

# GX7100 SERIES



## 3U / 6U PXI CHASSIS

- Slots for one 6U (embedded) or 3U (remote) PXI controller, six 6U or 3U instruments, and seven 3U instruments
- Built-in peripherals (hard disk drive and a DVD-RW drive) for embedded controller configurations
- Integral Smart functions provide internal temperature monitoring, power supply monitoring, fan control and PXI trigger mapping
- Innovative forced-air cooling controlled by embedded chassis temperature monitor
- Optional cable tray, recessed card cage, and hinged front panel configurations for mass interconnect devices



## DESCRIPTION

The GX7100 Series is a 14-slot combination PXI chassis that accommodates 3U and 6U PXI controllers and instruments in 4U of rack space. The GX7100's unique format includes seven 3U-only slots and seven 3U/6U slots arranged horizontally to reduce the overall size of the chassis, providing the versatility and high-density necessary to address many PXI applications and requirements.

## FEATURES

The GX7100 Series offers a full range of features and options including an innovative forced-air cooling system comprised of eight (8) 20 CFM fans controlled by built-in temperature sensors. The fans provide airflow according to PXI revision 2.1 specifications. This cooling configuration provides optimum cooling for the chassis regardless of the type or number of instruments used. Additional cooling is provided for the system power supply.

The GX7100 Series Smart Chassis supports the monitoring of internal chassis 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. 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 mass interconnect and cable routing to/ from the rear of the chassis, the GX7102 and GX7112 offer the ideal system solution. These chassis include an integrated 2U cable tray, a hinged front-panel that accommodates all popular mass interconnect devices, optional openings at the top and bottom of chassis for cable routing, and recessed PXI instruments (recessed by 2.5" or 5").

The combination of front panel and the recessed instruments provides up to 8" of space for interface wiring.

The GX7100 Series provides 850 W of system power and complies with the PXI Hardware Specification 2.1.

## CONFIGURATION

Slot 1 (6U) is dedicated to the system controller (embedded or remote, using a PXI bus expander). Slot 2 can be used by a PXI Star Trigger Controller or by any PXI or cPCI instrument. Slots 3 - 14 support the PXI Star Trigger. The PXI local bus interconnects cards within PXI segment A or segment B. The PXI trigger lines are buffered / enabled at the PXI segment A / segment B boundary.

## PROGRAMMING AND SOFTWARE

The chassis is supplied with the GxChassis software which provides software libraries and a driver, programming examples, 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 programming tools and languages such as ATEasy, LabVIEW, C/C++, Microsoft Visual Basic®, Delphi, and more. A User's Guide provides documentation that includes instructions for installing, using and programming the chassis. Support for Linux for the chassis is provided using a separate software package - GLinux.

## APPLICATIONS

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



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## SPECIFICATIONS

CHASSIS SPECIFICATIONS	
Input AC Power	90 - 264 V <sub>AC</sub> , 47 - 63 Hz, 10 A max with PFC
Total Available DC Power	850 W
+5 V +3.3 V +12 V -12 V	60 A (max) 40 A (max) 25 A (max) 5 A (max)
Note: Total power cannot exceed 560 W	
Weight	
GX7100	26 lbs
GX7110	23 lbs
GX7111	23 lbs
GX7102	28 lbs
GX7112	25 lbs
Dimensions	
GX7100	4U (7") H x 17.6" W x 16" D
GX7110	4U (7") H x 17.6" W x 16" D
GX7111	4U (7") H x 17.6" W x 16" D
GX7102	6U (10.5") H x 17.6" W x 23" D
GX7112	6U (10.5") H x 17.6" W x 23" D
Cooling	<ul style="list-style-type: none"> <li>• Eight 20 CFM fans for instruments</li> <li>• Additional fan for power supplies</li> </ul>
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 can be supplied via slot 2 or via the rear panel 10 MHz input.
Temperature Monitoring	7 temperature sensors, centrally located across segment A, 1 reading/sec/sensor 4 second moving average value User selectable alarm criteria: <ul style="list-style-type: none"> <li>• Maximum slot temperature</li> <li>• Average slot temperature</li> </ul> Accuracy: ±1 °C Default warning and shutdown limits: +50 °C and +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: ±1% of reading

