GX7200 SERIES

MARVIN TEST SOLUTIONS

21 SLOT, 3U PXIE CHASSIS

- 21 Slot Smart Chassis with health monitoring
- Supports up to 20, 3U PXI or cPCI instruments
- 790W and 1600W system power supply configurations
- Flexible slot configuration offers 8 PXI-1, 8 Hybrid, and 4 PXIe slots
- Supports up to 8 GB/s system bandwidth and peer to peer communication
- Per slot health monitoring for temperature, power, fan control and PXI trigger mapping
- Flexible controller options including Intel® mini-PC, embedded, or MXI Express interface



DESCRIPTION

The GX7200 Series mainframes are 21-slot PXIe chassis that can accommodate up to 20 instruments as well as a PXI Express controller (an embedded CPU, a mini-PC/Thunderbolt interface, or a PXIe bus expander interface such as the MXI). The backplane architecture supports Gen 2 PCI Express bus signaling and the use of both x1, x4 or x8 system controllers. By offering a combination of PXI-1, Hybrid, and Express slots, the GX7200 offers users the ultimate in flexibility for general purpose as well as high bandwidth test needs.

FEATURES

A total of 790 watts of system power is available for the GX72x0 / 72x2 series chassis and 1600 watts of system power is available for the high power, GX72x5 series chassis. Forced-air cooling for the chassis is provided by (4) 79 CFM fans located under the card cage with a dedicated fan supplying cooling for the system power supply. This cooling configuration, in conjunction with air plenums within the chassis, provides airflow for all module slots per the PXI specification and requires no additional rack space for inlet or outlet air. The GX7205 and GX7215 employ four 100 CFM fans located at the bottom of the card cage assembly with a dedicated fan for the system power supply. The GX7205 / GX7215 chassis can support up to (8) GX5295 / GX5296 modules, located in the (8) PXI-1 instrument slots.

The GX7200 Smart Chassis supports the monitoring of slot temperatures and system power supply voltages as well providing the ability to program or map each PXI trigger line from one PCI segment to another. In addition, the user can program the temperature monitoring function for specific warning and shutdown limits as well as monitor and control fan speed. All user specific setups can be stored in non-volatile memory as a user configuration and can be used as the default setup for normal chassis operation.

For applications requiring a mass interconnect interface and the means to route cables to/from the rear of the chassis, MTS offers the GX7202, GX7212, GX7205 and GX7215 models.

These chassis include an integrated 2U cable tray, a hinged interface assembly that accommodates all popular mass interconnect devices, optional openings at the top & bottom of chassis for cable routing, and a recessed card cage (recessed by 2.5" or 4.5") providing up to 7" of space for interface wiring.

CHASSIS CONTROLLER OPTIONS

The GX7200 Series supports a variety of Slot 0 controllers and bus expander interfaces including the new GX7950 mini-Computer / Thunderbolt Controller Series (available on GX7201 and GX7206). This state-of-the-art mini-PC delivers exceptional performance and flexibility with rear panel access to all peripheral interface connections, as well as access for maintenance and upgrades. The GX7200 Series also supports traditional embedded controllers and MXI bus extenders.

CHASSIS CONFIGURATION

Slot 1 is dedicated to the system controller and supports a x1, x4 or x8 PXI Express controller. Slots 2, 9, 10 and 21 are PXIe, slots 3 - 8, 19 - 20 are PXI hybrid and slots 11 - 18 are PXI-1.

SOFTWARE

The chassis is supplied with the GxChassis software which includes a software library, driver, programming examples, a virtual panel application and documentation. The virtual panel provides a way to control, configure and display the smart chassis' features, including temperature monitoring, trigger line mapping, and power supply voltage monitoring. A 32/64-bit Windows DLL driver is provided with various interface files for accessing the DLL functions from a variety of programming tools and languages. Support for Linux for the chassis is provided using a separate software package - GtLinux.

