



## Xtreme/GbE 24-Port Managed Carrier Ethernet Switch

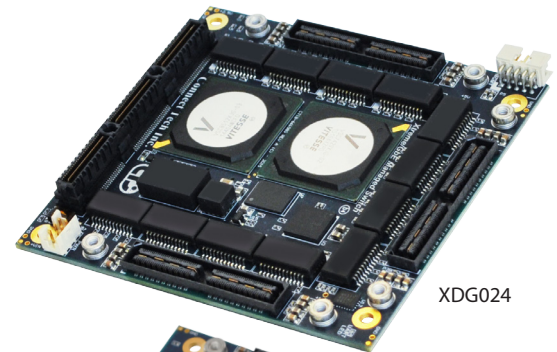
Connect Tech's **Xtreme/GbE 24-Port** Managed Carrier Ethernet Switch provides high density, high port count, Carrier Grade Ethernet switching capabilities in an extremely small embedded form factor. Excellent for any space constrained, mission-critical application needing an embedded high-density/high-port count managed Ethernet Switch.

The **Xtreme/GbE 24-Port** Managed Carrier Ethernet Switch implements on-board magnetics for all 24 ports, so no external magnetics are required for your end application. It has been designed from the ground up to ease enclosure/chassis integration by limiting the amount of cabling required for port termination with the ability to remove all cabling entirely.

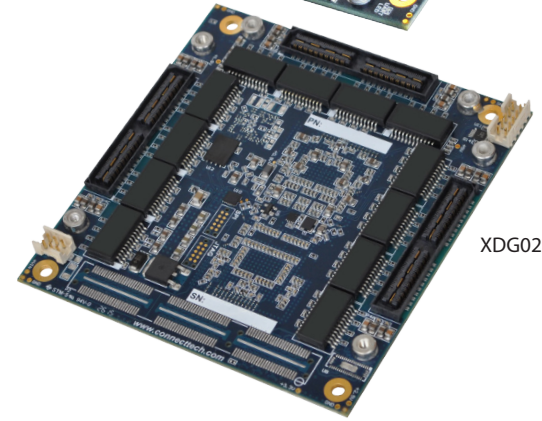
The **Xtreme/GbE 24-Port** Managed Carrier Ethernet Switch uses a specialized high density Board-to-Board/Board-to-Cable configuration for port breakouts. Ports can be broken out via a breakout board / carrier that can mate directly to the XDG024/25 or by mating to a high density high-speed Twinax cable.

The XDG025 is designed for standalone applications, with all thermal extraction on one layer and connector/cabling on the opposite layer, where as the XDG024 is intended to stack directly into a PCIe/104 stack.

**Product Name:** Xtreme/GbE 24-Port Managed Carrier Ethernet Switch  
**Part Numbers:** XDG024, XDG025



XDG024



XDG025

Specifications	
<b>Ethernet Switch Engine</b>	Vitesse VSC7429 Carrier Grade Ethernet Switch Chipset  A powerful embedded 416 MHz RISC 32-bit CPU with DDR2 external memory and DMA-based frame extraction and insertion supports timing over packet, Ethernet OAM, and performance monitoring.
<b>Ethernet PHYs</b>	12 x Cu PHY Ports from Vitesse VSC7429 Switch Engine 12 x Cu PHY Ports from Vitesse VSC8512 External PHY
<b>Memory</b>	1Gb DDR2 SDRAM, 128Mb Serial NOR Flash
<b>Ports</b>	24 x Gigabit Ethernet (10/100/1000 Mbps )
<b>Magnetics</b>	On-board Gigabit Magnetics for all 24 Ports (No external Magnetics required) (10/100/1000 Mbps) application
<b>Connectors</b>	3 x High-Density Board-to-Board / Board-to-Cable Connectors Each High-Density Connector Contains 8 Gigabit Ports Connectors can be mated directly to breakout boards, or via cabling
<b>Layer 2 Switching</b>	802.1Q VLAN switch with 8K MACs and 4K VLANs Push/pop up to two VLAN tags IPv4/IPv6 multicast Policing with storm control and MC/BC protection RSTP and MSTP support Hardware and software-based learning Link aggregation (IEEE 802.3ad) Independent and shared VLAN learning (IVL, SVL) Jumbo frame support
<b>Management Access</b>	Web Interface RS-232 Serial Interface (CLI) Software API SNMP PCIe/104 Bus (XDG024)
<b>Breakout Board Options</b>	Direct Board-to-Board (No Cabling): - 24-Port Vertical RJ-45's 8-Port Bank Cabling Options to: - Panel Mount Vertical RJ-45's - Right Angle RJ-45's - MIL Circular Connector Full Custom (Simple 2-layer no magnetics designs)
<b>Standalone Operation</b>	Switch can be used as a standalone unit OR can be paired with an embedded SBC.
<b>Input Voltage</b>	+4V to 14V Input Range (External Connector) OR +12V only (from PCIe/104 Connector)
<b>Power Consumption</b>	Idle: 0.7A, 8.4W Typical: 0.85A, 10W Max: 1.15A, 14W (with +12V input)
<b>Expansion Bus Interface</b>	PCIe/104 bus (XDG024 only - sourcing power and management interface)
<b>Dimensions</b>	PC/104 compliant: 3.775" x 3.550" Tallest Top Side Component: Heatsink 0.375" (9.5mm) Download 3D Model at: <a href="http://www.connecttech.com/ftp/3d_models/XDG024-25_3D_MODEL.zip">http://www.connecttech.com/ftp/3d_models/XDG024-25_3D_MODEL.zip</a>
<b>Operating Temp</b>	-40°C to +85°C (chipset rated to +125°C thermals)

