



SX6710 InfiniBand Switch

36-port Non-blocking Managed FDR 56Gb/s InfiniBand Switch

SX6710 switch system provides the highest performing fabric solution in a 1U form factor by delivering up to 4Tb/s of non-blocking bandwidth with 200ns port-to-port latency.

SCALING-OUT DATA CENTERS WITH FOURTEEN DATA RATE (FDR) INFINIBAND

Faster servers based on PCIe 3.0, combined with high-performance storage and applications that use increasingly complex computations, are causing data bandwidth requirements to spiral upward. As servers are deployed with next generation processors, High-Performance Computing (HPC) environments and Enterprise Data Centers (EDC) will need every last bit of bandwidth delivered with Mellanox's next generation of FDR InfiniBand high-speed smart switches.

SUSTAINED NETWORK PERFORMANCE

Built with Mellanox's latest SwitchX-2[®] InfiniBand switch device, FDR uses efficient 64/66 encoding while increasing the per lane signaling rate to 14Gb/s. SX6710 provides up to thirty-six 56Gb/s full bi-directional bandwidth per port. These stand-alone switches are an ideal choice for top-of-rack leaf connectivity or for building small to extremely large-sized clusters.

SX6710 enables efficient computing with features such as static routing, adaptive routing, and congestion control. These features ensure the maximum effective fabric bandwidth by eliminating congestion hot spots.

WORLD-CLASS DESIGN

SX6710 is an elegant top of the rack design, created for performance, serviceability, energy savings and high-availability. SX6710 comes with two highly efficient, 80 gold+ and energy star certified power supplies. SX6710 has redundant power supplies (1+1) and fan draws (N+1) both with air shutters for achieving maximal thermal protection.

MANAGEMENT

The SX6710, dual-core x86 CPU, comes with an onboard subnet manager, enabling simple, out-of-the-box fabric bring-up for up to 648 nodes.

SX6710 switch can also be coupled with Mellanox's Unified Fabric Manager (UFM[®]) software for managing scale-out InfiniBand computing environments. UFM enables data center operators to efficiently provision, monitor and operate the modern data center fabric.



HIGHLIGHTS

BENEFITS

- Industry-leading switch platform in performance, power, and density
- Designed for energy and cost savings
- Quick and easy setup and management
- Maximizes performance by removing fabric congestions

KEY FEATURES

- Performance
 - 36 FDR 56Gb/s ports in a 1U switch
 - 4Tb/s aggregate switch throughput
 - 200ns switch latency
- Optimized design
 - 1+1 redundant & hot-swappable power
 - N+1 redundant & hot-swappable fans
 - 80 gold+ and energy star certified power supplies
 - Dual-core x86 CPU

FEATURES

Mellanox SX6710

- 19" rack mountable chassis, 1U with redundant power supplies and fan units
- 36 QSFP non-blocking ports with aggregate data throughput up to 4Tb/s (FDR)

Switch Specifications

- Compliant with IBTA 1.21 and 1.3
- 9 virtual lanes: 8 data + 1 management
- 256 to 4Kbyte MTU
- 4X48K entry linear forwarding database

Management Ports

- Dual 10/100/1000Mb/s Ethernet ports
- RS232 port over DB9
- USB port
- DHCP
- Familiar Industry Standard CLI
- Management over IPv6
- Management IP
- SNMP v1,v2,v3
- Web UI

Fabric Management

- On-board Subnet Manager supporting fabrics of up to 648 nodes
- Unified Fabric Manager (UFM[®]) Agent

Connectors and Cabling

- QSFP+ connectors
- Passive copper or active fiber cables
- Optical modules

Indicators

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

Physical Characteristics

- Dimensions: 1.72"H x 16.84"W x 27"D
- Weight: 19.4 lb (8.8 kg)

Power Supply

- Dual redundant slots
- Hot plug operation
- Input range: 100-127VAC, 200-240VAC
- Frequency: 50-60Hz, single phase AC, 3.5A, 2.9A

Cooling

- Front-to-rear or rear-to-front cooling option
- Hot-swappable fan unit

Power Consumption

- Typical power consumption: 130W
- Max power consumption: 235W

* This section describes hardware features and capabilities. Please refer to the driver and firmware release notes for feature availability.

COMPLIANCE

Safety

- CB
- cTUVus
- CE
- CU

EMC (Emissions)

- CE
- FCC
- VCCI
- ICES
- RCM

Operating Conditions

- Operating 0°C to 45°C
- Non-Operating -40°C to 70°C
- Humidity: Operating 5% to 95%
- Altitude: Operating -60m to 3200m

Acoustic

- ISO 7779
- ETS 300 753

Others

- RoHS-6 compliant
- Rack-mountable, 1U
- 1-year warranty

Table 1 - Part Numbers and Descriptions

OPN	Description
MSX6710-FB2F2	SwitchX [®] -2 based FDR InfiniBand 1U Switch, 36 QSFP+ ports, 2 Power Supplies (AC), x86 dual core, short depth, P2C airflow, Rail Kit, RoHS6
MSX6710-FS2F2	SwitchX [®] -2 based FDR InfiniBand 1U Switch, 36 QSFP+ ports, 2 Power Supplies (AC), x86 dual core, standard depth, P2C airflow, Rail Kit, RoHS6
MTEF-PSF-AC-A	460W AC power supply w/P2C air flow
MTEF-PSR-AC-A	460W AC power supply w/C2P air flow
LIC-Fabric-Inspector	Enhanced InfiniBand Diagnostics license



350 Oakmead Parkway, Suite 100, Sunnyvale, CA 94085
 Tel: 408-970-3400 • Fax: 408-970-3403
www.mellanox.com