TECHNICAL SPECIFICATION

ExtremeSwitching VDX 6740 Technical Specifications

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ExtremeSwitching VDX 6740 Switch Technical Specifications

This document highlights the features and specifications for the ExtremeSwitching VDX 6740 family of switches.

System specifications

System component	Description
Enclosure	1U, 19-inch EIA-compliant
Power inlet	AC: C14; power from nonport side DC: 3 Position Terminal Block, Minimum input wire 16 AWG/300V/90C
Power supplies	Two internal, redundant, field-replaceable, load-sharing AC or DC power supplies
Fans	Extreme VDX 6740 - 3 cooling fans integrated into power supplies Extreme VDX 6740T - 5 cooling fans
Cooling	Rear-to-front or front-to-rear airflow
System architecture	Non-blocking shared memory switch
System processors	1.5 GHz PowerPC

Ethernet

System component	Description
SFP GbE ports	VDX 6740 - 64 1x10 GbE SFP+ ports VDX 6740T • 16 1X10 GbE SFP+ ports • Four 40 GbE QSFP+ VDX 6740T - Four 40 GbE QSFP+ ports
Ethernet management port	RJ-45 Ethernet out-of-band management port operating at 1 Gbps

LEDs

System component	Description
Switch status and management	VDX 6740 and VDX 6740T • One bicolor system status LED (green and amber) on the port side • one power status LED (green) on the port side • Two Ethernet management port LEDs (green) for the Ethernet management port • One triangle-shaped bicolor port status LED (green and amber) for each 10 GbE port on the switch • One triangle-shaped bicolor port status LED (green and amber) for each 40 GbE port on the switch

System component	Description
	• One power supply and fan assembly LED (green) above the AC power switch on each combined power supply and fan assembly on the non-port side of the switch VDX 6740T • One power supply LED (green) to the left of the AC power plug on each power supply on the non-port side of the switch • One bicolor fan status LED (green and amber) on each fan assembly on the non-port side of the switch

Other

System component	Description
Serial cable	Rollover cable
RJ-45 connector	VDX 6740 - Used for the serial port.
Mini-USB connector	VDX 6740T - Used for the serial port.

Weight and physical dimensions

Fully loaded with all power supplies and fan assemblies, and no transceivers installed.

Model	Height	Width	Depth	Weight
Extreme VDX 6740	4.32 cm 1.75 in	43.99 cm 17.32 in	40.99 cm 16.14 in	8.66 kg 19.10 lb
Extreme VDX 6740T	4.27 cm 1.68 in	43.74 cm 17.22 in	53.65 cm 21.12 in	10.82 kg 23.85 lb

Environmental requirements

Condition	Operational	Non-operational
Ambient temperature	0°C to 40°C (32°F to 104°F)	-25°C to 70°C (-13°F to 158°F)
Relative humidity (non-condensing)	10% to 85% at 40°C (104°F)	10% to 90% at 70°C (158°F)
Altitude (above sea level	0 to 3048 m (10,000 feet)	0 to 12000 m (40,000 feet)
Shock	20 G, 11 ms, half-sine wave	44 G, 15 ms, square wave,
Vibration	0.5 G peak, 0.7 gms random, 5 to 500 Hz	2.0 G sine, 1.4 gms random, 5 to 500 Hz
Airflow	VDX 6740 - Maximum: 43.7 cmh (25.7 cfm) Nominal: 19.5 cmh (11.5 cfm) VDX 6740T - Maximum: 83.8 cmh (49.3 cfm) Nominal: 44.7 cmh (26.3 cfm)	N/A
Heat dissipation	Refer to Power Consumption for Heat Dissipation	N/A
Operating noise	VDX 6740 and VDX 6740T - 46.7 dB	N/A

Power supply specifications (per PSU)