APPLICATIONS

Automatic Test Equipment (ATE), Data Acquisition, Process Control, Production Test, Scientific Applications, Industrial Systems

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SPECIFICATIONS

CHASSIS SPECIFICATIONS	
Chassis	GX7200 GX7210 GX7202 GX7212
Input AC Power	90 to 264 VAC, 12 A max (PFC) 47 to 63 Hz
Total Available DC Power	790 W
+5 V +3.3 V +12 V -12 V Note: Total output power cannot exceed 790 W.	60 A (max) 40 A (max) 25 A (max) 5 A (max)
Chassis	GX7205 GX7215
Input AC Power	120 VAC, ±15%, 20 A max (PFC) 240 VAC, ±15%, 10 A max (PFC) 47 to 440 Hz
Total Available DC Power	1600 W
+5 V +3.3 V +12 V -12 V Note: Total output power cannot exceed 1600 W.	120 A (max) 300 A (max) 33 A (max) 16 A (max)
CHASSIS MECHANICAL / ELECTRICAL SPECIFICATIONS	
Weight GX7200 GX7210 GX7202 GX7212 GX7205 GX7215	 29 lbs 26 lbs 35 lbs 32 lbs 40 lbs 37 lbs
Dimensions GX7200, GX7210, GX7202, GX7212 GX7205, GX7215	 4U (7") H x 17.6" W x 16.5" D 6U (10.5") H x 17.6" W x 23" D

Cooling (GX7200, GX7202, GX7210, GX7212)	Four 79 CFM fans for system cooling. Separate fan for system power supply. Integrated temperature monitoring via an on-board microcontroller with audible and software notification when preset temperature limits are exceeded. Fan speed control and monitoring is automatic and can be controlled / monitored via the GxChassis software.
Cooling (GX7205, GX7215)	Four 100 CFM fans for system cooling. Separate fan for system power supply. Integrated temperature monitoring via an on-board microcontroller with audible and software notification when preset temperature limits are exceeded. Fan speed control and monitoring is automatic and can be controlled / monitored via the GxChassis software.
PXI Clock	Integrated 10 MHz PXI clock with auto-detect function. Presence of an external 10 MHz PXI clock will disable the internal clock. PXI clock is distributed to all peripheral slots. Optional external clock via slot 2
Temperature Monitoring	Per slot monitoring, 1 reading/sec/slot 4 second moving average value User selectable alarm criteria: • Maximum slot temperature • Average slot temperature Accuracy: ± 2 °C Default warning and shutdown limits: +50 °C & +70 °C Warning and shutdown limits programmable via software driver Status: Query via software driver and audible alarm for a warning limit condition
Power Supply Monitoring	Monitored voltages: 3.3, 5, +12, -12, VIO value Accuracy: ± 2% of reading
PXI Triggers	Slots: 2 – 21 Number: 8 per segment Software controlled segment mapping supports: • Isolate a trigger line within a segment • Map a trigger line left to right • Map a trigger line right to left
PXI Clock and Synchronization Resources	Integrated 10 and 100 MHz clock with an auto-detect function. Presence of an external 10 MHz PXI clock will synchronize the 100 MHz clock to the external 10 MHz source 100 MHz clock accuracy: ± 30 ppm Synchronization signals: SYNC100 & SYNC_CTRL
External 10 MHz Clock Input	An external 10 MHz clock source (TTL level) can be provided via a rear panel BNC or via a PXI Express System Timing Controller
10 MHz Clock Output	10 MHz output is available via a rear panel BNC connector, TTL compatible level

