MXS924 PCIe 4.0 Switch

PCIe 4.0 SFF-8644 24-port Switch

Features

- ✓ PCI Express 4.0 - 16.0 GT/s per lane
- ✓ 24 PCIe 4.0 x4 ports
- ✓ Microchip PFX Gen4 chipset
- ✓ Link compliant with PCIe 1.0, 2.0, 3.0 and 4.0
- ✓ SFF-8644 connectors
  PCIe 4.0 cables
- ✓ Copper and fiber-optic cable support
- ✓ Hot-plug cabling support
- ✓ Port status LEDs through the face plate
- ✓ Ethernet-based management and monitoring
- ✓ 19-inch 1U rack-mountable chassis
- ✓ Scalable to multiple switches

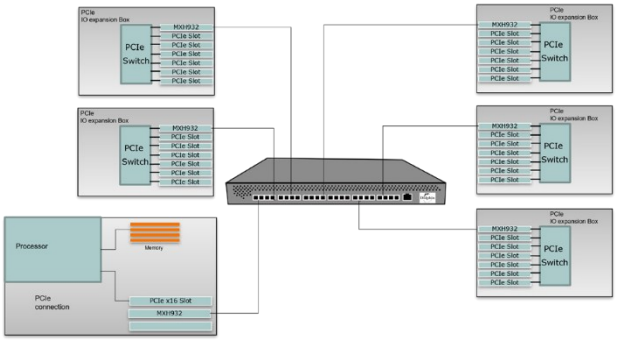
The Dolphin PCIe 4.0 MXS924 switch box offers low latency and highly efficient switching, tailored for high-performance applications. This robust switching product facilitates inter-processor communication by integrating non-transparent bridging capabilities with Dolphin's eXpressWare software and clustering technology. Such integration culminates in the formation of a highly efficient computing cluster, encompassing PCs, servers, embedded systems, or single-board computers (SBCs). Additionally, this product supports standard PCI Express transparent operations, allowing users to connect multiple PCIe endpoints to enhance the system's input/output (I/O) capabilities.

Each switch port provides maximum bandwidth to every device, ensuring compatibility with PCIe 1.0, 2.0. 3.0 and 4.0 components. This product utilises standard SFF-8644 cable connectors, which support PCIe 4.0 cables. Furthermore, it accommodates both copper and fiber-optic cabling. Customers can connect multiple standardised PCI Express products, including PXI chassis, storage, and I/O expansion units. Additionally, it is possible to scale numerous MXS924 switch boxes to create a more extensive topology.

www.dolphinics.com/products/MXS924.html

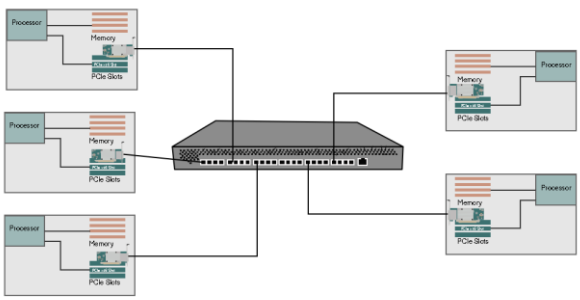
Transparent Expansion

The MXS924 is designated for standard Transparent PCIe I/O expansion. An MXH932 adapter, or an alternative compatible card configured in host-transparent mode, is connected to the switch's upstream port. The MXH932 Transparent target adapters and other compliant, transparent devices are interconnected to the remaining downstream ports. The figure illustrates Transparent PCIe I/O Expansion; five expansion chassis are linked to a single host. The I/O devices may be connected using x16, x8, or x4 links, depending on the required scale-out and performance objectives.



Cluster Support

The MXS924 switch may function as an independent PCI Express switch, or multiple switches may be cascaded to construct larger PCIe expansion systems or PCIe fabrics. Furthermore, it can be integrated with compliant PCIe cards provided by Dolphin or other compliant customer designs.



Specifications

PCI Express	• Base Specification 4.0 • External Cabling Specification 4.0	Operating Environment	• Operating Temperature: 0˚C - 40˚C (32˚F - 131˚F) • Relative Humidity: 5% -95% non-condensing
Cut-Through Latency	~120ns	Storage Environment	• Storage Temperature: -25˚C to 70˚C (-40˚F to 158˚F) • Relative Humidity 90% (non-condensing) at 35°C
Active Components	Microchip Switchtec® PCIe 4.0 PFX Switch	Mechanical Characteristic	• 1U, 19-inch rack-mountable chassis 440mm x 357mm x 45mm (17” x 14” x 1.75”) (WxDxH) • Weight 4.6 Kg (10 lbs.) • Four Redundant Fans
Port Configurations	Flexible port configurations - E.g 24 -x4, 12 -x8, 6 - x16 ports or 2x16+2x8+12x4	Management	• Built-in management processor for monitoring, firmware upgrade and management • RJ45 Ethernet (1Gb/100Mb Ethernet) connector (optional use) • USB port for firmware upgrade
Ports	24x4 non-blocking PCIe 4.0 ports	Usage Modes	• NTB/Transparent
Cable Connector	SFF-8644	Product Codes	MXS924
Cable Types	• Copper cables - up to 2 meters at Gen4 speeds • Fiber-Optic cables - up to 100 meters at Gen4 speeds	Regulatory Compliance	• CE • FCC • Reach • RoHS
Power Consumption	Max 80 Watt (including active optical transceivers)	Safety Test	EN 62368-1:2014 + A11:2017
Power Supply Input	Auto-sensing power supply 110- 240VAC 50- 60 Hz - 2.8A	Regulatory Approvals	• EN 55032:2015 + A11 :2020 • EN 55035:2017 • EN 61000-3-2:2014 • EN 61000-3-3:2013

26th June 2025