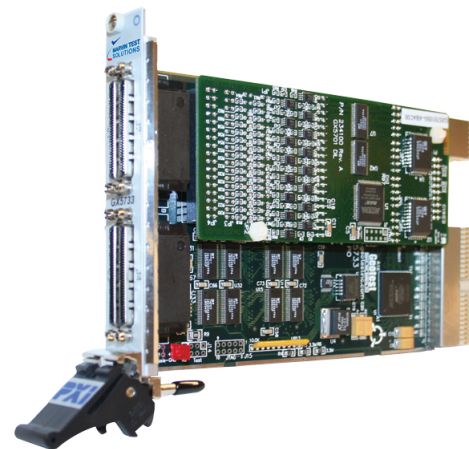


# GX5733 SERIES



## 128 CHANNEL DIGITAL I/O MODULAR PXI CARD

- Three 32-bit LVTTTL ports for a total of 96 LVTTTL input or output channels
- One 32-bit configurable port accepts the GX57xx I/O module for customized I/O levels
- Compatible with PXI Express hybrid peripheral slots



## DESCRIPTION

The GX5733 is a 3U modular digital I/O card that offers up to 128 I/O channels. Designed for ATE, data acquisition, or process control systems where a large number of discrete I/O channels are required, the GX5733 offers the highest channel density and flexibility in the industry for a single-slot, 3U PXI plug-in board. 96 channels support TTL levels and an additional 32 I/O channels can be customized by installing one of Marvin Test Solutions' GX57xx series I/O modules. Alternatively, the remaining port can be configured to support 32 TTL channels.

## FEATURES

The GX5733's 128 digital inputs or outputs are arranged as four, 32-bit ports. Three of the ports provide 96 TTL levels and can be programmed for input or output in groups of 8. The remaining port can be used with a GX57xx I/O module and offers customized levels, handshaking, and on-board memory. The GX57xx expands the I/O capability of the GX5733 to 128 input or output channels.

## I/O MODULES

The GX5733 can accommodate one GX57xx module and provides custom I/O levels and functions. I/O modules provide between 16 and 32 channels with some versions offering on-board memory.

### GX5701 - Digital Input Latch (DIL)

The GX5701 provides 32 input channels with programmable threshold (-30 V to +30 V), handshaking for synchronization, and 16 KB of vector memory.

### GX5702 - Digital Output Latch (DOL)

The GX5702 provides 32 TTL output channels, handshaking for synchronization, and 16 KB of vector memory.

### GX5704 - Digital Power Output Latch (DPO)

The GX5704 provides 32 optically isolated Open-Collector Outputs capable of driving signals up to 50 V with 500 mA current sink capability, handshaking for synchronization, and 16 KB of vector memory.

### GX5709 - RS-422 Differential Digital I/O

The GX5709 provides 32 RS-422 differential I/O channels. Direction is programmable in groups of eight.

### GX5711 - LVDS to TTL Converter

The GX5711 bi-directional I/O module converts 16 differential LVDS inputs to TTL outputs or 16 TTL inputs to 16 differential LVDS outputs.

### GX5712 - RS-422 to TTL Converter

The GX5712 bi-directional I/O module converts 16 differential RS-422 inputs to TTL outputs or 16 TTL inputs to 16 differential RS-422 outputs.

## PROGRAMMING AND SOFTWARE

The board is supplied with the GXPIO library, a software package that includes a virtual instrument panel, and a Windows 32/64-bit DLL driver library and documentation. The virtual panel can be used to interactively program and control the instrument from a window that displays the instrument's current settings and status. In addition, interface files are provided to support access to programming tools and languages such as ATEasy, LabView, LabView/Real-Time, C/C++, Microsoft Visual Basic®, Delphi, and Pascal. An On-Line help file and PDF User's Guide provides documentation that includes instructions for installing, using and programming the board.



# GX5733 SERIES



A separate software package - [GtLinux](#) - provides support for Linux 32/64 operating systems.

## APPLICATIONS

- Factory Automation
- Process Control
- Data Acquisition
- Automatic Test Equipment (ATE)

## SPECIFICATIONS

TTL I/O LEVELS	
Input Low Voltage	0 V (min); 0.8 V (max)
Input High Voltage	2.0 V (min); 5.0 V (max)
Input Hysteresis	100 mV (typ)
Output Low Voltage	0.55 V (max)
Output High Voltage	2.0 V (min)
Source Current	24 mA (max)
Sink Current	24 mA (max)
Number of Channels	96 / 128* (*Requires installing jumpers on board)
POWER	
3.3 V <sub>DC</sub>	0.6 A
5 V <sub>DC</sub>	0.8 A (max)
ENVIRONMENTAL	
Operating Temperature	0 °C to +55 °C
Storage Temperature	-20 °C to +85 °C
Size	3U PXI
Weight	9 oz
GX5701 DIGITAL INPUT LATCH	
Input Range Threshold (Programmable)	-30 V (min); 30 V (max)
Programming Resolution	1 mV
Accuracy	±0.05 V (typ)

