

Highlights

Key Features

- Compact cost-effective edge switches centrally managed by ExtremeXOS software
- Edge component of Extreme's Extended Edge Switching solution
- Seamlessly runs advanced services residing on ExtremeXOS aggregation switch
- Plug and play edge installation – just connect and start-up
- Multiple models providing 8 x 1GbE access ports (PoE and non-PoE) and 2 x 10Gb SFP+
- Environmentally hardened options that operate from -40C to +70C
- System model that draws power from upstream switch – eliminating need for separate PSU
- Resilient operations through support of Extended Edge Ring topology



ExtremeSwitching™ V300 Series

Simplified edge switch operation powered by ExtremeXOS® aggregation switch

Product Overview

The ExtremeSwitching V300 Series are compact, cost-effective edge switches managed by Extreme Networks ExtremeXOS (EXOS) software, a highly resilient OS providing continuous uptime, advanced services and operational efficiency.

As the edge component of Extreme's Extended Edge Switching solution, the V300 Series provides access switch capabilities, while being controlled by a remote EXOS aggregation switch. This allows the V300 Series to seamlessly extend feature-rich services of the EXOS aggregation switch to the network edge.

Available in a variety of models, the V300 Series includes versions for indoor use as well as hardened models for outdoor or environmentally challenging locations.

Centralized Management and Control

The V300 Series control and data plane technology based on the IEEE 802.1BR specification allows for centralized management and intelligent service delivery from a central EXOS aggregation switch. This enables the EXOS aggregation switch to act as a single point of configuration and control for V300 Series devices which can reduce complexity and operational cost (see Figure 1).

Plug and Play Installation

V300 Series units can be quickly installed in a plug and play manner. Once the unit is physically connected to the ExtremeXOS aggregation switch, the V300 automatically identifies itself and downloads its configuration. There's no need to connect a local console for set-up of the V300 device or its ports.

Diverse Models for Different Use Cases

The V300 Series is available in 5 model variants to address a range of use cases and deployment scenarios. Models include:

- **V300-8T-2X:** 8 x 10/100/1000-BaseT with 2 x 1/10Gb SFP+ uplinks
- **V300-8P-2X:** 8 x 10/100/1000BaseT with 30W PoE and 2 x 1/10Gb SFP+ uplinks
- **V300HT-8T-2X:** 8 x 10/100/1000-BaseT with 2 x 1/10Gb SFP+ uplinks (environmentally hardened unit designed to operate at -40C to +70C)
- **V300HT-8P-2X:** 8 x 10/100/1000BaseT with 30W PoE and 2 x 1/10Gb SFP+ uplinks (environmentally hardened unit designed to operate at -40C to +70C)
- **V300-8P-2T-W:** 8 x 10/100/1000BaseT 30W PoE access with 2 x 1Gb Type 4 30/60/90W uplinks

1G and/or 10G uplink ports on the faceplate of each V300 unit can be provisioned either as uplink, cascade or ring ports, giving administrators the option to create redundant links or downstream cascade/ring ports to other V300 units.

Environmentally Hardened Units

The V300 Series also includes V300HT models that can operate over extended temperature ranges from -40C to 70C. The V300HT models also meet enhanced environmental, safety, and regulatory compliance requirements for environmentally hardened switches typically used in smart cities, industry, and transportation.

Power over Ethernet Support

V300 Series switches support both IEEE 802.3at PoE+ and IEEE 802.3af PoE to enable connection of standards compliant PoE devices today. The V300-8P-2X model provides up to 180W of PoE power across its 8 access ports and the V300HT-8P-2X model up to 160W of PoE power when operating at 70C.

PoE Power from Upstream EXOS Aggregation Switch

In addition to standard PoE models, the V300 Series includes a PoE pass-through model—the V300-8P-2T-W. This model draws all its required power from an upstream EXOS aggregation switch over either of its two Ethernet IEEE 802.3bt Type 4 (30W/60W/90W) links. This eliminates the need for a separate power supply unit, while still enabling the delivery of downstream PoE power. By drawing power over both of its 90W uplinks, the X435-8P-2T-W can deliver up to 105W of downstream PoE power

Connection to ExtremeXOS Aggregation Switch

V300 Series switches are designed to operate in conjunction with supported ExtremeXOS Series switches at the aggregation layer or core of the network. V300 switches can be single or dual connected to one or more supported ExtremeXOS system for redundancy and uplink bandwidth - and in the case of the V300-8P-2T-W for additional power draw.

