40°C)	
F700 0 (F 0)/F	All ports link up with full traffic, 0°C to 35°C (32°F to 95°F)		
5320-24T-8XE	19.5 2.86		
5320-24P-8XE	All ports link up with full traffic, 12 PoE ports, 0°C to 35°C (32°F to 95°F)		
	20.3	2.86	
	All ports link up with full traffic		
5320-48T-8XE	20.8 2.90		
5700 (00 0)/5	All ports link up with full traffic, 50% PoE bud	get load, 0°C to 35°C (32°F to 95°F)	
5320-48P-8XE	20.9	2.87	

 $<sup>\</sup>ensuremath{^{**}}$  Does not include PoE load heat dissipated through external electronic load

### **Environmental**

### **Environmental Specifications**

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

#### **Environmental Compliance**

EU RoHS - 2011/65/EU

EU WEEE - 2012/19/EU

EU REACH - Regulation (EC) No 1907/2006 Reporting

China RoHS - SJ/T 11363-2006

Taiwan RoHS - CNS 15663(2013.7)

#### **Environmental Operating Conditions**

Temp: 0°C to 50°C (32°F to 122°F)

Humidity: 10% to 95% relative humidity, non-condensing

Altitude: 0 to 3,000 meters (9,850 feet)

Shock (half sine) 300 m/s2 (30 G), 11 ms, 3 axes, 6 shocks/axis

Random vibration: 3 to 500 Hz at 1.5 G rms

Accelerations: 3 Hz @ +10dB/Octave PSD, 10 Hz @.006 PSD, 500 Hz @.006

PSD

#### Packaging and Storage Specifications

Temp: -40°C to 70°C (-40°F to 158°F)

Humidity: 10% to 95% relative humidity, non-condensing

Packaged Shock (half sine): 3 axes, 100 shocks each axis (+/-), 180 m/s2 (18 G)  $\,$ 

Packaged Vibration: 5 Hz to 20 Hz @ .01 g2/Hz (PSD), 20 to 500 Hz @-3 dB/Octave (PSD)

Packaged Random Vibration: 5 Hz to 62 Hz, 5mm/s velocity, 62 Hz to 500 Hz, 2.0 m/s2, 5 sweeps of each axis (15 total), 5 Sweep Rate = 1 Octave/min

Packaged Drop: Height at 42 inches for product <10 kg, 13 drops including 6 surfaces, 3 edges and 4 corners

# **Regulatory and Safety**

### North American ITE

UL 60950-1

UL/CuL 62368-1 Listed

CSA 22.2 No. 60950-1 2nd edition 2014 (Canada)

Complies with FCC 21CFR 1040.10 (U.S. Laser Safety)

CDRH Letter of Approval (US FDA Approval)

#### European ITE

EN 60950-1 2nd Edition

EN 62368-1

EN 60825-1 Class 1 (Lasers Safety)

2014/35/EU Low Voltage Directive

#### International ITE

CB Report and Certificate per IEC 60950-1

CB Report and Certificate IEC 62368-1

AS/NZS 60950-1 (Australia/New Zealand)

## **EMI/EMC Standards**

#### North American EMC for ITE

FCC CFR 47 Part 15 Class A (USA)

ICES-003 Class A (Canada)

#### European EMC Standards

EN 55032 Class A

EN 55024

EN 61000-3-2,2014 (Harmonics)

EN 61000-3-3 2013 (Flicker)

EN 300 386 (EMC Telecommunications)

2014/30/EU EMC Directive

#### International EMC Certifications

CISPR 32, Class A (International Emissions)

AS/NZS CISPR32

CISPR 24 Class A (International Immunity)

IEC 61000-4-2/EN 61000-4-2 Electrostatic Discharge, 8kV Contact, 15 kV Air,

Criteria B

IEC 61000-4-3/EN 61000-4-3 Radiated Immunity 10V/m, Criteria A

IEC 61000-4-4/EN 61000-4-4 Transient Burst, 2 kV, Criteria B

IEC 61000-4-5/EN 61000-4-5 Surge, 2 kV L-L, 2 kV L-G, Level 3, Criteria B

IEC 61000-4-6 Conducted Immunity, 0.15-80 MHz, 10V/rms, 80%AM (1kHz),  $\,$ 

Criteria A

IEC/EN 61000-4-11 Power Dips and Interruptions, >30%, 25 periods, Criteria C

#### **Country Specific**

VCCI Class A (Japan Emissions)

