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Find the *VX Instruments VX2022* at our website: *Click HERE*

VX2022
High Performance Digitizer



TECHNICAL DATA SHEET

PXI
VXI
LAN
cPCI
PXIe
GPIB
USB
RS232 485
external PCIe

Features

- High performance upgrade for HPE1429A
- Two channels with 20 MS/s and 12 Bit resolution
- Fast register based single slot VXI-C-size module
- Each channel is isolated to PE
- Channel 1 is isolated from channel 2
- Each channel has its own internal analog trigger
- Each channel has an external trigger input
- Sample count for pre and post trigger programmable
- Pre and post trigger with the same time base
- High common mode rejection

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Product Information

The VX2022 is a high-speed (20 MS/s), 12 Bit, digitizer for high performance measurements. Up to two input channels can be installed in the VX2022 with standard 2 MS (4 MB) of memory. The VX2022, "C"-size single slot VXI module, is designed for high throughput testing. Multiple measurements in combination with the memory segmenting feature results in additional test time improvement.

The data acquisition can be triggered from the input itself or external inputs having programmable thresholds. Acquired data can be pre-trigger, post-trigger, or anywhere in between, with a programmable sample counter that controls the number of data points.

The maximum voltage for each signal input is ±250 V (500 V_{PP}). This allows high voltage signals to be measured without signal conditioning. Each channel is fully isolated. This results in a very high common mode rejection ratio (CMRR) compared to differential inputs. It allows floating low level signals to be measured with a very high accuracy and a maximum of resolution. This design of the VX2022 guarantees highest quality measurements.

The VX2022 is the ideal high performance upgrade for the discontinued HPE1429A digitizer.

General	Specification	Comment
Maximum sampling rate	20 MS/s per channel	
Minimum sampling rate	0.05 S/s per channel	
Sampling times	50 ns, 100 ns, 200 ns, 500 ns, 1 µss, 2 µs, 5 µs, 10 µs, 20 µs, 50 µs, 100 µs, 200 µs, 500 µs, 1 ms, 2 ms, 5 ms, 10 ms, 20 ms, 50 ms, 100 ms, 200 ms, 500 ms, 1 s, 2 s, 5 s, 10 s, 20 s	
Accuracy of time base	100 ppm	
Voltage resolution	12 Bit (±11 Bit)	
Voltage ranges[1]	0.25 V, 0.5 V, 1 V, 2 V, 4 V, 8 V, 16 V, 32 V, 64 V, 128 V, 250 V	
Input impedance	1 MΩ	
Common mode range[1] (relative to PE)	0 ... 250 V	
Memory per channel	4 MB (2 MS)	Optional 8 MB (4 MS)

Common Mode Rejection	Specification	Comment
CMRR DC	>90 dB	Range 1 V, 5 kS/s, average value over 100 S (20 ms) Common mode DC voltage 150 V Input short circuited with 50 Ω resistor
CMRR 50 Hz	Typical: 80 dB	Range 0.25V, 5kS/s, average value over 200 S (40ms) Common mode AC voltage 250 V Input short circuited with 50 Ω resistor

[1] The sum of common mode voltage and differential voltage between plus and minus input of the corresponding channels must not exceed 250 V. The maximum voltage difference between one pin of the front connector and PE must not exceed 250 V.

Notes: All product data are specified for 1 year at an ambient temperature of 23°C ±5°C (after 1 hour warm-up time).
Product specification and description in this document are subject to change without notice.

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Trigger	Specification	Comment
Trigger Sources		
Internal	Channel 1 or channel 2	Internal sources
	±11 Bit (12 Bit)	Voltage resolution
External	±10 V	Input voltage range
	±11 Bit (12 Bit)	Voltage resolution
VXI-TTL		
Software		
Trigger hysteresis	0 ... 100% of signal range	Programmable via software
Pre-trigger	0 ... 100% of full record length	Trigger is armed after all pre-samples are captured. After trigger event, number of samples are captured defined by post-trigger
Post-trigger	0 ... 100% of full record length	Number of samples captured after trigger event
Trigger slope	Positive, Negative	
Trigger coupling	DC	

DC-Error[1]	% of Measurement Value	Offset	Analog Bandwidth
Range ±0.25 V	0.5	0.002 V	10 MHz
Range ±0.5 V	0.4	0.004 V	10 MHz
Range ±1 V	0.3	0.005 V	10 MHz
Range ±2 V	0.3	0.010 V	10 MHz
Range ±4 V	0.3	0.015 V	10 MHz
Range ±8 V	0.3	0.025 V	10 MHz
Range ±16 V	0.3	0.035 V	10 MHz
Range ±32 V	0.3	0.070 V	4 MHz
Range ±64 V	0.3	0.140 V	4 MHz
Range ±128 V	0.3	0.250 V	2 MHz
Range ±250 V	0.3	0.500 V	1 MHz

[1] DC-error is specified for an average value of 100 measures with a sampling rate of 5 kS.

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FOR YOUR NOTES

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