Setup Time	100 ns (typ)
Number of Channels	32 (all input)
Memory	4,096 vectors
Maximum Input Rate	>1 kHz
Power	Supplied by GX5733
Environmental	
Operating Temperature	0 °C to +55 °C
Storage Temperature	-20 °C to +85 °C
Size	5" x 2.1"
Weight	6 oz
GX5702 DIGITAL OUTPUT LATCH	
Output Level	TTL (5 V)
Sink Current	40 mA (max)
Source Current	1.8 mA (max)
Skew Between Channels	10 ns (typ)
Number of Channels	32 (all output)
Memory	4,096 vectors
Maximum Output Rate	>1 kHz
Power	Supplied by GX5733
Environmental	
Operating Temperature	0 °C to +55 °C
Storage Temperature	-20 °C to +85 °C
Size	5" x 2.1"
Weight	6 oz



# GX5733 SERIES



## GX5704 DIGITAL POWER OUTPUT LATCH

Output Characteristics	Optically Coupled, Open Collector Outputs (50 V max)
Sink Current (per byte)	125 mA per channel, max (simultaneous)
Sink Current (One Channel)	400 mA (max)
Skew Between Channels	10 ns (typ)
Number of Channels	32 (all output) isolated
Memory	4,096 vectors
Maximum Output Rate	>1 kHz
Power	Supplied by GX5733
<b>Environmental</b>	
Operating Temperature	0 °C to +55 °C
Storage Temperature	-20 °C to +85 °C
Size	5" x 2.1"
Weight	6 oz
<b>GX5709 RS-422 DIFFERENTIAL I/O MODULE</b>	
Output Levels	RS-422 (differential)
Input Levels	RS-422 (differential)
Number of Channels	32 (input or output, programmable in groups of eight)
Power	Supplied by GX5733
<b>Environmental</b>	
Operating Temperature	0 °C to +55 °C
Storage Temperature	-20 °C to +85 °C
Size	5" x 2.1"
Weight	6 oz

## GX5711 BI-DIRECTIONAL LVDS - TTL CONVERTER MODULE

Output Levels	TTL or LVDS (differential)
Input Levels	TTL or LVDS (differential)
Number of Channels	16 (all input or output)
Power	Supplied by GX5733
<b>Environmental</b>	
Operating Temperature	0 °C to +55 °C
Storage Temperature	-20 °C to +85 °C
Size	5" x 2.1"
Weight	6 oz

## GX5712 BI-DIRECTIONAL RS-422 TO TTL CONVERTER MODULE

Output Levels	TTL or RS-422 (differential)
Input Levels	TTL or RS-422 (differential)
Number of Channels	16 (all input or all output)
Power	Supplied by GX5733
<b>Environmental</b>	
Operating Temperature	0 °C to +55 °C
Storage Temperature	-20 °C to +85 °C
Size	5" x 2.1"
Weight	6 oz

Note: Specifications are subject to change without notice

# GX5733 SERIES



## ORDERING INFORMATION

<b>GX5733</b>	96 Channel Digital I/O with 32 Channel User Configurable I/O PXI Card
<b>GX5733-GX5709</b>	96 Channel Digital I/O with GX5709 I/O Interface Module, PXI Card
<b>OPTION</b>	
<b>GX5701</b>	32 Channel Digital Input Latch Module for GX5731/GX5733
<b>GX5702</b>	32 Channel Digital Output Latch Module for GX5731/GX5733
<b>GX5704</b>	32 Channel Digital Power Output Latch Module for GX5731/GX5733
<b>GX5709</b>	32 Channel RS-422 Digital I/O Module for GX5731/GX5733
<b>GX5711</b>	16 Channel LVDS to TTL Converter for GX5731/GX5733
<b>GX5712</b>	16 Channel RS-422 to TTL Bi-Directional Converter for GX5731/GX5733
<b>ACCESSORY</b>	
<b>TS-900e-5G-BMC</b>	Blind mate connectors (one pair), DC - 40 GHz, 2.92mm
<b>GT95015</b>	Connector Interface for all Gx5xxx/GX3xxx, SCSI to 100 Mil Grid, Differential
<b>GT95021</b>	2 ft. Shielded Cable for all 5xxx/35xx (68 Pin)
<b>GT95022</b>	3 ft Shielded Cable for all 5xxx/35xx (68 Pin)
<b>GT95022E</b>	3 ft Shielded Cable for all 5xxx/35xx (68 Pin) Not Terminated One End
<b>GT95025</b>	Connector Interface, 68-Pin SCSI to TTI Testron 170-Pin Signal Block
<b>GT95028</b>	10 ft shielded cable for 5xxx/35xx products (68 Pin)
<b>GT95031</b>	6 ft Shielded Cable for all 5xxx/35xx (68 Pin)
<b>GT95035E-48</b>	Shielded Flying Lead Cable for all 5xxx/35xx (68 Pin), 48".
<b>GX98303</b>	3U "Wireless" Scout Adapter for GX528x/GX529x/GX564x/GX5733 (200-Pin Connector)

DIGITAL I/O