## FEATURES

- ✓ 24 Port 10/100/1000 Mbps Switch
- ✓ All 24 Port Magnetics Integrated on-board
- ✓ High-Density Ruggedized Board-to-Board/Board-to-Cable Port Breakout
- ✓ Extremely Small Footprint 90 x 96 mm (3.550 x 3.775 inches)
- ✓ Conduction cooled Heatplate or Air cooled Heatsink Options
- ✓ Extended Temperature Range -40°C to +85°C

## Xtreme/GbE 24-Port Managed Carrier Ethernet Switch

### Software Specifications

<b>Port control</b>	Port Speed/Duplex Mode/Flow Ctrl Port Frame Size (Jumbo frames) Port State (administrative status) Port Status (link monitoring) Port Statistics (MIB counters) Port VeriPHY (cable diagnostics)
<b>QoS</b>	Traffic Classes (8 active priorities) Port Default Priority QoS User Priority Input priority mapping QoS Control List (QCL Mode) Storm Control for UC, MC and BC Port policers Global/VCAP (ACL) policers Port egress shaper Queue egress shapers TRTCM (two rate three color market) Scheduler mode (Strict or Weighted Fair Queuing)
<b>L2 Switching</b>	Auto MAC addr. Learning/Ageing MAC Addresses – Static Virtual LAN Private VLAN – Static Port Isolation – Static IEEE-802.1ad Provider Bridge (Native or Translated VLAN) Rapid Spanning tree – RSTP, STP Loop Guard Link Aggregation – Static Link Aggregation – LACP IGMPv2 snooping Port Mirroring (Ingress and Egress Mirroring)
<b>L3 Switching</b>	IPv4 Unicast: RIPv1/RIPv2
<b>Security</b>	Port-Based 802.1X Multiple 802.1X Web & CLI Authentication ACLs for filtering/policing/port copy

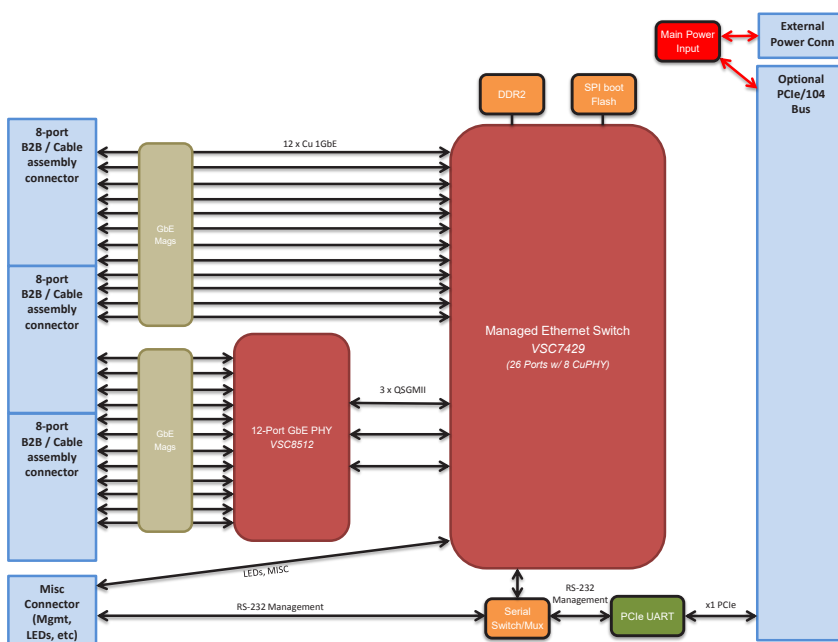
### Software Specifications Continued

<b>Synchronization</b>	SNTP & client
<b>Power Saving</b>	Cold start Cool start ActiPHY PerfectReach EEE Power Management LED Power Management Thermal Protection
<b>Management</b>	DHCP Client HTTP Server CLI - Console Port Industrial Standard CLI Industrial Standard Configuration Management access filtering HTTPS System Syslog Software Upload via web SNMP v1 / v2c / v3 Agent SNMP multiple trap destinations IEEE 802.1AB-2005 Link Layer Discovery – LLDP Configuration Download/Upload - XML Configuration Download/Upload - Industrial Standard Loop detection restore to default Symbolic Register Access
<b>MIBs</b>	RFC 1213 MIB II RFC 1215 TRAPS MIB RFC 4188 Bridge MIB RFC 3635 Ethernet-like MIB RFC 3411 SNMP Management Frameworks IEEE 802.1 MSTP MIB IEEE 802.1AB LLDP-MIB (LLDP MIB included in a clause of the STD) RFC 3621 LLDP-MED Power (POE) (No specific MIB for POE+ exists) Private MIB framework

## RoHS

Specifications subject to change without notice.

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Part #	Description
XDG024	Xtreme/GbE 24-Port (PCIe/104 Version)
XDG025	Xtreme/GbE 24-Port (Standalone Version)
XBG001	24-Port RJ-45 Vertical Breakout Board (XDG024 Version)
XBG002	8-Port Panel Mount RJ-45 Breakout Board (requires CBG209 or CBG210)
XBG003	8-Port Right Angle RJ-45 Breakout Board (requires CBG209 or CBG210)
XBG004	24-Port RJ-45 Breakout Board (XDG025 Version)
CBG209	XDG024 Breakout Cable (8-Ports)
CBG210	XDG025 Breakout Cable (8-Ports)