VXI Instruments®
the test solutions provider

FlexCP Platform

- Inputs up to 120Vpp
- 100MS/sec, 16 Bit
- Floating design

PXD721x High Res. Waveform Digitizer Family

Features

- Based on VX Instruments FlexCPP
- Input voltages up to $120V_{pp}$
- 100MS/sec. with 16 Bit resolution
- Floating option available
- Up to 100MHz bandwidth
- Multiple instrument and channel synchronisation possibilities
- Built-in DVM function for high precision measurement (option DVM)
- Built-in timer/counter engine for high speed timer/counter (option T/C)

Product information:

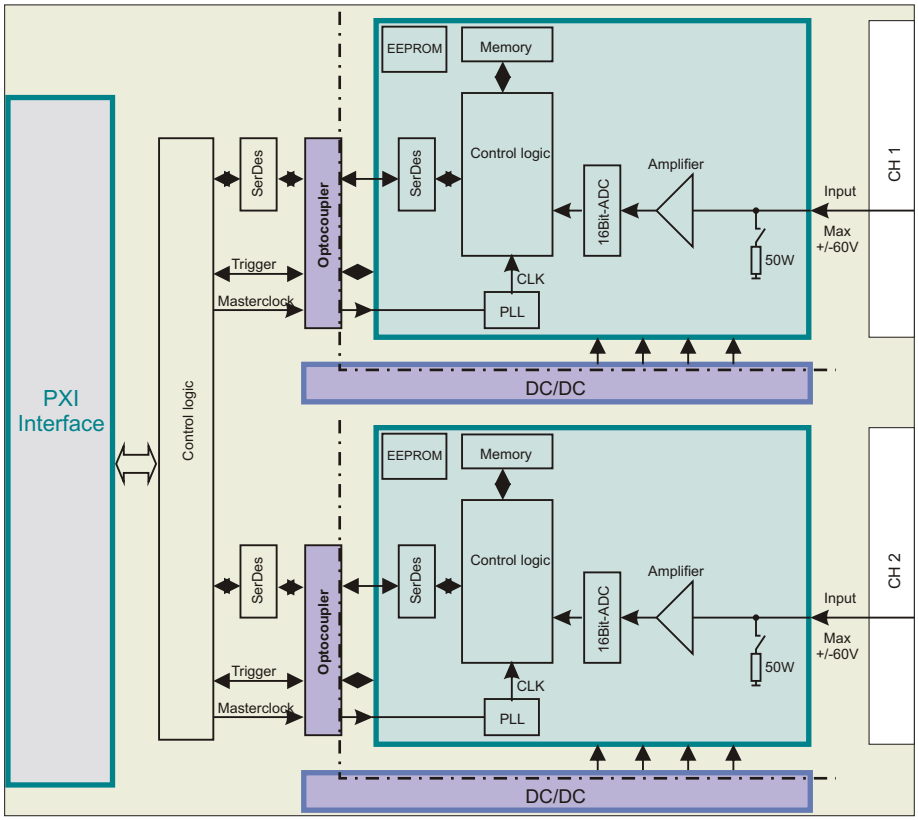
Flexible configurable PXI Platform
This family of Waveform Digitizers is based on the "Flexible configurable PXI Platform" (FlexCPP). This Platform allows many variants of customer configured digitizers.

High speed, high resolution waveform digitizer
The PXD721x High Resolution Digitizer-Family features up to two 100 MS/s simultaneously sampled input channels with 16-bit resolution, input voltages up to ±60V and a bandwidth of 50MHz (100MHz with option DBW).
Every digitizer channel has its own 2 MB memory which allows up to 1 million samples in one piece.
Depending on the amount of channels and the floating-option, the digitizers are built into a compact 3U PXI device for 1 or 2 slots.
All floating devices have a high common mode rejection ratio (CMRR).

High input voltage range allows easy measurement
The maximum voltage for each signal input is ±60V. This allows high voltage signals to be measured without additional signal conditioning.
Acquired data can be pre-trigger, post-trigger, or anywhere in between, with a programmable sample counter that controls the number of data points. A great amount of trigger capabilities results in multiple instrument and channel synchronisation possibilities.

High troughput design for many applications
The digitizers of the PXD721x family are designed for high throughput testing. Multiple measurements in combination with the memory segmenting feature (option) results in additional test time improvement.

This design guarantees highest quality measurements and is ideal for a wide range of application areas including automotive, communications, scientific applications, military/aerospace and consumer electronics.



Ordering Option	Comment
DVM	DVM functions
T/C	Timer/Counter func.
TCXO	TCXO Oscillator
DBW	Double Bandwidth
MEMSEG	Memory segmenting

All product data[1] are specified for an ambient temperature of 23°C ±5°C, after 1 hour warm-up time!

