

RES-SWITCH MODULE

The RES-Switch module occupies one chassis slot in a 2RU or 3RU HD chassis with a 12-port, managed 56 Gb/s Infiniband VPI SDN/40GBe switch system that delivers up to 1.3Tb/s of non-blocking bandwidth and 200ns port-to-port latency.

The Switch module enables data centers to scale out with Fourteen Data Rate (FDR) Infiniband. Mellanox switching technology provides industry-leading performance, power, and density. The HD hosted switch also interoperates with existing networks, supports Software Defined Networks (SDN), and provides fabric management for cluster and converged I/O applications.

Additionally, with a break out cable, each QSFP port can support four ports of 10GbE for a total of 48 10GbE ports.

RES HD SYSTEMS

Themis RES HD systems can be used in a multitude of applications that require high-compute density and low latency access to large-data storage. Themis RES HD servers:

- ▶ Deliver high performance processing power
- ▶ Double compute density
- ▶ Enable a 50% rack space savings with per server weights as low as seven pounds
- ▶ Reduce total system weight by nearly 50%

Designed with leading edge components, RES-HD servers provide maximum system configuration flexibility and system expansion options with processor, storage, high-speed switch, and system management module options.

Designed with enhanced reliability features for military, industrial, or rugged commercial use, RES HD systems can be mounted in standard commercial racks or mobile rugged transit cases, and provide industry-leading performance and superior resilience to shock, vibration, and temperature extremes.

THEMIS VALUE

Themis provides systems integrators and end-users with the best-of-breed computing resources available, and works closely with them to optimize computing solutions that are easy to integrate, yet inexpensive to own and operate.

For the most current information on Themis products, visit www.themis.com.



HD SYSTEM ENVIRONMENTAL SPECIFICATIONS*

- ▶ Operating temperature range: 0°C to 55°C
- ▶ Extended temperature range: -15°C – 65°C **
- ▶ Operating shock: 3 axis, 35g, 25ms
- ▶ Operating vibration: 4.76 Grms, 5Hz to 2000Hz (SSD)
- ▶ Operating humidity: 8% to 95% non-condensing
- ▶ MIL-STD-810G, MIL-STD-901D, and MIL-STD-167-1*
- ▶ MIL-STD-461 options available

HD SYSTEM AND MODULE MECHANICAL SPECIFICATIONS

- ▶ Height
 - ▶ 4 chassis slot, 2RU or 3.5 inches (88.9 mm)
 - ▶ 6 chassis slot, 3RU or 5.25 inches (133.35 mm)
- ▶ Width: 17.06 inches (433.3 mm)
- ▶ Depth: 20 inches (508 mm)
- ▶ Typical System Weight*
 - ▶ 2RU chassis: 40 pounds
 - ▶ 3RU chassis: 55 pounds
- ▶ RES-XR5-HDC Module Weight: 6.88 lbs.

HD SYSTEM MODULAR MAINTAINABILITY

- ▶ Removable fans (3)
- ▶ Power supply options
 - ▶ Single or redundant 110/220 VAC (50/60Hz, 400Hz)
 - ▶ Single or redundant 18-36 VDC, 32 Amp
 - ▶ Single or redundant 36-72 VDC, 18 Amp
- ▶ Hot pluggable disk drives (8)

* Themis HD modules are implemented in a 2RU or 3RU system chassis. The environmental specifications provided herein reflect HD system temperatures. Themis designs all products to meet or exceed listed data sheet specifications. Some specifications are configuration dependent.

** Extended temperature range is dependent on system configuration, components, and application thermal profile. Please contact Themis for information specific to your desired configuration requirements.



RES-SWITCH MODULE SPECIFICATIONS

Functionality

- ▶ 12 QSFP non blocking ports with aggregate data throughput up to 1.344 Tb/s (FDR)
- ▶ QSFP controller supports 56Gb IB / 40GbE / 10GbE VPI ConnectX3
- ▶ Port-to-port latency 200ns
- ▶ Compliant with IBTA 1.21 and 1.3
- ▶ 9 virtual lanes: 8 data + 1 management
- ▶ 256 to 4Kbyte MTU
- ▶ 4x48K entry linear forwarding data base

Management Ports

- ▶ 100/1000 Ethernet port
- ▶ RS232 port over DB9
- ▶ Mini USB

Device Management

- ▶ CLI or SNMP

Fabric Management

- ▶ On-board SM for fabrics up to 648 nodes
- ▶ Unified Fabric Manager™ (UFM™) Agent

Connectors and Cables

- ▶ QSFP connectors
- ▶ Passive copper or active fiber cables
- ▶ Fiber media adapters
- ▶ QSFP to SFPT adaptors

Indicators

- ▶ Per port status LED Link, Activity
- ▶ System status LEDs: System, fans, power supplies
- ▶ Port Error LED
- ▶ Unit ID LED

RES HD SYSTEM SPECIFICATIONS

HD SYSTEM ENVIRONMENTAL SPECIFICATIONS, NOTE 1		
PARAMETER	NON-OPERATING	OPERATING
Temperature range	-40°C to 70°C	0°C to 55°C
Extended Temperature range	-40°C to 70°C	-15°C – 65°C, Note 2
Humidity (non-condensing)	5% to 95%	8% to 95%
Shock	3 axis, 35g at 25 ms	3 axis, 35g at 25 ms
Safety	EN60000	EN60000
RFI/EMI	EN55022/24	EN55022/24
Compliance	CE Mark	CE Mark

RES-HD SYSTEM MECHANICAL SPECIFICATIONS, NOTE	
PARAMETER	NON-OPERATING
HD System Dimensions	Height: 4 chassis slot, 2RU or 3.5 inches (88.9 mm), 6 chassis slot, 3RU or 5.25 inches (133.35 mm) Width: 17.06 inches (433.3 mm) Depth: 20 inches (508 mm)
Typical System Weight	2RU chassis: 40 pounds 3RU chassis: 55 pounds
HD-Chassis Power Supply Options	Single or redundant 110/220 VAC (1200W) Single or redundant 28 VDC (500W, 750W DC)
Chassis features	Coated aluminum for light weight and corrosion resistance Stainless steel in selected areas to add strength and stiffness Modular design for easy upgrade and service Optional rack-mount slides and shock pins Front to rear airflow

RES-HD SYSTEM FAN AND POWER SPECIFICATIONS	
PARAMETER	DESCRIPTION
Removable fans	3
Power supply options	Single or redundant 110/220 VAC (50/60Hz, 400Hz) Single or redundant 18-36 VDC, 32 Amp Single or redundant 36-72 VDC, 18 Amp
Hot pluggable disk drives	8

Notes

1. Themis designs all products to meet or exceed listed data sheet specifications. Some specifications are configuration dependent. I/O options are configuration dependent
2. Extended temperature is dependent on system configuration, components, and application thermal profile. Please contact Themis for information specific to your desired configuration requirements.
3. Weights are provided for typical configurations. Weight may vary depending on configuration. Contact your Themis sales representatives for more information.

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For More Information
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