ACMA RCM (Australia Emissions)

CCC Mark (China)

KCC Mark, EMC Approval (Korea)

BSMI (Taiwan)

Anatel (Brazil)

NoM (Mexico)

EAC (Russia, Belarus, Kazakhstan)

NRCS (South Africa)

### IEEE 802.3 Media Access Standards

IEEE 802.3ab 1000BASE-T

IEEE 802.3at PoE

IEEE 802.3ae 10GBASE-X

IEEE 802.3az Energy Efficient Ethernet

# **Ordering Notes**

Customers ordering a 5320 Series switch receive the hardware switch along with Base software license, integrated power supply, fan module and rack-mount kit. Optical transceivers and power cords must be separately ordered. Premier and MACsec licenses must also be ordered separately.

## **Base Software and Optional Premier License**

The Base software included with each 5320 unit supports most available software features. Certain features, however, require a Premier License to operate:

For Switch Engine, a Premier License is required fo

- · 5 or more OSPF interfaces
- · PIM DM/PIM SSM
- · Anycast RP (Rendezvous Point)
- · MultiSource Discovery Protocol (MSDP)
- · IS-IS/BGP4/MBGP
- · GRE Tunneling
- · Ethernet VPN (EVPN)

For Fabric Engine, a Premier License is required for:

- · 5 or more OSPF active interfaces
- · 3 or more BGP Peers
- · Layer 3 Virtual Service Networks (L3 VSNs)\*

<sup>\* 5320 16-</sup> and 24-port models do not require a Premier License for the single L3 VSN supported in these models.

# **Ordering Information**

### 5320 Systems

Part Number	Product Name	Product Description
5320-16P-4XE	5320 16-port 30W PoE Switch w/AC Power	5320 Universal Switch with 16 x 10/100/1000BASE-T Full / Half-Duplex ports, 802.3at 30W PoE ports, 4 x 1/10Gb SFP+ uplink ports (includes 2 x Stacking ports @10Gb), 1 internal fixed AC PSU, fixed fan module (fan-off mode up to 35°C/95°F), 2-post rack-mount kit, Base software license.
5320-16P-4XE-DC	5320 16-port 30W PoE Switch w/DC Power	5320 Universal Switch with 16 x 10/100/1000BASE-T Full / Half-Duplex ports, 802.3at 30W PoE ports, 4 x 1/10Gb SFP+ uplink ports (includes 2 x Stacking ports @10Gb), 1 internal fixed DC PSU, fixed fan module (fan-off mode up to 35°C/95°F), 2-post rack-mount kit, Base software license.
5320-24T-8XE	5320 24-port Switch	5320 Universal Switch with 24 x 10/100/1000BASE-T Full / Half-Duplex ports, 8 x 1/10Gb SFP+ ports (includes 2 x Stacking ports @10Gb), 1 internal fixed AC PSU, fixed fan modules, 2-post rack-mount kit, Base software license.
5320-24P-8XE	5320 24-port 30W PoE Switch	5320 Universal Switch with 24 x 10/100/1000BASE-T Full / Half-Duplex ports, 802.3at 30W PoE ports, 8 x 1/10Gb SFP+ ports (includes 2 x Stacking ports @10Gb), 1 internal fixed AC PSU, fixed fan modules, 2-post rack-mount kit, Base software license.
5320-48T-8XE	5320 48-port Switch	5320 Universal Switch with 48 x 10/100/1000BASE-T Full / Half-Duplex ports, 8 x 1/10Gb SFP+ ports (includes 2 x Stacking ports @10Gb), 1 internal fixed AC PSU, fixed fan modules, 2-post rack-mount kit, Base software license.
5320-48P-8XE	5320 48-port 30W PoE Switch	5320 Universal Switch with 48 x 10/100/1000BASE-T Full / Half-Duplex ports, 802.3at 30W PoE ports, 8 x 1/10Gb SFP+ ports (includes 2 x Stacking ports @10Gb), 1 internal fixed AC PSU, fixed fan modules, 2-post rack-mount kit, Base software license.

