

# PXD821x High Performance Digitizer Family



## TECHNICAL DATA SHEET

PXI

VXI

LAN

cPCI

PXIe

GPIB

USB

RS232  
485

external  
PCIe

### Features

- 1 GS/s with 12 Bit resolution
- High input voltage range up to 120 V<sub>pp</sub>
- Fully isolated design with up to two independent channels
- Multiple instrument and channel synchronization possibilities
- Built-in DVM function for high precision measurement

## Product Information

### High speed, high resolution waveform digitizer

The PXD821x High Performance Digitizer family features up to two 1GS/s simultaneously sampled input channels with 12 Bit resolution, input voltages up to  $\pm 60\text{V}$  and a bandwidth up to 125 MHz.

Every digitizer channel has its own memory which allows up to 50k samples.

All PXD821x High Performance Digitizer family devices have a high common mode rejection ratio (CMRR).

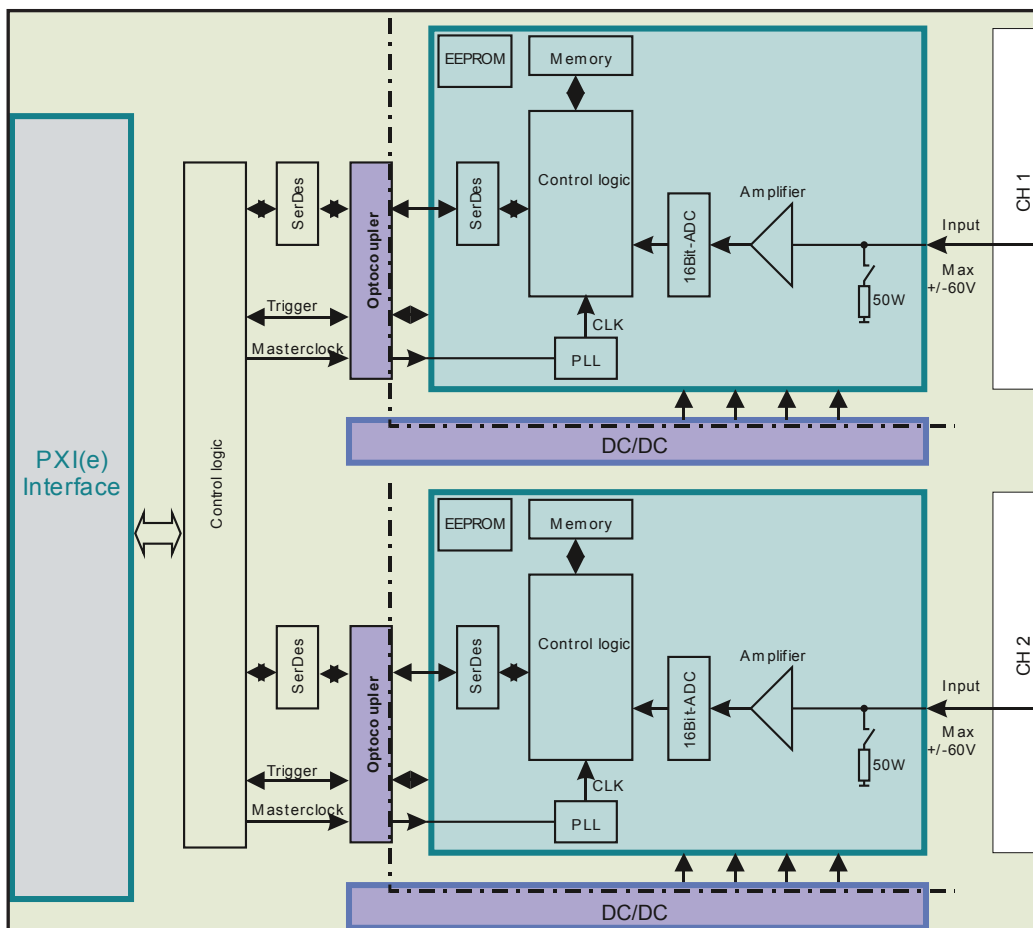
### High throughput design for many applications

The digitizers of the PXD821x family are designed for high throughput testing.

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.

### Available with 1 and 2 channels

The single-channel device PXD8213 High Performance Waveform Digitizer uses only 1 PXI-slot (3U). The dual channel device PXD8214 High Performance Waveform Digitizer needs 2 PXI-slots (3U).



General	Specification	Comment
<b>Module size</b>	1 slot, 3U 2 slots, 3U	PXD8213 PXD8214
<b>Module weight</b>	<0.7 kg	
<b>Front connector type</b>	BNC (isolated)	
<b>Operating temperature</b>	0 ... 40°C	
<b>Operating altitude</b>	<2,000 m	
<b>Relative Humidity</b>	Up to 85% at 35°C	
<b>Storage temperature range</b>	-25 ... 70°C	
<b>Electrical safety</b>	According EN61010-1	
<b>Isolation input to PE</b>	60V CAT I, Pollution Degree 2	

Acquisition	Specification	Comment
<b>Maximum sample rate</b>	1 GS/s	
<b>Bandwidth</b>		
Range 300 mV	>25 MHz	0.5 V <sub>pp</sub> input signal; no filter
Range 1 V	>125 MHz	2 V <sub>pp</sub> input signal; no filter
Range 3 V, 10 V	>75 MHz	2 V <sub>pp</sub> input signal; no filter
All other ranges	>15 MHz	20 V <sub>pp</sub> input signal; no filter
<b>Vertical resolution</b>	12 Bit	
<b>Sampling times</b>	1 ns, 2 ns, 5 ns, 10 ns, 20 ns, 50 ns, 100 ns, 200 ns, 500 ns, 1 μs, 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	Software selectable
<b>Input impedance</b>	1 MΩ    <20 pF, 50 Ω	Software selectable
<b>Input coupling</b>	DC	
<b>Input ranges</b>	50 Ω: 300 mV, 1 V, 3 V 1 MΩ: 300 mV, 1 V, 3 V, 10 V, 30 V, 100 V	
<b>DC accuracy<sup>1</sup></b>	0.25% of input + 0.25% of full scale	
<b>Filter</b>	300 kHz, 1 MHz, 20 MHz, 100 MHz	Software selectable

<sup>1</sup> DC accuracy specified for an average value of 1,000 samples with a sample rate of 50 kS/s and active 300 kHz.

**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.

Trigger System	Specification	Comment
<b>Input from</b>		
Internal function module	One function module can trigger itself and the other module	
Software	Via software command	
PXI trigger	Trigger 0...7 and star trigger	From the PXI backplane
<b>Output to</b>		
Internal function module	Output to the other module	For example marker-bit
PXI trigger	Output each channels trigger to PXI trigger 0...7	
<b>Level resolution</b>	12 Bit	
<b>Level accuracy</b>	0.6% + 0.3%	±(of programmed value + of full range)
<b>Trigger slope</b>	Positive or negative	

DVM	Specification	Comment
<b>DC accuracy<sup>1</sup></b>	0.25% + 0.25%	±(of reading value + of full range)
<b>Measurement time</b>	1...500 ms	Software programmable

PXI Capabilities	Specification	Comment
<b>PXI trigger usage</b>	Possible	PXI trigger 0...7; input and output
<b>PXI star trigger usage</b>	Possible	Input only

<sup>1</sup> DC accuracy specified with measurement time of 100 ms.