General	Specification	Comment
Module size	1 slot, 3U 2 slots, 3U	PXD7211, PXD7212, PXD7212 PXD7214
Module weight	< 0.7kg	
Front connector type	SMA	
Operating temperature	0...40°C	
Operating altitude	up to 2000 m	
Humidity	to 90% relative humidity below 30°C to 45% relative humidity up to 50°C	
Storage temperature range	-25...70°C	
Electrical safety	according EN61010-1	
Isolation output to PE	60V CAT I, Pollution Degree 2	

Acquisition	Specification	Comment
Maximum sample rate	100MS/sec	
Bandwidth	50MHz, 100MHz with option DBW	
Vertical resolution	16 bits	
Sampling times	10ns, 20ns, 50ns, 100ns, 200ns, 500ns, 1µs, 2µs, 5µs, 10µs, 20µs, 50µs, 100µs, 200µs, 500µs, 1ms, 2ms, 5ms, 10ms, 20ms, 50ms, 100ms, 200ms, 500ms, 1s, 2s, 5s, 10s	software selectable
Input impedance	1MOhm // < 20pF nom., 50Ohm	software selectable
Input coupling	DC	
Maximum input voltage	1MOhm: 60VDC 50Ohm: 8Vp	
Input ranges	50Ohm: 250mV, 500mV, 1V, 2V, 4V 1MOhm: 250mV, 500mV, 1V, 2V, 4V, 8V, 16V, 32V, 60V	
DC accuracy[2]	250mV, 500mV: 0.3% of input +2mV others: 0.2% of input + 0.1% of f.s.	
Filter	30kHz, 100kHz, 300kHz, 1MHz, 20MHz	software selectable
Waveform memory	2MB, 1MS	

Time Base	Specification	Comment
Accuracy	50ppm, 1ppm with option TCXO	in operating temperature range
Aging per year	5ppm, 1ppm with option TCXO	

[1] Product specification and description in this document are subject to change without notice!

[2] DC accuracy specified for an average value of 100 samples with a sample rate of 5kS/sec. and active 30kHz filter performed within 24 hours after an offset correction

Trigger System	Specification	Comment
Input from		
Internal function module	one function module can trigger itself and the other one	
Software	via software command	
PXI trigger	trigger 0..7 and star-trigger	from the PXI backplane
Output to		
Internal function module	output to the other module	for example marker-bit
PXI trigger	output each channels trigger to PXI trigger 0..7	
Level resolution	16 Bit	
Level accuracy	0.6% + 0.3%	±(of programmed value + of full range)
Trigger delay	0 ... 10s	programmable delay, 10ns resolution
Trigger slope	positive or negative	
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; post samples are captured after trig.
Post-Trigger	0 ... 100% of full record length	number of samples captured after trigger event

PXI Capabilities	Specification	Comment
PXI 10MHz usage	possible	then time base accuracy depends on PXI rack
PXI TTL/trigger usage	possible	PXI trigger 0...7; input and output
PXI star-trigger usage	possible	input only

Timer/Counter Engine

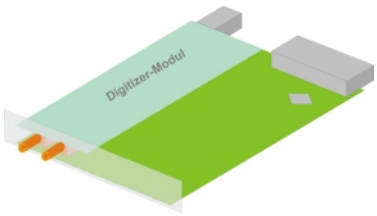
T/C Measurement Modes	Specification	Comment
Frequency		
Counter width	40 Bit	
Range	0.1Hz ... 10MHz	
Minimum pulse width	100ns	
Period		
Resolution	10ns	
Accuracy[3,4]	±10ns	
Range	50ns ... 10s	
Time Interval and Pulse Width		
Resolution	10ns	
Accuracy[3,4]	±10ns	
Range	50ns ... 10s	
Rise and Fall Time		
Resolution	10ns	
Accuracy[3,4]	±10ns	
Range	50ns ... 10s	
Totalize		
Minimum pulse width	50ns	
Range	0...2^{40}	

[3] Square wave signal with T_{Rise} < 1ns and T_{Fall} < 1ns

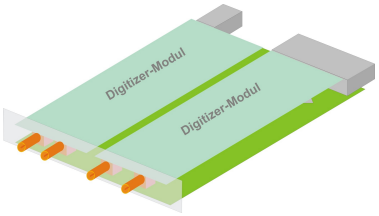
[4] Trigger comparator error not included

DVM function

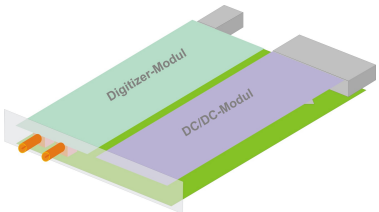
DVM	Specification	Comment
DC accuracy	250mV, 500mV: 0.3% of input +4mV others: 0.2% of input + 0.2% of f.s.	without auto offset correction
DC accuracy[5]	250mV, 500mV: 0.3% of input +0,5mV others: 0.2% of input + 0.025% of f.s.	with auto offset correction
Averaging time	10us...10s in steps of 1us	
Measurement time	typical 5ms + avgerage time	100 value average



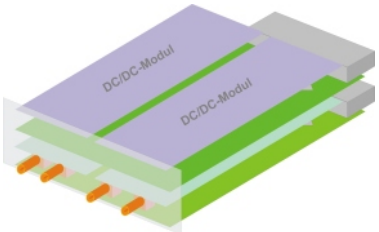
PXD7211
1channel non floating digitizer in 1 slot



PXD7212
2 channel non floating digitizer in 1 slot



PXD7213
1channel floating digitizer in 1 slot



PXD7214
2 channel floating digitizer in 2 slots

[5] DC accuracy specified with measurement time of 100ms

VX Instruments GmbH
Bernsteinstr. 41A
84032 Landshut-Altdorf
Germany

Phone: +49 (0)871 931 555-0
Fax: +49 (0)871 931 555-55
Email: sales@vxinstruments.com
Web: www.vxinstruments.com