Ring Support for Edge Resiliency

Cascaded V300 devices can also be configured in a ring design for additional resiliency. In a ring, the first and last V300 devices in a cascade can be connected to the EXOS aggregation switch. If any V300 device in the ring should fail, traffic can be re-routed in the other direction across the ring to the EXOS aggregation switch.

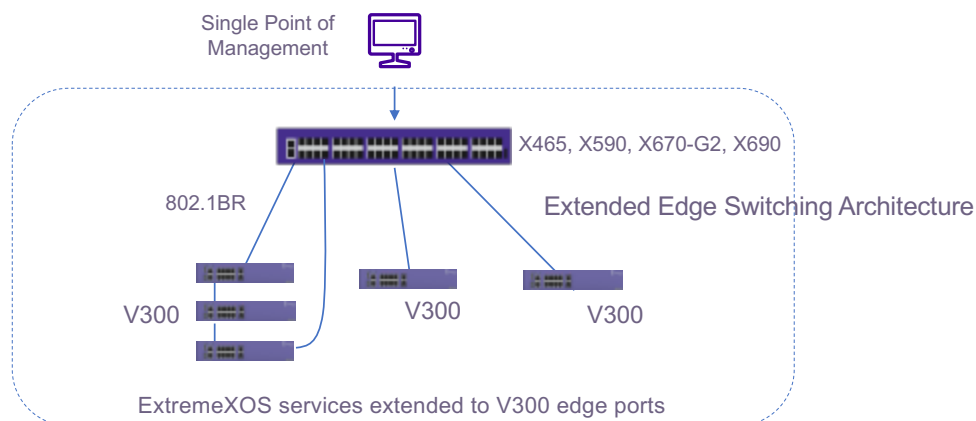


Figure 1: The V300 is the edge component of Extreme's Extended Edge Switching solution

Product Specifications

External Ports

Switch Hardware	Ports
V300-8P-2T-W	8 x 10/100/1000BASE-T (RJ-45) POE-Plus Half, Full, Auto Duplex 2 x 10/100/1000BASE-T 802.3bt Type 4 (30W/60W/90W) PoE ports
V300-8T-2X	8 x 10/100/1000BASE-T (RJ-45) Half, Full, Auto Duplex 2 x 10GBASE-X SFP+
V300-8P-2X	8 x 10/100/1000BASE-T (RJ-45) POE-Plus Half, Full, Auto Duplex 2 x 10GBASE-X SFP+
V300HT-8T-2X	8 x 10/100/1000BASE-T (RJ-45) Half, Full, Auto Duplex 2 x 10GBASE-X SFP+
V300HT-8P-2X	8 x 10/100/1000BASE-T (RJ-45) POE-Plus Half, Full, Auto Duplex 2 x 10GBASE-X SFP+

Performance and Scale

Switch Model	Maximum 10/100/1000 Base-T Ports	Maximum Active 1Gb SFP ports	Maximum 10Gb SFP+ Ports	Aggregated Switch Bandwidth	Frame Forwarding Rate*
V300-8P-2T-W	8	2*	0	4 Gbps	2.98 Mpps
V300-8T-2X	8	2	2	40 Gbps	29.8 Mpps
V300-8P-2X	8	2	2	40 Gbps	29.8 Mpps
V300HT-8T-2X	8	2	2	40 Gbps	29.8 Mpps
V300HT-8P-2X	8	2	2	40 Gbps	29.8 Mpps

* 1Gb uplinks on V300-8P-2T-W are copper only (not SFP)

Physical

Switches				
Model	Weight	Height	Width	Depth
V300-8P-2T-W	2.9 lb. (1.32 kg)	1 RU / 1.75 inches (4.45 cm)	8.43 inches (21.41 cm)	7.63 inches (19.38 cm)
V300-8T-2X	3.13 lb (1.41 kg)	1 RU / 1.71 inches (4.38 cm)	8.27 inches (21.20 cm)	7.68 inches (19.70 cm)
V300-8P-2X	3.25 lb (1.48 kg)			
V300HT-8T-2X	3.13 lb (1.41 kg)			
V300HT-8P-2X	3.25 lb (1.48 kg)			
Power Supplies				
Model	Weight	Height	Width	Depth
XN-ACPWR-280W	2.33 lb (1.06 kg)	1.69 inches (4.29 cm)	3.94 inches (10.0 cm)	7.88 inches (20.02 cm)
XN-ACPWR-40W	0.62 lb (0.28 kg)	1.24 inches (3.15 cm)	1.96 inches (5.0 cm)	4.92 inches (12.5 cm)
XN-ACPWR-320W-HT	2.79 lb (1.25 kg)	1.69 inches (4.29 cm)	4.33 inches (11.0 cm)	8.67 inches (22.02 cm)
XN-ACPWR-40W-HT	0.62 lb (0.28 kg)	1.24 inches (3.15 cm)	1.96 inches (5.0 cm)	4.92 inches (12.5 cm)
XN-ACPWR-60W-HT-DIN	0.41 lb (0.19 kg)	3.54 inches (9.0 cm)	2.06 inches (5.25 cm)	2.14 inches (5.45 cm)
16807	2.16 lb (0.97 kg)	4.92 inches (12.5 cm)	2.48 inches (6.3 cm)	4.46 inches (11.35 cm)