### **Extended Temperature Switches**

Part Number	Product Name	Product Description
5320-24T-4X-XT	5320 24-port Extended Temperature Switch	5320 24-port Extended Temperature (0°C–60°C) switch with 24 x 10/100/1000BaseT ports, 4 x 1/10Gb SFP+ ports. Includes fans, 1 fixed AC PSU with option to add external redundant PSU. <b>Note</b> : This model does not support MACsec.
5320-24T-24S-4XE-XT	5320 48-port Extended Temperature Switch	5320 24-port Extended Temperature (0°C–60°C) switch with 24 x 10/100/1000BaseT ports, 24 x 100Mb/1Gb SFP ports, 4 x 1/10Gb SFP+ ports, MACsec capable. Includes fans, 1 fixed AC PSU with option to add external redundant PSU.

### Accessories

Part Number	Product Name	Product Description
XN-2P-RMKIT-006	2 Post Rack Mount Kit for 5320 24/48 port switches	Spare two post rack mount kit for 5320 Series 24 and 48 port switches. Includes brackets for front or mid-mount of chassis in a two-post rack.
XN-2P-RMKIT-007	2 Post Rack Mount Kit for 5320 16 port switches (2RU)	Spare two post rack mount kit for 5320 Series 16 port switches. Includes brackets for front or mid-mount of chassis in a two-post rack (2RU).
XN-2P-RMKIT-011	2 Post Rack Mount Kit for 5320 16 port switches (1RU)	Spare two post rack mount kit for 5320 Series 16 port switches. Includes brackets for front or mid-mount of chassis in a two-post rack (1RU).
XN-2P-RMKIT-008	2 Post Rack Mount Kit for 5320- XT switches	Spare two post rack mount kit for 5320 Series extended temperature switches. Includes brackets for front or mid-mount of chassis in a two-post rack.

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Part Number	Product Name	Product Description
RPS-150W-XT	150W external redundant power supply for 5320 XT switches	150W external redundant power supply for 5320 XT switches, extended temperature. Includes RPS Cable. Single or Dual rack mount kit to be ordered separately.
XN-2P-RMKIT-003	Single RPS Mount	Rack mount kit to mount single RPS-150W-XT external redundant power supply
16572	Dual RPS Mount	Rack mount kit to mount two RPS-150W-XT external redundant power supplies, side by side
RPS-CBL-1M-2x7	Spare RPS Cable	Spare RPS Cable for use with RPS-150W-XT

#### Licenses

Part Number	Product Name	Product Description
5000-PRMR-LIC-P	Premier License for 5000 Series	Perpetual Premier License for 5000 Series switches
5000-MACSEC-LIC-P	MACsec License for 5000 Series	Perpetual MACsec License for the 5000 Series switches
5320-10GUPG-4X-LIC-P <sup>1</sup>	4 x 10Gb upgrade for 5320	10Gb Port Upgrade License for 4 ports of 1G SFP. Can be used on 16-, 24-, and 48-port 5320 switch models.
5320-10GUPG-8X-LIC-P <sup>1</sup>	8 x 10Gb upgrade for 5320	10Gb Port Upgrade License for 8 ports <sup>2</sup> of 1Gb SFP. Can be used on 24- and 48-port 5320 switch models.

<sup>1</sup> As of versions 32.6 of Switch Engine and 9.0 of Fabric Engine, the capable ports in all 5320 switches support 10Gb without requiring a port upgrade license.

## **Optics/Transceivers**

For a list of the optics and transceivers supported on the 5320 Series hardware, refer to our Extreme Optics Compatibility Tool.

### **Power Cords**

Power cords are not included with the 5320 in support of our green initiatives but can be ordered separately.

### Warranty

All 5320 Series models are covered under Extreme's Universal LLW policy. For warranty details, please visit our <u>Policies and Warranties page</u>.

### **Maintenance Services**

Extreme's maintenance and support services are provided 100% by inhouse engineering experts. We have a rate of over 90% first-person resolution, ensuring efficient operation of your business-essential network.

With 24x7x365 phone support, advanced parts replacement, and on-site support, we augment your staff with expert resources to help you mitigate critical network issues fast. Visit <a href="Extreme Maintenance Services">Extreme Maintenance Services</a> for more information.

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<sup>&</sup>lt;sup>2</sup> When running Fabric Engine on 24- and 48-port 5320 models, 3 of the 8 uplink ports are blocked in support of Ethernet Fabric Connect (SPB) functionality.