GS12

Standalone Fully Managed Gigabit Ethernet Switch

Features

- Fully, rugged standalone Gigabit Ethernet Switch
- 12-port fully managed 10/100/1000BaseT (Gigabit) Ethernet switch.
- 1x 10/100BaseT management port
- Layer 2/3 switching with advanced support for VLANs, QoS and IPv6
- 24 Gbits/sec non-blocking switch fabric with full wirespeed performance
- Configuration through Web interface
- Unmanaged version also available
- Conduction cooled
- Supports IPv6 switching/routing
- Remote management support, (Telnet, SSH and SNMP)
- 2x RS232 communication ports
- Onboard Built-in-Test
- MIL-D38999 series 3 connectors
- RoHS compliant
- Includes Real-Time-Clock (RTC)
- Power supply meets MIL-SPEC 1275 for land applications.
- Optional power supply to support MIL-SPEC 704F PSU for airborne applications requiring 50ms Hold Up.

Key Specifications

- IEEE 802.3-2005
  - IEEE 802.3ad (Link aggregation)
- IEEE 802.1D (Prioritization)
- IEEE 802.1Q (VLAN tagging)
- IEEE 802.1D (Spanning Tree Protocol)

The GS12 is a rugged, fully managed, stand-alone Gigabit Ethernet switch providing twelve 10/100/1000BaseT Ethernet ports. Aimed at out-of-the-chassis applications – the networking of multiple subsystems, for example – the GS12 has comprehensive management capabilities that include VLANs, Link Aggregation, Spanning Tree, IPv4, IPv6, Traffic Policing, Quality of Service (QoS) functionality such as guaranteed Bandwidth allocation and prioritization.

Connection to the light-weight, space-efficient, conduction-cooled GS12 is via the rugged front panel connectors, which meet MIL-STD-810F requirements for humidity, salt spray and dust.

Featuring non-blocking shared memory architecture, all the Gigabit ports support both full- and half-duplex operation offering full wirespeed performance with minimal latency on all twelve ports simultaneously.

Onboard built-in test (BIT) ensures the GS12 can be easily linked with other boards to provide integrated system level health monitoring and diagnostics.

The switch management may be accessed via in-band management through the 1G ports, or via out-of-band management. Out-of-band management of the switch is accessible via 10/100 BaseT Ethernet port or a RS232 serial port, available on the front panel D38999 connectors.

The GS12 has comprehensive network management capabilities.

Configuration of the switch is via a comprehensive and intuitive web interface, command line interface or SNMP.

GS12 Standalone Fully Managed Gigabit Ethernet Switch

Specifications

12 Gigabit Ethernet Ports
- IEEE 1000-BaseT connection
- IEEE 10/100-BaseT connection

Auxiliary I/O Ports
- One 10/100-BaseT Management port
- Two RS232
- JTAG + UTIL (for firmware update)

PowerPC Management Processor
- Enables GS12 to be set-up for specific customer configurations

Full 24 Gbps non-blocking switch with full wirespeed performance
- Switch does not 'bottleneck' network performance

Store and forward switching architecture
- Lowest possible latency

8000 MAC address table
- Automatically learns network connections

Bandwidth Provisioning
- Guaranteed bandwidth for real-time services

Compliance
- IEEE 802.3-2000

Architecture
- Shared memory, store-and – forward

Auto Learning
- 8000 MAC addresses

Utility Access Ports
- One 10/100-BaseT Management Port
- Two RS232
- JTAG + UTIL (for firmware update)

Management Features
- IEEE 802.1 Multiple Spanning Tree, IGMP snooping, port mirroring, IEEE 802.3 VLAN tagging, Link Aggregation.
- Advanced QoS features including bandwidth provisioning and 802.1Q VLAN, SNMP v1/v2/v3 and web-based browser

Front Panel Connectors
- 3 x MIL-D38999 Series 3
- Mechanically keyed to be unique
- Chassis Ground Stud