Power supply model	Maximum output power rating (DC)	Input voltage	Input line frequency	Maximum input current	Input line protection	Maximum inrush current
AC to DC - VDX 6740 XBR-250WPSAC-F Or XBR-250WPSAC-R	250 W	100 - 240 VAC (nominal) 90 - 264 VAC (range)	50/60 Hz (nominal) 47 - 63 Hz (range)	3.5 A	Line Fused	50 A peak @ 240 VAC at cold start for < 10 ms, 15 A peak for cycles 10 ms - 150 ms, < 3.5 A peak for > 150 ms
AC to DC - VDX 6740T XBR-500WPSAC-F Or XBR-500WPSAC-R	504 W	100 - 240 VAC (nominal) 90 - 264 VAC (range)	50/60 Hz (nominal) 47 - 63 Hz (range)	6 A @ 100 VAC 7 A @ 85 VAC	Line Fused	30 A peak at cold start & 50 A peak at warm start for < 10 ms, 10 A peak for cycles 10 ms - 150 ms, < 7 A peak for >150 ms
DC to DC - VDX 6740 XBR-250WPSDC-F Or XBR-250WPSDC-R	250 W	48Vdc (nominal) 40-60Vdc (range) 40-60Vdc with + or - zero percent tolerance	N/A	7.1 A	-Ve and return fused	50 A peak for any initial current surge, or spike of 10ms or less
DC to DC - VDX 6740T RP59DC+E Or RP59DC+I	504 W	48Vdc (nominal) 40Vdc-60Vdc (range)	N/A	15 A	-Ve Fused	25 A peak @ 25°C

Power consumption VDX 6740 and VDX 6740T (idle configuration)

No optics or connections to ports and system booted up. Fans at nominal speed.

Model	@ 100 VAC input	@ 200 VAC input	@-48 VDC Input	Maximum number of power supplies	Notes
VDX 6740	0.842 A 91 W 310.59 BTU/hr	0.473 A 96 W 317.42 BTU/hr	1.5 A 77 W 262.94 BTU/hr	1	Input current is for 1 PSU, Watts & BTUs/hr are for two PSUs.
VDX 6740T	2.049 A 225 W 767.94 BTU/hr	1.05 A 219 W 747.46 BTU/hr	4.12 A 208 W 711.46 BTU/hr	1	Input current is for 1 PSU, Watts & BTUs/hr are for two PSUs.

Power consumption VDX 6740 (typical configuration)

All ports fully configured with 48x10 GbE and 4x40 GbE ports at 25 percent traffic rate. Fans are set at nominal speed.

Model name	@100 VAC input	@200 VAC input	@-48 VDC input	Minimum number of power supplies	Notes
VDX 6740	1.34 A 140 W 477.83 BTU/hr	0.473 A 145 W 494.9 BTU/hr	2.93 A 140.6 W 480.02 BTU/hr	1	Input current is for 1 PSU, Watts and BTU/Hr are with two PSUs.
VDX 6740T	4.393 A 446 W 1522.23 BTU/hr	2.179 A 440 W 1501.76 BTU/hr	8.67 A 416 W 1420.39 BTU/hr	1	Input current, Watts, BTU/Hr are with only one power supply.

Power consumption VDX 6740T (typical configuration)

Data in the following table is for a VDX 6740T using Network OS v7.1.0 and PHY firmware v1.38.c1. All ports are fully configured with 48 10 GbE ports at 100 percent traffic rate and 4x40 GbE ports at 25 percent traffic rate. Fans are set at nominal speed.

NOTE

Extreme Network OS 7.1.0 increases nominal fan speed for port-side exhaust airflow. Increased fan speed is also available in Network OS 7.0.1 in 6.0.2a2, 5.0.2b2, 5.0.1d3, and 4.1.3c1 builds. These builds use PHY firmware 1.38.c1 (refer to TSB 2016-236-A).

Model name	@100 VAC input	@200 VAC input	@-48 VDC input	Minimum number of power supplies	Notes
VDX 6740T	4.728 A 470 W 1604.15 BTU/hr	2.34 A 471 W 1607.56 BTU/hr	9.6 A 461 W 1572.75 BTU/hr	1	Input current is with one power supply; Watts and BTU/Hr are with two power supplies.

Data in the following table is for a VDX 6740T using Network OS v7.1.0 and PHY firmware v1.39.c1. LAN cables from the 48x10 GbE ports are less than 30 m (98.42 ft). All ports are fully configured with 48x10 GbE ports at 100 percent traffic rate and 4x40 GbE ports at 25 percent traffic rate. Fans are set at nominal speed.

Model name	@100 VAC input	@200 VAC input	@-48 VDC input	Minimum number of power supplies	Notes
VDX 6740T	4.105 A 421 W 1436.91 BTU/hr	2.105 A 410 W 1399.36 BTU/hr	8.2 A 394 W 1343.39 BTU/hr	1	Input current is with one power supply; Watts and BTU/Hr are with two power supplies.

