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# QLogic 12300 IB Switch

## 36-Port 40-Gbps (QDR) Switch, Modular, Managed

### Benefits

- Quad data rate (QDR) line rate performance
- Ultra-low latency under heavy loads
- Flexible QoS maximizes bandwidth utilization
- Protects existing InfiniBand (IB) investments
- Highly reliable and available
- Easy to manage
- Minimal power and cooling requirements

### Features

- 36 ports of IB QDR (40-Gbps) performance with support for DDR and SDR
- 2.88 Tbps aggregate bandwidth
- TrueScale architecture, with scalable, predictable low latency
- Multiple virtual lanes (VLs) per physical port
- Supports Virtual Fabric Partitioning
- Small QDR data center footprint with cost-effective IB edge port density
- External chassis management via optional InfiniBand Fabric Suite (IFS) management solution that provides an expanded set of fabric views and fabric tools.
- RoHS 6 compliant
- Minimal power and cooling requirements
- Complies with InfiniBand Trade Association (IBTA) v1.2 standard



High performance computing (HPC) solutions have used InfiniBand (IB) networks to meet the needs of the most demanding set of applications and grand challenges. The QLogic® 12300 is a 36-port 40-Gbps IB switch designed to cost-effectively link workgroup resources into a cluster or provide an edge switch option for a larger fabric. Customers have the ability to internally or externally manage the modular IB switch. The QLogic 12300 is part of the 12000 series of products that delivers an unmatched set of high speed networking features and functions.

**Simple Installation and Configuration.** Using the installation and configuration wizards contained in the IFS package allows end users to bring up fabrics in days instead of weeks.

**Low Latency.** QLogic's 12300 provides scalable, predictable low latency, even at 90% traffic utilization. Predictable latency means HPC applications can easily be scaled without having to worry about diminished cluster performance or costly system tuning efforts.

**Flexible Partitioning.** The QLogic 12300 advanced design is based on an architecture that provides a comprehensive set of Virtual Fabric partitioning capabilities enabling the IB fabric to support the evolving requirements of an organization. The TrueScale architecture, together with IFS, allows the fabric to be shared by mission critical applications while delivering maximum bandwidth utilization.

**Investment Protection.** The 12000 series of switch products adhere to the IBTA version 1.2 specification, ensuring the ability to interoperate with all other IBTA compliant devices.

**Highly Reliable.** The highly available 12300 design is built around state of the art fault detection and recovery capabilities. It ships with hot swappable, redundant power and cooling modules.

**Easy to Manage.** Customers can manage the 12300 by utilizing an optional embedded capability and by taking advantage of QLogic's advanced IFS software to facilitate quicker installation and configuration. IFS has advanced tools to verify fabric configuration, topology and performance. Faults are automatically isolated to the component level and reported.

**Power Optimized.** Maximum performance is delivered with the minimal power and cooling requirements as part of QLogic's Star Power commitment to developing green solutions for the data center.

## QLogic 12300 IB Switch 36-Port 40-Gbps (QDR) Switch, Modular, Managed

## Switch Specifications

- 40/20/10 Gbps auto-negotiation Links
- 36 4x QDR ports
- Switching Capacity: 2.88 Tbps
- Virtual lanes: 8 plus 1 Management
- Maximum MTU size: 4096 bytes
- Maximum Multicast Table Size: 1024 entries
- Switching Latency: < 140 nS
- Supports Quad Small Form Factor Pluggable (QSFP) optical and copper cable specifications

## Interoperability

- Compliant with IBTA 1.0a, 1.1 and 1.2

## Fabric Management

## Management Methods

- Command Line Interface
- Optional External Server-based InfiniBand compliant Subnet Manager
- Optional Embedded Fabric Management
- IBTA compliant SMA, PMA and BMA
- SNMP support
- Chassis management GUI

## Access Methods

- 10/100 Ethernet Base T (RJ45)
- Serial Port (RS-232 with DB9)

## LEDs

- One per InfiniBand port
- One for 10/100 Ethernet Interface
- Two for InfiniBand Switch Status

## Physical

## Dimensions

- H x W x D: 43.2 x 439.6 x 637.5 mm  
(1.7 x 17.3 x 25.5 in)

## Weight

- 9.1 kg (20 lbs)

## Environmental

## Operating

- 0 to 40 degrees C
- Humidity: 5 to 85% non-condensing
- Altitude: 0 to 10,000 feet
- Vibration: 5-500 Hz, 0.27g, 5 sweeps
- Shock: 3.5g, 3ms, half sine, 20 repetitions

## Non-Operating

- -40 to 65 degrees C
- Humidity: 5 to 90% non-condensing
- Altitude: 0 to 40,000 feet
- Vibration: 2-200 Hz, 0.5g, 5 sweeps
- Shock: 50g, 4216 mm/s, 13msec, 3 axis

## Electrical

- Voltage: 100 to 240 VAC; 50 to 60 Hz
- Power Consumption: 85 to 226 W

## Airflow

- Front-to-Back

## Agency Approvals

- Safety: UL/CSA/IEC/EN 60950-1
- EMI: FCC/VCCI/EN/IEC Class A
- Marking: FCC/ICES-003/TUV-CUE/CE/VCCI/C-Tick/GOST/KCC
- RoHS 6

Dell has tested and certified the QLogic 12300 InfiniBand switch with Dell servers and storage systems. Dell specifically disclaims knowledge of the accuracy, completeness or substantiation for all statements and claims made in this document regarding the properties, capabilities, speeds or qualifications of the QLogic 12300 InfiniBand switch .



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