Operating Conditions

Model	Operating Conditions
V300-8P-2T-W V300-8T-2X V300-8P-2X	0C to 50C (32F to 122F) @ 1000 meters 10% to 95% relative humidity, non-condensing 0 to 3,000 meters altitude Shock (half sine): 30 m/s ² (3G), 11 ms, 6 shocks Random Vibration: 3 to 500 Hz at 1.5 G rms
V300HT-8T-2X V300HT-8P-2X	Minus 40C to 70C (minus 40F to 158F) @ 1000 meters 5% to 95% relative humidity, non-condensing 0 to 3,000 meters altitude IEC 60068-2-27 (shock) IEC 60068-2-6 (vibration) IEC 60068-2-32 (freefall)

Power Supplies

Model	Weight	Height	Width	Depth
XN-ACPWR-280W	2.33 lb (1.06 kg)	1.69 inches (4.29 cm)	3.94 inches (10.0 cm)	7.88 inches (20.02 cm)
XN-ACPWR-40W	0.62 lb (0.28 kg)	1.24 inches (3.15 cm)	1.96 inches (5.0 cm)	4.92 inches (12.5 cm)
XN-ACPWR-320W-HT	2.79 lb (1.25 kg)	1.69 inches (4.29 cm)	4.33 inches (11.0 cm)	8.67 inches (22.02 cm)
XN-ACPWR-40W-HT	0.62 lb (0.28 kg)	1.24 inches (3.15 cm)	1.96 inches (5.0 cm)	4.92 inches (12.5 cm)
XN-ACPWR-60W-HT-DIN	0.41 lb (0.19 kg)	3.54 inches (9.0 cm)	2.06 inches (5.25 cm)	2.14 inches (5.45 cm)
16807	2.16 lb (0.97 kg)	4.92 inches (12.5 cm)	2.48 inches (6.3 cm)	4.46 inches (11.35 cm)

PoE Power Budget

Switch Model	Power Supply	Max PoE Budget
V300-8P-2X	280W	180W
V300-8P-2T-W	N/A	105W*
V300HT-8P-2X	320W	160W @ 70C

*Maximum applied PoE Power when drawing power over 2 x 90W PoE input links on V300-8P-2T-W. See PoE Power Budget Values for V300-8P-2T-W table that follows for specific PoE uplink configurations and their respective PoE budget numbers.

PoE Power Budget Values for V300-8P-2T-W

Switch Model	PoE Input Link(s)*	Max PoE Budget
V300-8P-2T-W	2 x 90W	105W
	1 x 90W	50W
	2 x 60W	75W
	1 x 60W	30W
	2 x 30W	30W
	1 x 30W	0W

* from an upstream X465 (or equivalent) PoE switch

Minimum/Maximum Power Consumption and Heat Dissipation

Switch Model	Minimum Power Consumption (Watts)	Minimum Heat Dissipation (BTU/hr)	Maximum Power Consumption (Watts) ^{1, 2}	Maximum Heat Dissipation (BTU/hr) ^{1, 2, 3}
V300-8P-2T-W	7.2	24.6	129.1	82.1
V300-8T-2X	3.3	11.6	7.0	23.8
V300-8P-2X	7.6	25.9	214.6	118.2
V300HT-8T-2X	4.9	16.6	7.4	25.2
V300HT-8P-2X	7.6	25.8	213.3	113.7

¹All ports 100% traffic with maximum PSUs

²Includes maximum PoE load (W) through the switch

³ Does not include PoE load heat dissipated through external electronic load

Environmental

Environmental Compliance

EU RoHS – 2011/65/EU

EU WEEE – 2012/19/EU

China RoHS – SJ/T 11363-2006

Taiwan RoHS CNS 15663(2013.7)

Packaging and Storing Specifications

Temp: -40° C to 70° C (-40° F to 158° F)

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

Packaged Shock (half sine): 180 m/s² (18 G), 6 ms, 600 shocks

Packaged Vibration: 5 to 62 Hz at velocity 5 mm/s, 62 to 500 Hz at 0.2 G

Packaged Random Vibration: 5 to 20 Hz at 1.0 ASD w/-3 dB/oct. from 20 to 200 Hz

Packaged Drop Height: 14 drops minimum on sides and corners at 42 inches (<15 kg box)

