NETernity™ CP3-GESW8 & CP3-GESW8N

3U CompactPCI® 8-Port Unmanaged Gigabit Ethernet Switches

Features

- Easy setup and operation
- Standalone board, no host CPU intervention required
- 8-port 10/100/1000BaseT Ethernet line speed switching
- IEEE 802.3 compliant
- 1 MB total packet buffer memory
- Automatic address learning and aging
- Conduction cooled, conformal coated 3U CompactPCI option (CP3-GESW8N)
- Supports jumbo frames up to 9728 bytes
- Automatic MDI/MDIX crossover

NETernity™ CP3-GESW8 & CP3-GESW8N Gigabit Ethernet switches offer cost-effective high-speed network connectivity for both military and commercial applications. Designed for no-hassle Layer-2 Ethernet switching, these unmanaged Gigabit Ethernet switch boards require no host CPU intervention, software or drivers resulting in lower cost and easy installation and use. In addition, these switches have low power requirements, 3U CompactPCI format, and support 8 ports.

CP3-GESW8, the standard configuration, supports a commercial operating temperature range. It has one front-panel RJ-45 connector and seven ports accessed through the rear panel (J2 connector) making it ideal for applications requiring both front and back I/O.

CP3-GESW8N is built for rugged, heat sensitive environments. This version of the switch is conduction cooled and conformal coated, supports an extended temperature range, and has 8 ports accessed via rear-panel I/O. With its enhanced protection from heat and environmental contaminates, the CP3-GEWS8N is ideal for military applications such as avionics, radar and harsh environment networking.

An onboard serial EEPROM is used for configuration of the switch's registers during power on initialization. The switch provides 1 MB of packet buffer memory and has advanced address management features including address learning and aging that allows a high-speed non-blocking switch operation.

The switch complies with IEEE 802.3 specifications including the MAC function, flow control and auto-negotiation subsections.

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Specifications

PCI Interface
- PCI signals other than /RESET are not used
- Compatible with all 32-bit CompactPCI buses
- Operating system independent

Ethernet Protocols
- 10BaseT, 100BaseTx, 1000BaseT

Form Factor
- 3U CompactPCI

Number of Ports
- Eight

Front Panel I/O
- One RJ-45

Rear Panel I/O
- 7 standard; 8 (optional)

Ethernet Switch
- Broadcom BCM5388

Address Management
- 4K unicast addresses
- Automatic address learning and aging

Power Consumption
- +5V, 1880 mA
- +3.3V, 24 mA

Dimensions
- 3.9x6.3 (in); 100x160 (mm)

Weight
- CP3-GESW8N: 0.50 (lbs); 0.23 (kg)
- CP3-GESW8: 0.38 (lbs); 0.17 (kg)

Environmental
- Operating Temperature
  CP3-GESW8: 0°C to +70°C
  CP3-GESW8N: -40°C to +85°C
- Storage temperature: -55° C to +125 ° C
- Humidity: 5% to 95% non-condensing

Shock & Vibration – CP3-GESW8N
- Designed to withstand vibration
  (random along 3 orthogonal axes):

Frequency (Hz)	Power Spectral Density (g2/Hz)
20-40	+6db/octave
40-120	0.02
120-150	slope determined by endpoints
150-180	0.04
800-2000	-6db/octave
Overall gRMS	6.93

- Non-operating shock (applied in all 3 orthogonal axes): 20gs peak, 11 milliseconds duration, terminal sawtooth pulse

Shock & Vibration – CP3-GESW8
- Designed to withstand 18 gRMS as specified in MIL-STD-810F

Ordering Information

CP3-GESW8
3U CompactPCI 8-port unmanaged Gigabit Ethernet switch with 1 front-panel and 7 rear-panel ports

CP3-GESW8N
3U CompactPCI conduction cooled, conformal coated 8-port unmanaged Gigabit Ethernet switch with rear-panel I/O access

CP3-GESW8-TM8
3U CompactPCI rear-panel I/O transition module with 8 RJ-45 ports

Note

To assure error-free operation using full-length cable as specified in IEEE 802.3, physical link traces for Ethernet and Gigabit Ethernet signals on all interconnects between the PMC and cable must be routed differentially with 100-ohm differential impedance.

Due to possible signal integrity issues that might be introduced on various models of backplanes, maximum cable lengths which can be supported cannot be guaranteed. This issue should be considered carefully in any design using differential signaling across the backplane.

About GE Fanuc Embedded Systems

GE Fanuc Embedded Systems is a leading global provider of embedded computing solutions for a wide range of industries and applications. Our comprehensive product offering includes many types of I/O, single board computers, high performance signal processors, fully integrated, rugged systems including flat panel displays, plus high speed networking and communications products. The company is headquartered in the U.S. and has design, manufacturing and support offices throughout the world. Whether you're looking for one of our standard products or a fully custom solution, GE Fanuc Embedded Systems has the breadth, experience and 24/7 support to deliver what you need. For more information, visit www.gefanucembedded.com.

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Additional Resources

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