Power Supply
- 28 volt, MIL-SPEC 1275 and MIL-SPEC 704F
- External Power ON/OFF control

Power
- 32 watts maximum

MTBF
- 497,927 hours per Ground Benign, 30°C, per MIL-HDBLK-217F

Environment
- Level 4 or Level 5 Ruggedization
  - Shock: 40g peak sawtooth, 11ms duration
  - Vibration: Random, 01.g2/Hz from 15 to 2000 Hz per MIL-STD-810E Fig 514.4 – 8 high performance aircraft. ~12g RMS
  - Humidity: Up to 95% RH with varying temperature: 10 cycles, 240 hours
- -50°C to +100°C storage temperature (all)
- -40°C to +75°C base-plate operating temperature (level 5)
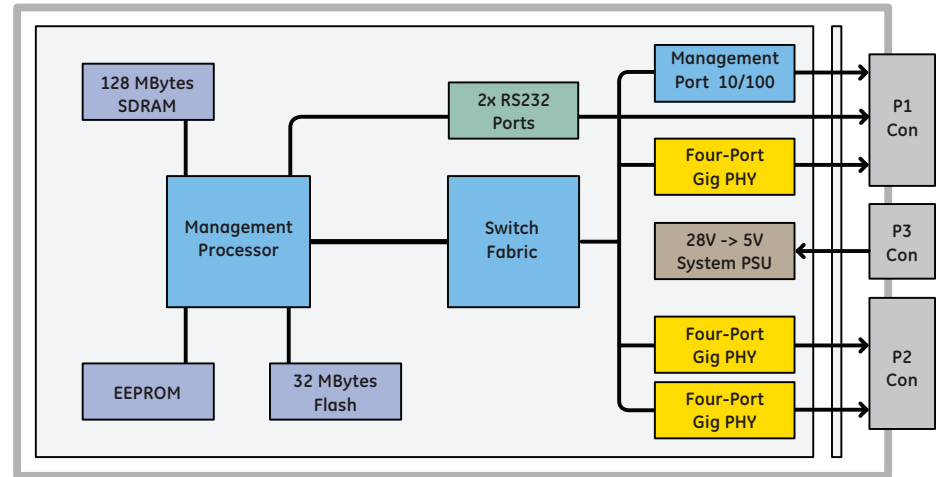- -40°C to +65°C base-plate operating temperature (level 4)

Mechanical Features

Dimensions
- Approximately 2.5" (63.5mm) H, 6.5" (165.1mm) W, 9.25" (234.5mm) L (including connectors)
- IP65 rated

Weight
- Less than 4 pounds

Block Diagram

Ordering Information

GS12-401X0Y	Unmanaged version with 12 10/100/1000BaseT ports via MIL-D38999 Series 3 connectors, Level 4 ruggedization
GS12-401X1Y	Fully Managed version with 12 10/100/1000BaseT ports via MIL-D38999 Series 3 connectors, Level 4 ruggedization
GS12-501X0Y	Unmanaged version with 12 10/100/1000BaseT ports via MIL-D38999 Series 3 connectors, Level 5 ruggedization
GS12-501X1Y	Fully Managed version with 12 10/100/1000BaseT ports via MIL-D38999 Series 3 connectors, Level 5 ruggedization
	X - refers to choice of paint color, 0 = black, 1 = night, 2- olive drab, other colors available. Y - refers to choice of power supply 0 = MIL-SPEC 1275 Power Supply, 1 = MIL-SPEC 704F w/50ms Hold Up Power Supply
GS12DEVKIT-11	Cable Set : set of 3 cables, for P1,P2,P3 : 2.5 metre length, break out to RJ45 and DB9 commercial connectors for rapid development
GBX410SWBIT-1M	BIT Software first year maintenance
GBX410SWLVL7-1M	Management Software first year maintenance
GBX410SWBIT-1MS	BIT maintenance renewal
GBX410SWLVL7-1MS	LVL7 maintenance renewal

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