IEC 60068-2-2 class s3 (transportation conditions)

IEC 60255-21-1

IEC 60255-21-2

Regulatory and Safety

North American ITE

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

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

UL/CuL 62368-1

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

CDRH Letter of Approval (US FDA Approval)

European ITE

EN 60950 2nd Ed

EN 62368-1

EN 60825 Class 1 (Lasers Safety)

2014/35/ EU Low Voltage Directive

International ITE

CB Report & Certificate per IEC 60950-1 + National Differences

IEC 62368-1

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

EMI/EMC Standards

North American EMC Certifications

FCC CFR 47 part 15 Class A (USA)

ICES-003 Class A (Canada)

European EMC Certifications

EN 55032: Class A

EN 55024

EN 55011

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, 6kV Contact, 8 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, 1 kV L-L, 2 kV L-G, Level 3, Criteria B

IEC 61000-4-6/EN 61000-4-6 Conducted Immunity, 0.15-80 MHz, 7Vrms, 80%AM (1kHz) Criteria A

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

Country Specific Certifications

VCCI Class A (Japan Emissions)

ACMA RCM (Australia Emissions)

CCC Mark

KCC Mark, EMC Approval (Korea)

BSMI (Taiwan)

Anatel (Brazil)

NRCS LoA (South Africa)

Additional Standards for the V300HT Models

NOTE: Regulatory and safety certificates pending final testing by responsible agencies. To be completed for applicable products no later than April 2020.

Industrial Environment

Corrosion and Humidity - ISO 12944-6

Salt Fog / Marine - IEC 60068-52-2

IEC 60068-2-1 (temperature type test - cold)

IEC 60068-2-2 (temperature type test hot)

IEC 60068-2-3 (damp heat steady state)

IEC 60068-2-30 (damp heat cyclic)

IEC 60870-2-2 (operational temp)

IEC 60721-3-1: Class 1K5 (storage temperature)

Industrial EMC

TS 61000-6-5 EMC Immunity for Power Station and sub station

EN 61000-6-2 Immunity for Industrial Environments

EN 61000-6-1 Immunity for Light Industrial Environments

EN 61000-6-4 Emissions for Industrial Environments

EN 50121-1 EMC for Railway applications

EN 50121-4 Immunity for Railway applications

EN 50121-3-2 Immunity for Railway applications

EN 61326-1 EMC for Laboratory applications

Ordering Information

Part Number	Product Name	Description
ExtremeSwitching V300 Systems		
V300-8P-2X	V300-8P-2X	V300-8P-2X with 8 x 10/100/1000BASE-T PoE+ half/full duplex ports, 2 x SFP+ uplinks, fanless, includes 280W PSU
V300-8T-2X	V300-8T-2X w/40W PSU	V300-8T-2X with 8 x 10/100/1000BASE-T PoE+ half/full duplex ports, 2 x SFP+ uplinks, includes 40W PSU
V300-8P-2T-W	V300-8P-2T-W	V300-8P-2T-W with 8 x 10/100/1000BASE-T PoE+ half/full duplex ports, 2 x 1GBASE-T 802.3bt Type 4 uplinks. PoE powered
V300HT-8P-2X	V300HT-8P-2X	V300HT-8P-2X high-temperature model with 8 x 10/100/1000BASE-T PoE+ half/full duplex ports, 2 x SFP+ uplinks 180W PoE+, optional DIN rail bracket. PSU, fanless, power supply not included (must be ordered separately)
V300HT-8T-2X	V300HT-8T-2X	V300HT-8T-2X high-temperature model with 8 x 10/100/1000BASE-T half/full duplex ports, 2 x SFP+ uplinks, fanless, power supply not included (must be ordered separately)
Power Supplies		
XN-ACPWR-320W-HT	320W Hi-Temp AC PSU for V300-8P-2X	V300HT-8P-2X 320W AC Power Supply High Temperature -25C to +70C
XN-ACPWR-40W-HT	40W Hi-Temp AC PSU for V300-8T-2X	V300HT-8T-2X 40W AC Power Supply High Temperature -30C to +70C
XN-ACPWR-60W-HT-DIN	60W Hi-Temp AC PSU for V300-8T-2X	V300HT-8T-2X 60W AC Power Supply High Temperature DIN Rail Mounting -30C to +70C
16807	240W Hi-Temp AC to DC Power	High temperature AC to DC Power Supply 240W Output DIN Rail Mounting -25C to 70C
Accessories		
XN-2P-RMTKIT 2CS-001	Optional Rack-Mount Kit	Optional two post rack mount kit for two V300 compact switches - side by side in a 19" rack
XN-2P-RMTKIT-1CS-001	Optional Rack Mount Kit	Optional two post rack mount kit for single V300 compact switch in a 19" rack
XN-DIN-MT-001	DIN Rail Bracket for V300HT	Optional DIN rail mounting bracket for V300HT models
XN-PRTC-CVR-001	V300 Protective Cover	RJ-45 protective cover for V300 - IP42 rated
XN-PS-MT-001	V300 Power Supply	Mounting Kit / V300 PSU Mounting Kit for Non-DIN PSU's. Supports V300 320W-HT, 280W, 40W-HT, and 40W Power Supplies
XN-MTKIT-CS-01	V300 Replacement Mounting Bracket Ki	Optional field replacement mounting kit for V300 - horizontal or vertical surface

