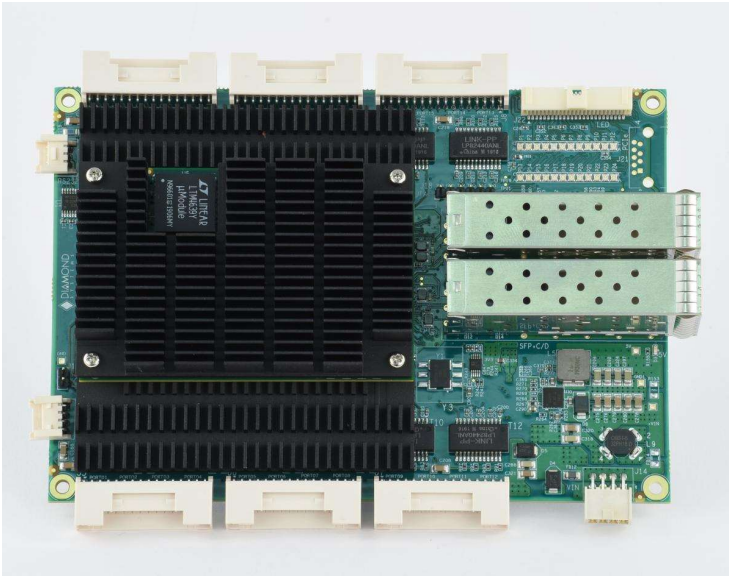


EPS-24G4X

Managed 28-Port Gigabit Ethernet Switch with 4 10G SFP+ Ports



EPS-24G4X top view

FEATURES

- ✦ Rugged Ethernet switch for vehicle and other harsh environment applications
- ✦ 24 total gigabit Ethernet ports
- ✦ 4 10G SFI ports with SFP+ sockets
- ✦ Activity and status LEDs for all ports
- ✦ 7-40VDC input range
- ✦ Thicker PCB, latching connectors, and -40 to +85°C operating temperature support rugged mobile applications
- ✦ Layer 2+ switching and Layer 3 routing software available
- ✦ Software customization and branding available
- ✦ IEEE 1588 PTP support available
- ✦ Design kit available with carrier board schematics and bill of materials
- ✦ Custom carrier board and complete switch solution design and manufacturing services available

Overview

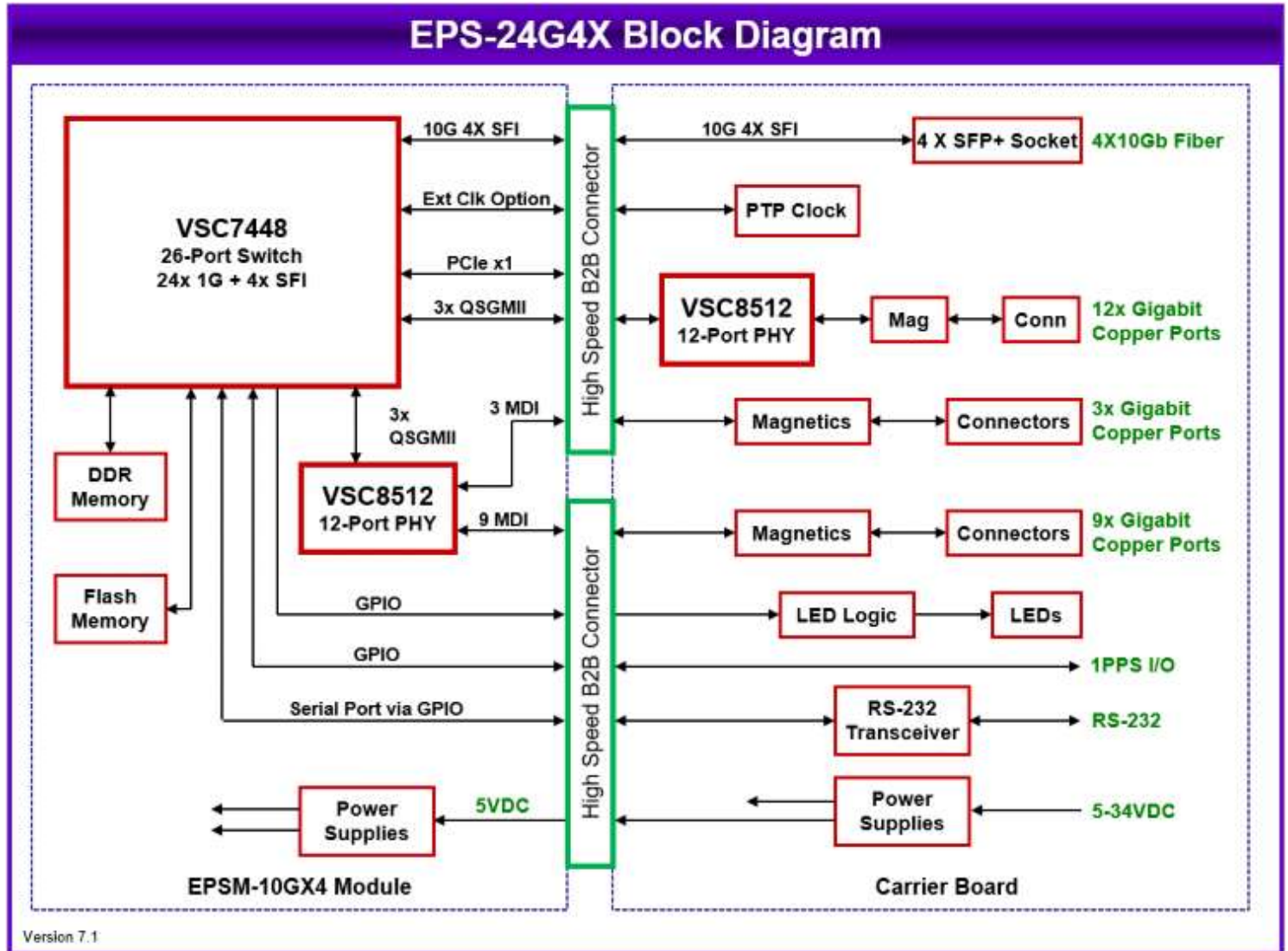
The EPS-24G4X is a managed Ethernet switch based on Diamond's **EPSM-10GX4 switch module**. The switch implements all features of the style='text-decoration: underline'>EPSM-10GX4 Ethernet switch module, including 24 10/100/1000Mbps copper ports and 4 10Gbps SFI ports accessed via SFP+ sockets. Depending on the ordering configuration, the switch contains embedded software supporting Layer 2 switching, Layer 3 routing/switching, and optional IEEE1588 PTP operation.