PXI Triggers	Slots: 2 - 14 Number: 8 per segment Software controlled segment mapping supports: <ul style="list-style-type: none"> <li>• Isolate a trigger line within a segment</li> <li>• Map a trigger line from segment A to B</li> <li>• Map a trigger line from segment B to A</li> </ul>
Slots	14 PXI or cPCI Slots: <ul style="list-style-type: none"> <li>• Seven dedicated 3U instrument slots</li> <li>• Seven 3U/6U instrument slots</li> </ul>
ENVIRONMENTAL SPECIFICATIONS	
Acoustic Noise (at operator level, 12 inches from front of unit)	Auto or High fan setting (@ 23°C ambient): < 40 dBA
Operating Temperature Range	0 °C to +50 °C
Storage Temperature Range	-20 °C to +60 °C

Note: Specifications are subject to change without notice

## ORDERING INFORMATION

<b>GX7100C</b>	6U/3U, 14 Slot Smart PXI Master Desktop Combo Chassis w/Solid state Disk Drive
<b>GX7100CR</b>	6U/3U, 14 Slot Smart PXI Master Rackmount Combo Chassis w/Solid state Disk Drive
<b>GX7100B</b>	6U/3U, 14 Slot Smart PXI Master Desktop Combo Chassis w/DVD-RW & Hard Disk Drive
<b>GX7100BR</b>	6U/3U, 14 Slot Smart PXI Master Rackmount Combo Chassis w/DVD-RW & Hard Disk Drive
<b>GX7102B</b>	GX7100B with an Integrated Cable Tray & a Hinged Front Panel for Mass Interconnect (Rackmount Configuration)
<b>GX7102B-5TB</b>	GX7102B with the card cage recessed 5", & top/bottom cable routing openings (formerly GX7102B-5)
<b>GX7110B</b>	6U/3U, 14 Slot Smart PXI Slave Desktop Combo Chassis for Use with PXI Remote Controllers
<b>GX7110B-2</b>	GX7110B with a 2" recessed instrument card cage (formerly GX7111B)
<b>GX7110BR</b>	GX7110B with Rackmount
<b>GX7110BR-2</b>	GX7110B with a 2" recessed instrument card cage w/rack-mount (formerly GX7111BR)
<b>GX7112B</b>	GX7110B with an Integrated Cable Tray & a Hinged Front Panel for Mass Interconnect (Rackmount Configuration)

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<b>GX7112B-5FT</b>	GX7112B with the card cage recessed 5", Top Cable Routing Opening, Flat Front Panel
<b>GX7112B-5NB</b>	GX7112B with the card cage recessed 5", Bottom Cable Routing Opening, no door (Replaces GX7112B-5N)
<b>GX7112B-5NBT</b>	GX7112B with the Card Cage Recessed 5", Top/Bottom Cable Routing Opening, No Door
<b>GX7112B-5NBTS</b>	GX7112B with the Card Cage Recessed 5", Top/Bottom Cable Routing Opening, No Door, Countersink Screw
<b>GX7112B-5TB</b>	GX7112B with the card cage recessed 5", & top/bottom cable routing openings (Formerly GX7112B-5)
<b>CONTROLLER (FOR MASTER CHASSIS, SELECT ONE)</b>	
<b>GX7928</b>	PXI Controller, 6U E-2176M Processor, 16 GB DRAM
<b>GX7928-SSD</b>	PXI Controller, 6U-E2176M Processor, 16 GB DRAM w/Solid State Drive (SSD)
<b>GX7928-M</b>	PXI Controller, 6U E-2176M Processor, 16 GB DRAM - Ruggedized / Extended Temperature
<b>GX7927-2534096</b>	6U Single-Slot 2.53 GHz i7 Controller with 4 GB of Memory, Includes PMC/XMC 2 Site, 2GE, VGA, USB & COM port (FP).
<b>GX7927-2534096E</b>	6U Single-Slot 2.53 GHz i7 Controller with 4 GB of Memory, Includes PMC/XMC 2 Site, 2GE, VGA, USB & COM Port (FP) Extended Temp, PATS Controller
<b>GX7928-SSD</b>	PXI Controller, 6U-E2176M Processor, 16 GB DRAM w/Solid State Drive (SSD)
<b>BUS EXPANDER (FOR SLAVE CHASSIS)</b>	
<b>MXI-PCIe-PXI-KIT-AD</b>	MXI-Express Interface Kit including PCIe Interface Card, PXI Interface Card and 3 Meter Cable
<b>MXI-PCIe-X1-AD</b>	PCI Express-to-PCI expansion card for host PC, X1 PCI Express interface - Compatible with MXI-PXI-X1-A
<b>MXI-PXI-X1-AD</b>	PXI interface, X1 - Compatible with MXI-PCIe-X1-A
<b>MXI-CBL-PCIe-X1-1M-AD</b>	PCIe -to-PXI 1 M cable
<b>MXI-CBL-PCIe-X1-3M-AD</b>	PCIe -to-PXI 3 M cable
<b>MXI-CBL-PCIe-X1-7M-AD</b>	PCIe -to-PXI 7 M cable
<b>MXI-4E-C</b>	MXI-Express Kit, Copper, PXI to PCI, with 3m Cable
<b>MXI-EXPRESS-1A</b>	PCIe -to-PXI Chassis Expansion Kit. Includes (1) PCIe interface card, (1) PXI interface card and 3 M cable