Ordering Information (cont.)

10Gb Transceivers		
10301	SR SFP+ module	10 GBASE-SR SFP+, 850 nm, LC, 30 0 m OM3 MMF, 40 0 m OM4 MMF
10302	LR SFP+ module	10 GBASE-LR SFP+, 1310 nm, LC, 10 km SMF
10GB-BX10 -U	10GB, SINGLE FIBER SM, -U 10 KM	10 Gb, Single Fiber SM, Bidirectional, 1270 nm Tx / 1330 nm RX, 10Km, Simplex LC SFP+ (must be paired with 10 GB-BX10 -D)
10GB-BX10 -D	10GB, SINGLE FIBER SM, -D 10 KM	10 Gb, Single Fiber SM, Bidirectional, 1330 nm Tx / 1270 nm RX, 10Km, Simplex LC SFP+ (must be paired with 10 GB-BX10 -U)
10GB-BX40 -U	10GB, SINGLE FIBER SM, -U 40 KM	10 Gb, Single Fiber SM, Bidirectional, 1330 nm Tx / 1330 nm RX, 40Km, Simplex LC SFP+ (must be paired with 10 GB-BX40 -D)
10GB-BX40 -D	10GB, SINGLE FIBER SM, -D 40 KM	10 Gb, Single Fiber SM, Bidirectional, 1270 nm Tx / 1270 nm RX, 40Km, Simplex LC SFP+ (must be paired with 10 GB-BX40 -U)
10GB-F10 -SFPP	10 GB, ACTIVE OPTICAL DAC, 10M	10 Gb, Active optical direct attach cable with 2 integrated SFP+ transceivers, 10m
10GB-F20 -SFPP	10 GB, ACTIVE OPTICAL DAC, 20 M	10 Gb, Active optical direct attach cable with 2 integrated SFP+ transceivers, 20m
10304	10 GBASE-CR SFP+ 1m	10 GBASE-CR SFP+ pre-terminated twin-ax copper cable with link lengths of 1m
10305	10 GBASE-CR SFP+ 3m	10 GBASE-CR SFP+ pre-terminated twin-ax copper cable with link lengths of 3m
10306	10 GBASE-CR SFP+ 5m	10 GBASE-CR SFP+ pre-terminated twin-ax copper cable with link lengths of 5m
10338	10Gb SFP+ 10 GBASE-T	10 Gb SFP+, 10 GBASE-T RJ45, 30 m with Cat6a
1Gb Transceivers		
10051H	1000BASE-SX SFP, Hi	1000BASE-SX SFP MMF 220 550 meters LC connector Industrial Temp
10052H	1000BASE-LX SFP, Hi	1000BASE-LX SFP MMF 220 550 meters SMF 10km LC connector Industrial Temp
10056H	1000BASE-BX-D BiDi SFP, Hi	1000BASE-BX-D SFP 1490-nm TX/1310-nm RX wavelength Industrial Temp
10057H	1000BASE-BX-U BiDi SFP, Hi	1000BASE-BX-U SFP 1310-nm TX/1490-nm RX wavelength Industrial Temp
10070H	10/100/1000BASE-T SFP, Hi	10/100/1000BASE-T SFP module CAT5 cable 100m link RJ45-connector Industrial Temp

Warranty

The V300 is covered under Extreme Networks Limited Lifetime Warranty with express Advanced Hardware Replacement policy. For warranty details, please visit: <http://www.extremenetworks.com/support>.

Service and Support

Extreme Networks provides comprehensive service offerings that range from Professional Services to design, deploy and optimize customer networks, customized technical training, to service and support tailored to individual customer needs. Please contact your Extreme Networks account executive for more information about Extreme Networks Service and Support.



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