

GX2475

PRELIMINARY DATASHEET

HIGH VOLTAGE DUAL CHANNEL DIGITIZER PXI CARD

- Two Channel, 14 Bit Digitizer
- Differential or Single Ended Inputs
- DC to > 30 MHz Analog Bandwidth
- 150 V



DESCRIPTION

The GX2475 is a high performance, dual differential channel, 14-bit digitizer offering high dynamic range. The module's differential inputs, coupled with 14 bits of resolution makes it an ideal instrument for acquiring and analyzing high voltage signals. Each channel offers 3 selectable low pass filters, a 14 bit, 70 MS/s ADC, and 512 K of memory. A 50 MHz or 70 MHz clock with a divider provides a common acquisition clock source for both channels.

FEATURES

The GX2475 provides two differential inputs providing the ability to make low level measurements in the presence of common mode or noisy signals. The inputs can also be configured for single-ended operation. Each channel supports AC or DC coupling. Each channel can also add an offset to the input signal, providing the ability to maximize the A to D's dynamic range.

Both channels offer three, 3-pole, low pass, butterworth filters offering the ability to band limit signal noise and minimize aliasing effects. The filters and also be bypassed to take advantage of the input amplifier's full bandwidth.

Clocking of the digitizer is provided by an external input or an internal 10 MHz, 50 MHz or 70 MHz clock which can be divided by 1 to 256. Each channel can be independently triggered to start a measurement from an external or internal source.

PROGRAMMING AND SOFTWARE

The GX2475 is supplied with a virtual instrument panel, which includes a 32-bit DLL driver library and documentation. The virtual panel can be used to interactively adjust and control the instrument from a window that displays the current instrument's current settings and measurements.

APPLICATIONS

- Automotive testing
- Data Acquisition
- Medical device and module test
- ATE systems

GX2475

SPECIFICATIONS

HARDWARE	
Input Channels	4 analog (A+, A-, B+, B-) 1 external clock, 1 external trigger
Input Connectors	SMB
Format	PXI, 3U single slot
A/D CONVERTER	
Resolution	14 bits
Sampling Rate	500 KS/s to 70 MS/s
Clock Source	External or Internal
Internal Clock	70 MS/s, or 50 MS/s, ± 100 ppm
Clock Divider	1 to 256
Memory	512K samples per channel
ANALOG INPUT CHANNELS	
Input Configuration	Differential or single-ended
Input Range	150 V _{pp} , 300 V _{pp} , 600 V _{pp}
Maximum Input	± 350 Vp, (input + common mode)
Common Mode Range	± 350 V for 75 Vp, 150 Vp, 300 Vp ranges
DC Offset	± 347 V for 75 Vp, 150 Vp, 300 Vp
Input Impedance	1 M Ω
Coupling	AC or DC
Accuracy	$\pm (50 \text{ mV} + 0.2\% \text{ of range})$ for 150 V _{pp} , 300 V _{pp} , 600 V _{pp}
Relative Accuracy	$\pm 0.025\%$ of range
Bandwidth	> 30 MHz
Frequency Response (no filter) Referenced to 500 kHz	± 0.5 dB, DC to 10 MHz ± 2 dB, 10 MHz to 30 MHz
Low Pass Filters	3-pole Butterworth, selectable: None, 6 MHz, 15 MHz, 30 MHz
Channel Crosstalk	<80 dB at 1 MHz
SFDR	80 dB, 1 MHz input 72 dB, 10 MHz input (50 MS/s, 2 V _{pp} signal)
SINAD	68 dB, 1 MHz input 64 dB, 10 MHz input (50 MS/s, 2 V _{pp} signal)

EXTERNAL CLOCK	
Connector	Front panel SMB
Input Impedance	50 Ω nominal
Maximum Frequency	100 MHz, divisible by 1 to 256
Threshold Level	TTL
Output Impedance	50 Ω
Output Level	V Lo < 0.5 volts, V Hi > 4.5 volts, no load
TRIGGERING	
Connector	Front panel SMB
Impedance	10 K Ω nominal
Threshold Level	TTL
Sources	Front panel, PXI trigger 0 - 5, PXI Star trigger, software trigger, input signal
Modes	Positive / negative level or edge, Positive / negative edge continuous
GENERAL	
Calibration Cycle	6 months
Current Consumption (Maximum)	+5 V @ 650 mA +12 V @ 40 mA -12 V @ 40 mA +3.3 V @ 300 mA
Weight	Approx. 210 g
Size	3U, single slot
Operating Temperature	0 °C to +50 °C
Storage Temperature	0 °C to +70 °C
Humidity (Non-Condensing)	10% to 80%

Note: Specifications are subject to change without notice

GX2475

ORDERING INFORMATION

GX2475	3U High Voltage, Dual Differential Channel, 14-bit digitizer
ACCESSORY	
GX92104	SMB Plug to BNC-M Cable, 36 inches (RG188 Cable)
GX2472-CAL	GX2472 Calibration/Verification Service. Includes pre-verification data (post calibration data provided if applicable)
GX2472-CAL-3	GX2472 Calibration/Verification Service - 3 Years. Includes pre-verification data (post calibration data provided if applicable)
GX2472-CAL-5	GX2472 Calibration/Verification Service - 5 Years. Includes pre-verification data (post calibration data provided if applicable)
GX2475-CAL	GX2475 Calibration/Verification Service. Includes pre-verification data (post calibration data provided if applicable)
GX2475-CAL-3	GX2475 Calibration/Verification Service - 3 Years. Includes pre-verification data (post calibration data provided if applicable)
GX2475-CAL-5	GX2475 Calibration/Verification Service - 5 Years. Includes pre-verification data (post calibration data provided if applicable)

Note: The GX2475 is supplied by a 3rd party and resold by Marvin Test Solutions.

GX2475

THIS PAGE INTENTIONALLY LEFT BLANK

Preliminary

MEASUREMENT