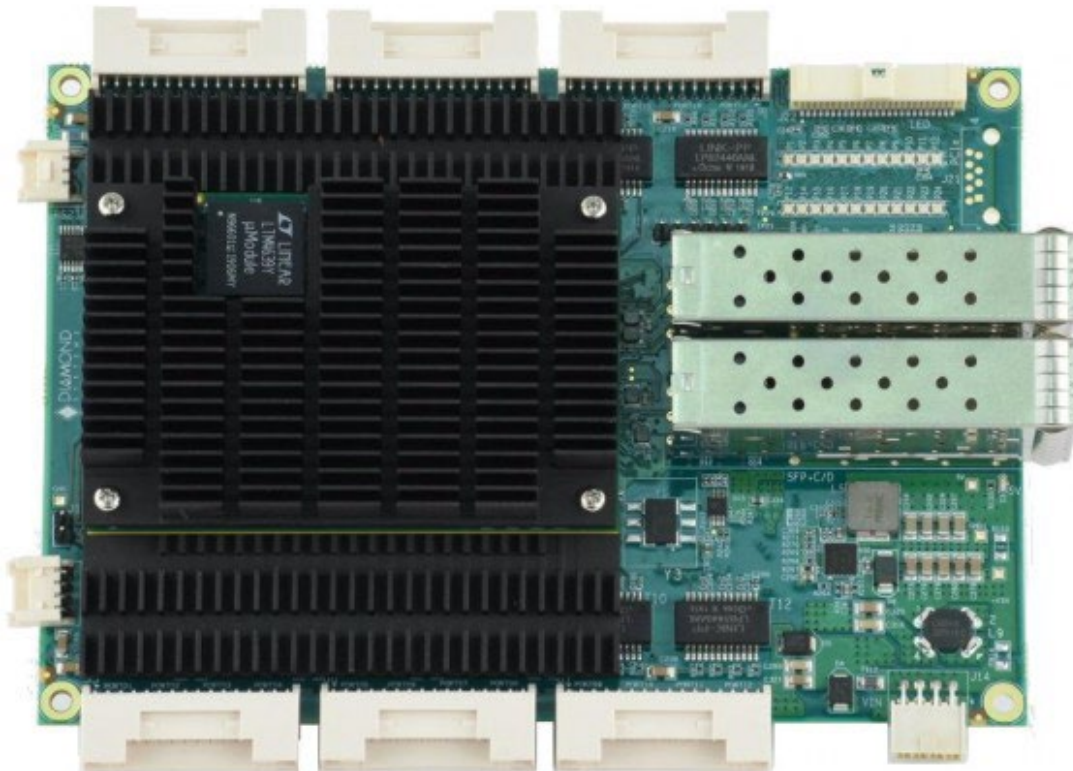# DIAMOND SYSTEMS EPS-24G4X

## MANAGED 28-PORT GBE SWITCH, 4 10G SFP, WIDE VOLTAGE INPUT AND SERIAL MANAGEMENT PORT



Key Features

- Managed 28-Port Gigabit Ethernet Switch
- 24 Gigabit Ethernet ports
- 4x 10G SFI ports for use with SFP+ 10G
- RS-232 management port
- 32K MAC addresses and 4K VLANs
- Latching connectors for ruggedness
- -40 to +85°C operating temperature

## Introduction

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.

## Main Specification

| | |
|---|---|
| Function | 28-port Layer 2/3 switch |
| | Built-in 500MHz MIPS 24KEC microcontroller for configuration and management |
| | Hierarchical MEF compliant policing & scheduling; MEF E-Lane, E-Line, and E-Tree services |
| | Jumbo frame support at all speeds |
| | VLAN |
| | • IEEE 802.1Q VLAN switch with 32K MACs and 4K VLANs |
| | • Push/pop up to three VLAN tags |
| | • Independent & shared VLAN learning (IVL, SVL) |

|  |  |
|---|---|
|  | IPv4/IPv6 unicast & multicast group support |
|  | Rapid spanning tree protocol (IEEE 802.1W) and MTSP |
|  | ActiPHY and PerfectReach power management; VeriPHY cable diagnostics |
|  | 1PPS input option for IEEE1588 timing support (requires advanced software package, upon reque |
| Interface(s) | 24 10/100/1000Mbps Ethernet ports with non-blocking wire-speed performance |
|  | 2 10G SFI ports for use with SFP+ 10G fibre/copper sockets |
| Connection(s) | Serial Port<br><br>• 1 RS-232 port for host interface via header<br><br>Ethernet:<br>6 latching headers for standard Ethernet ports (four per header)<br>4 SFP+ sockets<br><br>Status LEDs for all ports |

## General

| | |
|---|---|
| Electrical | 7-40V DC input power range<br><br>Example consumption:<br>Vin = 24VDC:<br>13W, all ports idle<br>20W, all 24 1G ports active<br>26W, all 24G ports and all 4 10G ports active |
| Mechanical | 3.5 inch form factor, 4.00"H x 5.75"W / 102 x 146 mm |
| Conformal Coating | On request |
| Software | The switch is ready to plug into your application without any driver installation or firmwa upgrades<br>A web interface and a CLI provide an intuitive GUI for configuring and managing the sw |
| Temperature | Temperature range (operation): -40 to +85°C<br>Temperature range (storage): -40 to +85°C |
| Humidity | 5% - 95% relative humidity |
| Weight | 237 grams (8.35 oz.) |
| Vibration | MIL-STD-202G shock/vibration compatibility test pending |
| Shock | MIL-STD-202G shock/vibration compatibility test pending |
| Warranty | 2 Years |
| RoHS | Compliant |

**Ordering Details**

| | |
|---|---|
| Board | EPS-24G4X - Epsilon Ethernet Switch 24x 10/100/1000 copper ports + 4 10G SFP+ ports, WebS<br>2+ SW |
| | EPS-24G4X-L3, Epsilon Ethernet Switch 24x 10/100/1000 copper ports + 4 10G SFP+ ports, ISt<br>3 SW |
| | EPS-24G4X-1588, Epsilon Ethernet Switch 24x 10/100/1000 copper ports + 4 10G SFP+ ports, I<br>Layer 3 SW, IEEE1588 PTP |
| Accessories | K-EPS24G2X-01 |
| | Cable kit including 6 4-port 10/100/1000 Cat 6 RJ-45 cables, power cable, and serial interface ca |