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Slots	(1) PXI Express Controller (1) PXIe Timing Controller (3) PXI Express (8) PXI Hybrid (8) PXI-1
GX7200, GX7202 Peripherals	500 GB (min) hard drive,7200 rpm
ENVIRONMENTAL AND COMPLIANCE	
Operating Temperature Range	0 °C to +50 °C
Storage Temperature Range	-20 °C to +60 °C
Relative Humidity (operating)	10% to 90% RH, non-condensing Dew point -5°C - 20°C
Relative Humidity (non-operating)	5% to 95% RH, non-condensing 30°C max
Altitude (operating)	Up to 2000 M
GX7200 / GX7210 Acoustic Noise (at operator level, 12 inches from unit)	Auto fan setting (@ 23°C ambient): 61 dBA High fan setting: 66.4 dBA
GX7205 / GX7215 Acoustic Noise (at operator level, 12 inches from unit)	Auto fan setting (@ 23°C ambient): 57.1 dBA High fan setting: 72.8 dBA
Emissions:	EN 55011:1991 Group 1 FCC Class A at 10 m
CE Compliance	EN61010-1 EN61326

Note: Specifications are subject to change without notice

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ORDERING INFORMATION

GX7200	21 Slot PXIe Master Chassis
GX7201	21 Slot PXIe Master Chassis with Integrated mini-Computer/PXIe Thunderbolt Controller
GX7210	21 Slot PXIe Slave Chassis
GX7200R	21 Slot PXIe Master Chassis with Rack Mount
GX7210R	21 Slot PXIe Slave Chassis with Rack Mount
GX7212	GX7210R with an Integrated Cable Tray and a Hinged Front Panel for Mass Interconnect (Rackmount Configuration)
GX7200-MPR	21 Slot PXIe Master Chassis, SCOUT Receiver Compatible
GX7210-MPR	21 Slot PXIe Slave Chassis, SCOUT Receiver Compatible
GX7202	GX7200R with an Integrated Cable Tray and a Hinged Front Panel for Mass Interconnect (Rackmount Configuration)
GX7205	21 Slot PXIe Master Chassis with 1400W system power supply
GX7206	21 Slot PXIe Master Chassis with Integrated mini-Computer/PXIe Thunderbolt controller and 1400W system power supply
GX7215	21 Slot PXIe Slave Chassis with 1400W system power supply
GX7202-N	GX7200R with an Integrated Cable Tray, (Rackmount Configuration, no door)
GX7202-MP	GX7202 with MAC Panel SCOUT 3U receiver
GX7212-MP	GX7212 with MAC Panel SCOUT 3U Receiver
GX7205R	GX7205 Chassis with Rack Mount
GX7215R	GX7215 Chassis with Rack Mount
GX7202-I	GX7200R with an Integrated Cable Tray and iCON 960 Receiver Interface / PCB Assy
CONTROLLER (FOR MASTER CHASSIS, SELECT ONE)	
GX7951	11 Gen i7-1165G7 mini-PC
GX7945-SSD	3U i7 Quad Core, 2.4 GHz Processor cPCI Express Controller, 16GB of RAM, 1TB SSD
GX7xxx-400Hz	115VAC/400Hz Input Power Option for any Marvin Test Solutions PXI Chassis
BUS EXPANDER (FOR SLAVE CHASSIS)	
MXIe1-Express	MXI-Express Interface Kit (PCIe I/F Card, PXIe I/F Card, 3-Meter Cable). 192MB Throughput, includes 2-port PCIe card
MXIe4-Express-1	MXI-Express Interface Kit (PCIe I/F Card, PXIe I/F Card, 3-Meter Cable). 798MB Throughput, 1-port PCIe card
ACCESSORY	

GX97111	3U Blank Panel, 1-Slot wide
GX97112	3U Blank Panel, 2-Slots wide
GX97114	3U Blank Panel, 4-Slots wide
GX97115	3U Blank Panel with multiple size panels
GX97920	20 / 21-Slot PXI Chassis Installation/Integration Service & 2nd Year Warranty
GX97117	3U Blank Panel with Air Baffle
GX98300	Chassis Flange Kit for SCOUT 3U Rcvr, GX7200 & GX7300 Chassis

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