Two software packages are available, Layer 2+ switching and Layer 3 routing/switching. In addition, IEEE-1588 precision time protocol support is available with a minor modification to support an external precision clock circuit and 1pps signal source provided by the carrier board. All software features are manageable via a GUI web interface accessible over any port, as well as with a command language accessed via a built-in RS-232 port.

EPS-24G4X is designed specifically to meet the challenges of vehicle and other rugged environments, with its -40/+85°C operating temperature range, 50% thicker PCB, latching I/O connectors, and its MIL-STD-202G shock/vibration resistance. A wide-range input power supply with built-in transient protection provides compatibility with a range of industrial and vehicle power supplies. The board also forms the heart of Diamond's SabreNet-24000 rugged Ethernet switch. Cooling for EPS-24G4X is provided via two heat sinks: a low-profile heat sink between the carrier board and the EPSM module and a taller heat sink for the EPSM module.

The EPS-24G4X is included as part of the EPSM-10GX4 development kit. Schematics and bill of materials are included to simplify the development of custom advanced Ethernet switching solutions based on the EPSM-10GX4 module.

◆ Block Diagram



◆ Embedded Software

Two software packages are available for EPS-24G4X, Layer 2+ switching and Layer 3 routing/switching. In addition, IEEE-1588 precision time protocol support is available with a minor modification to install a precision clock circuit on the board. All software features are manageable via a GUI web interface accessible over any port, as well as with a command language accessed via a built-in RS-232 port. Customer branding is available to put your logo / color scheme / part numbers on the GUI and serial interface.

The table below shows some of the more popular features available. For a complete list of features available in each software package, [click here](#).

Layer 2+ software highlights include the following:

8K MAC addresses and 4K VLANs (IEEE 802.1Q)

8K IPv4 and IPv6 multicast group support

Jumbo frame support at all speeds

Flexible link aggregation support based on Layer-2 through Layer-4 information (IEEE 802.3ad)

Multicast and broadcast storm control, as well as flooding control

Rapid Spanning Tree protocol (RSTP) and MSTP

Multiple protocol support: IEEE 802.1d, IEEE 802.1w, IEEE 802.1s, and IEEE 802.1X

8 priorities and 8 QoS queues per port with scheduling

Layer3 software additional highlights:

Hardware- and software-based IPv6 L3 static routing

RFC 2328 OSPFv2 dynamic routing

IEEE 1588 precision time protocol (PTP)

RADIUS accounting

Port and Queue policers

The screenshot shows the web interface for the Diamond Systems EPS-24GX4 GigaBit Ethernet Switch. The browser address bar shows the IP address 192.168.1.60. The interface title is "EPS-24GX4™ GigaBit Ethernet Switch" with software version w3.67-v1.0.0. The left sidebar contains a navigation menu with categories: Configuration, Monitor, System, Green Ethernet, Thermal Protection, Ports, Security, Aggregation, IPMC, LLDP, MAC Table, VLANs, Diagnostics, and Maintenance. The main content area displays the "Port State Overview" for 28 ports, arranged in three groups of eight. A legend below the overview shows three states: Disabled (grey), Down (black), and Link (green). The interface also includes a search bar, navigation icons, and a refresh button.

◆ Models

EPS-24G4X	Epsilon 28-port Ethernet switch with 24 10/100/1000 ports + 4 10G SFI ports, Layer 2+ switching software
EPS-24G4X-L3	Epsilon 28-port Ethernet switch with 24 10/100/1000 ports + 4 10G SFI ports, Layer 3 routing/switching software
EPS-24G4X-1588	Epsilon 28-port Ethernet switch with 24 10/100/1000 ports + 4 10G SFI ports, Layer 3 routing/switching software with IEEE-1588 PTP clock circuit and software support

◆ Cables

Specifications



Number of Ports	24 10/100/1000Mbps Ethernet ports with non-blocking wire-speed performance 4 10G SFP+ ports
Implementation	2-board solution: EPSM-10GX4 switch module provides core switch function and 12 PHYs; additional 12 PHYs and remaining circuitry implemented on carrier board
On-board Memory	4MB packet memory
Network Management	SNMP v1/v2c/v3; Web GUI and command line interface (CLI)
Serial Port	1 RS-232 port for host interface, 38400/N/8/1
Indicator lights	LEDs for each port indicate link status and speed
Dimensions	107 x 156mm / 4.213 x 6.142"
Input voltage	7-40VDC
Power consumption	Vin = 24VDC: 13W, all ports idle 20W, all 24 1G ports active 26W, all 24G ports and all 4 10G ports active
Power Management	ActiPHY and PerfectReach power management reduce power for shorter cable lengths and shut down power to disconnected ports
Operating temperature	-40 to +80°C
Weight	389g / 13.7oz
RohS	Compliant



Models and Accessories

EPS-24G4X

available models:

Please login or signup for an online quote request.

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