

# IS5100

## 108-port 40Gb/s InfiniBand Chassis Switch

The IS5100 switch provides the highest performing fabric solution by delivering high bandwidth and low-latency to Enterprise Data Centers and High-Performance Computing environments in a 6U chassis. Networks built with the IS5100 can carry converged traffic with the combination of assured bandwidth and granular quality of service.

### World Class Modularity and Next Generation Scalability

Built with Mellanox's 4th generation InfiniScale® InfiniBand switch device, the IS5100 provides full bisectional bandwidth up to 40Gb/s per port. With up to 108 QSFP ports, this system is among the densest switching systems available. The IS5100 supports a superior scalable platform that scales as the number of nodes per cluster and the number of cores per node increases. This modular chassis switch is an ideal choice for building medium to large size clusters or for use as a core switch for large clusters.

### Efficient Computing and Scalable I/O Consolidation

The IS5100 supports adaptive routing as well as static routing to reduce or eliminate congestion situations. Hardware-based adaptive routing dynamically and automatically re-routes traffic to alleviate congested ports and dynamically adjusts the network in real time. The granular Quality of Service (QoS) integrated into the IS5100 enables I/O consolidation over InfiniBand and provides efficient network management mechanisms for LAN and SAN protocols.

Whether used for parallel computation or as a converged fabric, the combination of high bandwidth, adaptive routing, congestion control and granular QoS provide the industry's best traffic carrying capacity.

### High Availability

The IS5100 delivers director-class availability required for mission-critical application environments. The leaf, spine blades and management modules as well as the power supplies and fan units are all hot-swappable to help eliminate down time.

### Management Capabilities

The IS5100 comes with an onboard subnet manager, enabling simple, out-of-the-box fabric bring up for up to 648 nodes.

FabricIT™ fabric management running on the IS5100 enables fast setup for cluster bring-up, fabric-wide bandwidth and latency verification, diagnostic tools and cluster topology view.

FabricIT™ chassis management is embedded in the IS5100 and provides administrative tools to manage the firmware, power supplies, fans, ports, and other interfaces.



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## HIGHLIGHTS

### BENEFITS

- Industry-leading, switch platform in performance, power and density
- High bandwidth, low-latency fabric for compute-intensive applications
- Unlimited scalability across storage, application and database servers

### KEY FEATURES

- 108 QDR (40Gb/s) QSFP ports
- 8.64Tb/s switching capacity
- 100ns to 300ns switching latency
- Hardware-based routing
- Congestion control
- Quality of Service enforcement

### MANAGEMENT

- Fast and efficient fabric bring-up
- Comprehensive chassis management
- Intuitive CLI and GUI for easy access

## HARDWARE

### INFINIBAND SWITCH

- 19" rack mountable chassis, 6U\* height
- Up to 108 QDR (40 Gb/s) QSFP ports
- Aggregate data throughput of 8.564 Tb/s
- 100ns to 300ns port-to-port latency
- IBTA 1.21 compliant
- Adaptive routing
- congestion control
- Port mirroring
- 48K entry linear forwarding data base
- 4K entry multicast forwarding data base

### CONNECTORS AND CABLING

- QSFP connectors
- Passive/Active copper or fiber cable
- Fiber media adapters

### INDICATORS

- Per port status LEDs: Link, Activity
- System status LEDs:  
System, thermal, voltages, fans

### POWER SUPPLY

- 1KW 48VDC hot-swappable units
- Two additional slots for optional redundancy
- Input range: 90-264VAC
- Frequency: 47-63Hz, single phase AC

### COOLING

- Hot-swappable fan trays
- Front-to-rear air flow
- Auto-heat sensing

## COMPLIANCE

### SAFETY

- US/Canada: cTUVus
- EU: IEC60950
- International: CB

### EMC (EMISSIONS)

- USA: FCC, Class A
- Canada: ICES, Class A
- EU: EN55022, Class A
- EU: EN55024, Class A
- EU: EN61000-3-2, Class A
- EU: EN61000-3-3, Class A
- Japan: VCCI, Class A

### ENVIRONMENTAL

- EU: IEC 60068-2-64: Random Vibration
- EU: IEC 60068-2-29: Shocks, Type I / II
- EU: IEC 60068-2-32: Fall Test

### ACOUSTIC

- ISO 7779
- ETS 300 753

### OPERATING CONDITIONS

- Operating temperature: 10 to 45° C
- Humidity: 10-90% non-condensing

### OTHERS

- RoHS-5 compliant
- 1-year warranty

\*Shelf will add 1U

Ordering Part Number	Description
MIS5100D-3DNC	InfiniScale IV, 4.32Tb/s DDR InfiniBand Chassis Switch, 6 Leaf Slots, Managed
MIS5100Q-3DNC	InfiniScale IV, 8.64Tb/s QDR InfiniBand Chassis Switch, 6 Leaf Slots, Managed
MIS5001DC	InfiniScale IV, 18 + 18 port QSFP DDR 20Gb/s InfiniBand Leaf Blade
MIS5001QC	InfiniScale IV, 18 + 18 port QSFP QDR 40Gb/s InfiniBand Leaf Blade
MIS5600MDC	PowerPC460 Management Module

Please visit Mellanox's web site for more cable information, best usage practice and availability.



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