Connect Tech

XTREME/GBE 24-PORT
MANAGED CARRIER ETHERNET SWITCH

PART NUMBERS: XDG032, XDG033

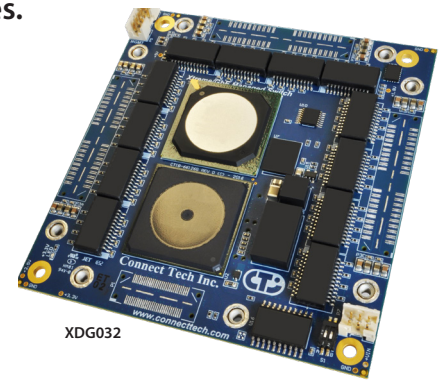
The Xtreme/GbE 24-Port Managed Carrier Ethernet Switch provides high density, high port count Carrier Grade Ethernet switching capabilities in an extremely small embedded form factor.

Excellent for any space constrained, mission-critical application and implements on-board magnetics for all 24 ports, so no external magnetics are required for end applications.

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 XDG033 is designed for standalone applications, with all thermal extraction on one layer and connector/cabling on the opposite layer, whereas the XDG032 is intended for single side use cases.

FEATURES

- ✓ 24 Port 10/100/1000 Mbps Switch
- ✓ All 24 Port Magnetics Integrated on-board
- ✓ 1x 1G SGMII, 1x 2.5G SGMII for SFP Uplink
- ✓ High-Density Ruggedized Board-to-Board/Board-to-Cable Port Breakout
- ✓ Extremely Small Footprint 90 × 96 mm (3.550 × 3.775 inches)
- ✓ Conduction cooled Heatplate or Air cooled Heatsink Options
- ✓ Extended Temperature Range: -40°C to +85°C



XDG032

HARDWARE SPECIFICATIONS

Ethernet Switch Engine	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.	**Ethernet PHYs**	12 x Cu PHY Ports from Vitesse VSC7429 Switch Engine 12 x Cu PHY Ports from Vitesse VSC8512 External PHY
Memory	1Gb DDR2 SDRAM, 128Mb Serial NOR Flash	**Ports**	24 x 1000BASE-T 1x 1G SGMII (for SFP Uplink) 1x 2.5G SGMII (for SFP Uplink)
Magnetics	On-board Gigabit Magnetics for all 24 Ports (No external Magnetics required) (10/100/1000 Mbps) application	**Connectors**	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
Layer 2 Switching	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	**Breakout Board Options**	Direct Board-to-Board (No Cabling): 24-Port Vertical RJ-45s 8-Port Bank Cabling Options to: - Panel Mount Vertical RJ-45s - Right Angle RJ-45s - MIL Circular Connector Full Custom (Simple 2-layer no magnetics designs)
Management Access	Web Interface RS-232 Serial Interface (CLI) Software API SNMP PCIe/104 Bus (XDG024)	**Standalone Operation**	Switch can be used as a standalone unit OR can be paired with an embedded SBC.
Input Voltage	+4V to 14V Input Range (External Connector) OR +12V only (from PCIe/104 Connector)	**Power Consumption**	Idle: 0.7A, 8.4W Typical: 0.85A, 10W Max: 1.15A, 14W (with +12V input)
Expansion Bus Interface	PCIe/104 bus (XDG024 only - sourcing power and management interface)	**Dimensions**	PC/104 compliant: 3.775" x 3.550" Tallest Top Side Component: Heatsink 0.375" (9.5mm)
Operating Temp	-40°C to +85°C (chipset rated to +125°C thermals) (-40°C to +185°C)		

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SOFTWARE SPECIFICATIONS

Port control	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)	**MIBs**	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
QoS	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)	**L2 Switching**	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)
Power Saving	Cold start Cool start ActiPHY PerfectReach EEE Power Management LED Power Management Thermal Protection	**Management**	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
L3 Switching	IPv4 Unicast: RIPv1/RIPv2	**Synchronization**	SNTP & client
Security	Port-Based 802.1X Multiple 802.1X Web & CLI Authentication ACLs for filtering/policing/port copy		

Part Number	Description
XDG032	Xtreme/GbE 24-Port with SFP Top Side
XDG033	Xtreme/GbE 24-Port with SFP Bottom Side
XBG009	Xtreme/GbE SFP Breakout Board XDG032
DEV011	XDG033 Development Kit (includes breakout board)
XBG001	24-Port RJ-45 Vertical Breakout Board (XDG032 Only)
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)
CBG209	XDG024 Breakout Cable (8-Ports)
CBG210	XDG025 Breakout Cable (8-Ports)
MSG062	12V Power Supply w/ 3.5mm Terminal Block Adapter

RoHS

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