

1U SDR Infiniband Switch



High Density Switch for High Performance Computing

The Flextronics 1U Infiniband SDR switch is based on Mellanox Infiniscale III third generation Infiniband SDR switch device. In a single chip, this device delivers an unmatched 480 Gb/Sec of switching bandwidth, the highest performance in the industry. The switches support multiple configurations including:

- Twenty-four 4X (10 Gb/sec) Infiniband ports.

All configuration support non-blocking switching performance running at wire speed with ultra low latencies. The 1U SDR switch is optimized for building flexible, scaleable, robust and reliable Infiniband fabrics for the server, storage, embedded, enterprise data center and high performance computing (HPC) markets. Boasting industry leading price/performance the 1U SDR switch is designed to create low cost, high performance clusters. Reliability and intelligent manageability features are included along with built in enterprise levels of operational performance and fault tolerance.

Scalability

The 24-port 4X Infiniband switch configuration can easily connect many nodes, or multiple switches together enabling virtually any cluster size. Whether the cluster is few nodes or significantly larger, the switch meets growing cluster needs of the market today. This switch architecture also has the ability to scale to meet the needs of the HPC computing market. When combined with larger switch system the architecture supports low latency 2-stage cluster of over 1,500 nodes and 3-stage cluster well beyond 5000 nodes.

Key features

- Modular 24-port 4X.
- Non-blocking Full-wire speed.
- Ultra low latency.
- 480 Gigabits of total Bandwidth flexible Infiniband Switch supports 24-ports at 10 Gb/sec.



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Management

The 1U SDR Infiniband Switch features built-in Subnet Management Agent (SMA) and Performance Management Agent (PMA). These intelligent agents support sophisticated subnet management, fabric discovery and initialization, and quality of service. In addition the performance management agent monitors fabrics health and link and package errors. Providing intelligence in every switch means that sophisticated management packages can detect and isolate potential problems before they occur. The 1U SDR Infiniband Switch also fully supports multi-pathing and automatic path migration, which enables fault tolerance and failover, and provides for notification that a self-healing fabric event has occurred and maintenance may be required.

Unprecedented Affordability

Thanks to the high integrated Infiniscale III device, the 1U SDR Infiniband Switch is design and built from a single semiconductor device in a compact 1U form factor. Existing switches do not match this solution in price of performance. The switch is projected to cost less than existing 2 Gb/sec Fiber Channel and even some non blocking 1 Gb/sec Ethernet Switches in the market today. Other 10 Gb/sec technologies, like 10GigE, do not even come close as they average more than 20 times the cost of Infiniband switch ports.

Enterprise Class Switch

The compact 1U chassis features ports density, low power consumption and robustness that enterprise data centers and demand. In addition to 24-10 Gb/sec ports in just 1U, the switch includes the robustness of dual redundant hot swappable power supply modules and fan tray modules. The switch also enables all the key RAS (Reliability, Availability and Serviceability) features of the Infiniband architecture including: QoS, multi-cast, automatic node recognition, multipathing, automatic fail-over, virtual lenses, and more. Benefiting from the high integrated single chip implementation and redundant subsystem components, the product offers a high reliability for improved up-time. With power requirement of less than 50watts (with a single supply), the 1U SDR Infiniband Switch delivers the lowest power per Gb/sec in the market.

Application

The 1U Infiniband Switch is ideal for the following market:

- Enterprise Data Center Clusters – Clustered Database, Application Servers, Storage, etc.
- High Performance Computing Clusters (HPPC) for Scientific, Automotive, Seismic, Medical Imaging, and other Numerically Intensive Applications.
- Embedded Applications – Communications, Telemetry, Avionics, Medical, Video, etc.

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Key Features

- 24-ports at 10Gb/sec
- 480 Gigabit of total bandwidth
- Ultra Low Latency Cut Through Switching (less than 200 nanoseconds)
- Hot Swap Redundant Power Supplies and Fan Tray Module.
- Mellanox Infiniscale III 3rd Generation Switching Device (Single Chip Implementation)
- Chassis Management Software
- LED Status Indicator for Infiniband Ports and Major Components

Power Supply Features

- 120/220V 50/60 Hz input with hot-swap controller
- Second power supply unit enables N+1 redundancy
- Dual AC power inputs

Mechanical and Environmental Specifications

- Standard 19-Inch Rack Mount Chassis
- 1U (1.75 Inch) High
- 15 Inches Deep
- Approximately 16 Lbs
- Operating Temperature: 0c to 55c
- Air Flow Front to Rear (port side)
- Average power consumption ~50 Watts (per PSU)

Advanced Management Configuration

- Advanced management feature installed as factory option includes:
- Embedded CPU with RS-232 console
- RJ-45 10/100 Ethernet Port
- Consult Factory for more details

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Ordering Part Number

- F-X430060 24-Port 4X SDR w/Media Adaptor Support, One Power Supply.
- F-X430062 24-Port 4X SDR w/Media Adaptor Support, Managed, One Power Supply.
- F-X430116 24-Port 4X SDR w/Media Adaptor Support, Dual Power Supply.
- F-X430063 24-Port 4X SDR w/Media Adaptor Support, Managed, Dual Power Supply.
- F-X43M110 Power Supply Unit For 24-Port Switch.

Contacts

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