

# IS5022

## 8-port Non-blocking Unmanaged 40Gb/s InfiniBand Switch System

The IS5022 unmanaged switch system provides the highest-performing fabric solution in a 1U half-width form factor by delivering 640Gb/s of non-blocking bandwidth with 100ns port-to-port latency.

Built with Mellanox's 4th generation InfiniScale<sup>®</sup> InfiniBand switch device, the IS5022 provides up to 40Gb/s full bidirectional bandwidth per port. The IS5022 is an ideal choice for smaller departmental or back-end clustering uses with high-performance needs, such as storage, data base and GPGPU clusters. The IS5022 is designed to carry converged LAN and SAN traffic with the combination of assured bandwidth and granular Quality of Service (QoS).

Unmanaged switches are plug and play out of the box. All switches come with the latest FW burned on the Flash and EEPROM. Update of FW on unmanaged switches is done in-band only.

### Sustained Network Performance

The IS5022 enables efficient computing with features such as static routing, adaptive routing, and advanced congestion management. These features ensure the maximum effective fabric bandwidth by eliminating congestion hot spots. Whether used for parallel computation or as a converged fabric, the IS5000 family of switches provides the industry's best traffic-carrying capacity.

### World-Class Design

The IS5022 is an elegant top of the rack or stand-alone switch design optimized for performance, serviceability, energy savings and high-availability. The design is optimized for fitting into industry-standard racks for scale-out computing solutions from industry leaders. The

IS5022 supports reversible airflow adapting to a variety of data center cooling techniques. Redundant fans provide high availability for both High-Performance Computing and Enterprise Data Center applications.

### Ease of Use and Serviceability

The IS5022 has enhanced LED indications and a unique rack mounting design that simplifies maintenance and conserves valuable rack space. The IS5022 has a Port Error LED in the status panel that provides an aggregate status of the all the ports on the switch. It also supports a Unit ID LED\* that can be lit on the switch through remote in-band control packets. This allows administrators to physically identify the switch in crowded data center environments.

The IS5022 has no Field Replaceable Units (FRUs), this simplifies the usage and maintenance of the switch. All connectors and cables including the power connector and cable are on the same side of the switch making it unnecessary to require access to the non-connector side of the switch. The switches can also be inserted, removed and maintained requiring physical access only from the connector side of the rack. A unique rail mounting kit allows two IS5022 switches to be mounted side-by-side in the same 1U space while allowing the switches to be serviced independently using less rack space for redundant switch configurations.



IS5022

## HIGHLIGHTS

### BENEFITS

- Industry-leading, switch platform in performance, power, and density
- Designed for energy and cost savings
- Ultra low latency
- Granular QoS for Cluster, LAN and SAN traffic
- Maximizes performance by removing fabric congestions

### KEY FEATURES

- 8 QDR (40Gb/s) ports in a 1U switch
- 640Gb/s switching capacity
- Signal optimization for longer cable length
- Quality of Service enforcement
- Reversible air flow configuration option

## HARDWARE

### INFINIBAND SWITCH

- 8 QSFP non-blocking ports
- Aggregate data throughput up to 640 Gb/s
- Port-to-port latency < 100ns
- IBTA 1.21 compliant
- 9 virtual lanes: 8 data + 1 management
- Adaptive routing
- Congestion control
- Port mirroring
- 48K entry linear forwarding data base

### MANAGEMENT PORTS

- 1°C (RJ45)

### CONNECTORS AND CABLING

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

### INDICATORS

- Per port status LED Link, Activity
- System status and Power supply LEDs
- Fan LED
- Port Error LED
- Unit ID LED\*

### POWER SUPPLY

- Input range: 100 - 240VAC
- Frequency: 50-60Hz, single phase AC

### POWER CONSUMPTION

- Typical power consumption:
  - *Passive cable - 46W*
  - *Active cable - 66W*

### FANS

- Front-to-rear or rear-to-front cooling (fan unit ordering option)

\* Available in future release

Ordering Part Number	Description
MIS5022Q-1BFR	InfiniScale® IV QDR InfiniBand Switch, 8 QSFP ports, 1 power supply, Remotely-managed Connector side airflow outlet, (short depth)
MIS000811	Rack installation kit for IS5022 series switch, allows installation of a single switch per 1U centered in the rack, supports 19" racks with depth of 400mm-800mm
MIS000830	Rack installation kit for IS5022 series switch, allows installation of One or Two switches side-by-side per 1U, supports 19" racks with depth of 650mm-800mm
MIS000831	Rack installation kit for IS5022 series switch, allows installation of One or Two switches side-by-side per 1U, supports 19" racks with depth of 400mm-650mm

Also available in a reversed airflow option. Consult your Mellanox Sales Representative for further details.

## COMPLIANCE

### PHYSICAL CHARACTERISTICS

- Dimensions (H x W x D):  
1.73 X 7.9 X 9.8
- Weight: 1.92 Kg

### 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

### ACCOUSTIC

- ISO 7779
- ETS 300 753

### OPERATING CONDITIONS

- Operating 0°C to 45°C,  
Non Operating -40°C to 70°C
- Humidity: Operating 10% to 90%,  
non condensing
- Altitude: Operating -60 to 2000m
- Noise: 57.3 dB

### OTHERS

- RoHS 6 compliant
- Rack-mountable, 1U



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