

# SX1036

## 36-Port 10/40/56GbE SDN Switch System

The SX1036 switch system provides the highest-performing fabric solution in a 1U form factor by delivering up to 4.03Tb/s of non-blocking throughput.

The SX1036 SDN switch is ideally suited as a top-of-rack access switch providing up to 56GbE connectivity to servers and uplinks to the next level of aggregation switching.

The SX1036 switch has a rich set of networking and application performance features that excel and enable Software Defined Networking in any data center, making this switch the perfect solution for your network.

SwitchX<sup>®</sup>-2 carries a unique design that enables users with a straight forward platform for implementation of a Software Defined Network, allowing the construction of a high scale network with advanced fine tuning control plane capabilities. The SX1036 support the Virtual Protocol Interconnect<sup>®</sup> (VPI) technology which enables it to be used for both Ethernet and InfiniBand technology providing the user with flexibility and investment protection. The SX1036 provides a full suite of management options, including support for Mellanox's NEO™, SNMP V1,2,3, and web user interfaces. In addition, the SX1036 incorporates a familiar industry-standard CLI, which enables administrators to easily configure the switch.

To ensure long term applicability, the SX1036 is provisioned to enhance its current capabilities with additional L2 and L3 features through software upgrades.

### World-Class Design

The SX1036 is an elegant top-of-rack design that is designed for performance, serviceability, energy savings and high-availability. The design is optimized for fitting into industry-standard racks and also for scale-out computing solutions from industry leaders. It supports reversible airflow making the design fit into data centers with different thermal designs. Redundant and hot swappable power supplies and fans provide high availability for both high-performance computing, cloud, Web 2.0 and data center applications. Status LEDs for fans and power supply units are placed on both sides of the system for easy status identification. Quick start guide, rack mount kit, AC power cord and RJ45 console cable are provided as part of the standard system providing an easy out-of-the-box experience.

### End-to-End

Mellanox is a leading supplier of end-to-end connectivity solutions. The SX1036, together with Mellanox cables and adapters, brings the networking industry's first end-to-end 40/56GbE solution.



## HIGHLIGHTS

### BENEFITS

- Software Defined Networking (SDN) support
- Efficiency
  - Simple configuration, no need for QoS (40/56GbE vs. 10GbE)
- Easy Scale
  - UFM can maintain from 1 to 1000S nodes and switches
  - Configure and manage the data center from single location
- Elasticity
  - Low-latency on any node
- Arranged and Organized Data Center
  - 40/56GbE high density - 4x less cables
  - Easy deployment
  - Easy maintenance
- Unprecedented Performance
  - Storage and server applications run faster
- IPv6 Ready
- IPv6 IPsec

### KEY FEATURES

- High Density
  - 36 40/56GbE ports in 1RU
  - Up to 64 10GbE ports
- Lowest Latency
  - 220nsec for 40GbE
  - 270nsec for 10GbE
- Lowest Power
  - Typical power consumption: 3 Watts per port



## FEATURES

### LAYER 2 FEATURE SET

- 1GbE, 10GbE, 40GbE, 56GbE
- 48K L2 Forwarding Entries
- Static MAC
- Jumbo Frames (9216 BYTES)
- VLAN 802.1Q (4K)
- 802.1W Rapid Spanning Tree Protocol
  - BPDU Filter
  - Root Guard
  - Loop Guard
  - BPDU Guard
- 802.1Q Multiple Spanning Tree Protocol
- PVRST+ (Rapid Per VLAN Spanning Tree+)
- 802.3ad Link Aggregation/LACP
  - 16 Ports/Channel
  - 64 Groups Per System
- 802.3X Flow Control
- 802.1Qbb Priority Flow Control (PFC)
- 802.1Qaz Enhanced Transmission Selection (ETS)
- DCBX
- 802.1AB LLDP
- IGMP V1,V2, Snooping, Querier
- Access Control Lists (L2-L4)
- sFlow
- Port Mirroring

### LAYER 3 FEATURE SET

- Static Routes v4/v6
- OSPFv2
- BGPv4
- Router Port Interface for Routing
- VLAN Interface for Routing
- PIM Bi-Dir
- DHCP Relay
- ECMP, 64-way
- VRRP
- IGMP Querier Router

### NETWORK MANAGEMENT

- 100/1000 Management port
- In-Band Management

- Serial Console Port
- SDN
- OpenFlow
- Embedded Puppet Agent
- RADIUS
- TACACS+
- LDAP
- SSHv2
- DHCP/Zeroconf
- Familiar Industry Standard CLI
- Management over IPv4/IPv6
- Telnet
- File Download via SCP, FTP & TFTP Client
- Network Time Protocol (NTP)
- Syslog
- Dual SW Image
- Auto Temperature Control
- System Alarms
- Port Counters
- Event Notification
- SNMP v1,v2,v3
- E-Mail
- Web UI
- Predefined Scheduled Scripts
- System Health Monitoring

### POWER SPECIFICATIONS

- ATIS Weighted Power Consumption: 78.3W
- Max Power Consumption: 100W
- Input Voltage Range: 100-240VAC

### PHYSICAL CHARACTERISTICS

- Dimensions: 1.72”H x 16.84”W x 24.7”D
- Weight: 20.5 Lbs (9.3 Kgs)

### SUPPORTED MODULES AND CABLES

- QSFP, SFP+ short and long range optics
- QSA - QSFP to SFP+ adapter
- QSFP to SFP+ DAC cable
- QSFP to QSFP DAC Cable
- QSFP breakout cables 40GbE to 4x10GbE
  - DAC, Optical
- QSFP AOC

Ordering Part Number	Description
MSX1036B-2SFS	SwitchX®-2 based 36-port QSFP 40/56GbE 1U Ethernet Switch, 36 QSFP ports, 2 PS, Standard depth, P2C airflow, Rail Kit and RoHS-6
MSX1036B-2BRS	SwitchX®-2 based 36-port QSFP 40/56GbE 1U Ethernet Switch, 36 QSFP ports, 2 PS, Short depth, C2P airflow, Rail Kit and RoHS-6

\* P2C is connector side outlet, C2P is connector side inlet. Reverse airflow option is available in short depth.



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