<b>MXI-EXPRESS</b>	MXI-Express Interface Kit Including PCIe Interface Card, PXI Interface Card, and a 3 Meter Cable, includes 2-port PCIe card
<b>MXI-4E-PXI-C-P</b>	MXI-Express Interface Card, PXI, Copper, for Daisy Chain Configurations (Requires One MXI-E-PXI-C & Cable)
<b>MXI-EXPRESS-1</b>	MXI-EXPRESS interface kit, includes single port PCIe interface card, PXI interface card, 3M cable
<b>MXIe1-PXI-L</b>	Laptop (ExpressCard) to PXI Interface Card Kit, Includes a 3 Meter Cable
<b>MXI-EXPRESS-2</b>	Dual MXI-Express I/F Kit Including Dual-Port PCIe I/F Card, 2 PXI I/F Cards, and 2 3 Meter Cables
<b>MXI-4E-PCI-C</b>	MXI-Express Interface Card, PCI, Copper, (Requires One MXI-E-PXI-C & Cable)
<b>MXI-4E-PXI-C</b>	MXI-Express Interface Card, PXI, Copper, (Requires One MXI-E-PCI-C & Cable)
<b>ACCESSORY</b>	
<b>GX97005</b>	3U to 6U Panel Adapter (Allows a 3U Instrument to Fit into a 6U Chassis)
<b>GX97011</b>	6U Blank Panel, 1-Slot wide
<b>GX97012</b>	6U Blank Panel, 2-Slots wide
<b>GX97014</b>	6U Blank Panel, 4-Slots wide
<b>GX97111</b>	3U Blank Panel, 1-Slot wide
<b>GX97112</b>	3U Blank Panel, 2-Slots wide
<b>GX97114</b>	3U Blank Panel, 4-Slots wide
<b>GX97117</b>	3U Blank Panel with Air Baffle
<b>GX97025</b>	Replacement Power Supply for GX7100 Chassis
<b>GX97100</b>	Rack Mount Kit for GX7100, GX7200 & GX7300 Chassis
<b>GX97103</b>	Rack Mount with Handles GX7100 Chassis
<b>GX7909-250</b>	3U cCPI Card with 250 GB Hard Drive
<b>GX7909-80</b>	3U cCPI Card with 80 GB Hard Drive
<b>GX7909-SSD</b>	3U cCPI with Solid State Drive, 1TB
<b>GX7909-500</b>	3U cCPI Card with 500 GB Hard Drive
<b>GX97914</b>	14-Slot PXI Chassis Installation/Integration Service & 2nd Year Warranty
<b>GX97028</b>	Replacement PXI Chassis Power Supply
<b>GX7581</b>	GX71x2 Door Panel with a Cutout for 3 ITT-Cannon (DL-156) Connectors (6-Module Wide)
<b>SERVICES</b>	
<b>GX97914</b>	14-Slot PXI Chassis Installation/Integration Service & 2nd Year Warranty
<b>OPTION</b>	
<b>GX7xxx-400Hz</b>	115VAC/400Hz Input Power Option for any Marvin Test Solutions PXI Chassis



# GX7100 SERIES



GX7xxx-HD	Upgrade Chassis Hard Disk size to 560GB
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