Data in the following table is for a VDX 6740T using Network OS v7.1.0 and PHY firmware v1.39.c1. LAN cables from the 48 10 Gbe ports are greater than 30 m (98.42 ft). All ports are fully configured with 48x10 GbE ports at 100 percent traffic rate and 4x40 GbE ports at 25 percent traffic rate. Fans are set at nominal speed.

Model name	@100 VAC input	@200 VAC input	@-48 VDC input	Minimum number of power supplies	Notes
VDX 6740T	4.728 A 470 W 1604.15 BTU/hr	2.34 A 471 W 1607.56 BTU/hr	9.6 A 461 W 1572.75 BTU/hr	1	Input current is with one power supply; Watts and BTU/Hr are with two power supplies.

Power consumption VDX 6740 and 6740T (maximum configuration)

All ports fully configured with 48x10 GbE & 4x40 GbE ports at 100 percent traffic rate. Switch fans set at high speed.

Model name	@100 VAC input	@200 VAC input	@-48 VDC input	Minimum number of power supplies	Notes
VDX 6740	1.711 A 182 W 621.18 BTU/hr	0.857 A 175 W 597.29 BTU/hr	3.46 A 166 W 566.67 BTU/hr	1	Input current is for 1 PSU, Watts and BTU/Hr are with two PSUs.
VDX 6740T	4.826 A 490 W 1672.41 BTU/hr	2.354 A 475 W 1621.21 BTU/hr	10.06 A 483 W 1648.11 BTU/hr	1	Input current, Watts, BTU/Hr are with only one power supply.

Data port specifications (Ethernet)

Model	Port type	Number of ports	Description
VDX 6740	40 GbE	4	QSFP+ ports can be split into 16 10 GbE SFP+ ports.
	10 GbE	48 + 16	Up to 64 1/10 GbE SFP+ ports depending on configuration.
	1 GbE	48 + 16	Up to 64 1/10 GbE SFP+ ports depending on configuration.
VDX 6740T	40 GbE	4	QSFP+ ports can be split into 16 10 GbE SFP+ ports.
	10 GbE	48 + 16	Up to 16 1/10 GbE SFP+ ports depending on configuration. 48 1/10 GBASE-T ports.
	1 GbE	48 + 16	Up to 16 1/10 GbE SFP+ ports depending on configuration. 48 1/10 GBASE-T ports.

Serial port specifications (pinout mini-USB)

Pin	Signal	Description
1	+5V	Not used
2	UART0_TX	Debug port
3	UART0_RX	Console port
4	IN	Not used

Pin	Signal	Description
5	GND	Ground

Serial port specifications (pinout RJ-45)

Pin	Signal	Description
1	Not supported	N/A
2	Not supported	N/A
3	UART1_RXD	Receive data
4	GND	Logic ground
5	GND	Logic ground
6	UART1_TXD	Transmit data
7	Not supported	N/A
8	Not supported	N/A

Serial port specifications (protocol)

Parameter	Value
Baud	9600
Data bits	8
Parity	None
Stop bits	1
Flow control	None

Memory specifications

Memory	Type	Size
Main Memory	DDR2 SDRAM	8 GB
Boot Flash		4 MB
Compact Flash		8 GB

Regulatory compliance (EMC)

- FCC Part 15, Subpart B (Class A)
- EN 55022 (CE mark) (Class A)
- EN 55024 (CE mark) (Immunity) for Information Technology Equipment
- ICES-003 (Canada) (Class A)
- AS/NZ 55022 (Australia) (Class A)
- VCCI (Japan) (Class A)

- EN 61000-3-2
- EN 61000-3-3
- EN 61000-6-1

Regulatory compliance (safety)

- CAN/CSA-C22.2 No. 60950/UL 60950
- EN 60825 Safety of Laser Products
- EN 60950/IEC 60950 Safety of Information Technology Equipment

Regulatory compliance (environmental)

- 2014/35/EU and 2014/30/EU
- 2011/65/EU - Restriction of the use of certain hazardous substance in electrical and electronic equipment (EU RoHS).
- 2012/19/EU - Waste electrical and electronic equipment (EU WEEE).
- 94/62/EC - packaging and packaging waste (EU).
- 2006/66/EC - batteries and accumulators and waste batteries and accumulators (EU battery directive).
- 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (EU REACH).
- Section 1502 of the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 - U.S. Conflict Minerals.
- 30/2011/TT-BCT - Vietnam circular.
- SJ/T 11363-2006 Requirements for Concentration Limits for Certain Hazardous Substances in EIPs (China).
- SJ/T 11364-2006 Marking for the Control of Pollution Caused by EIPs (China).