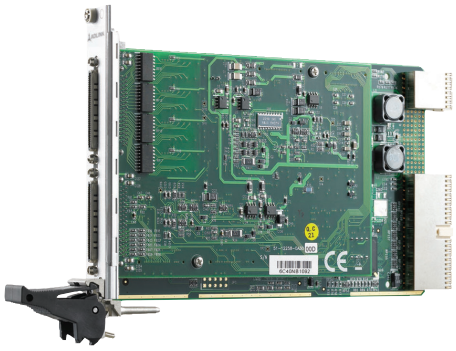
DATA SHEET



PXI-2204/2205

64-CHANNEL, UP TO 3 MS/S, PXI-H SCANNING DIGITIZER WITH INTEGRATED WAVEFORM GENERATOR, DIGITAL I/O AND COUNTER

FEATURES

ANALOG PERFORMANCE

64-CH single ended/32-CH differential, 16-bit analog inputs

Up to 3 MSa/s

Multiple programmable ranges from 0.05V (min) to 10V with unipolar or bipolar modes

2-CH, 12-bit multiplying analog outputs with waveform generation

24-CH TTL Digital I/O

2-CH 16-bit general purpose timer/counter

Analog and digital triggering

Auto-calibration

Driver and SDK support for Windows and Linux, and for third-party applications including Visual Studio, LabVIEW and MATLAB.

VTI Instruments
www.vtiinstruments.com

OVERVIEW

TThe PXI-2205 and PXI-2204 are high-density and high-performance multi-function DAQ card that can sample up to 64 AI channels. Channel gain settings and scan sequences are adjustable, making it ideal for dealing with high-density analog signals with various input ranges and sampling speeds. These devices also offer differential mode for 32 AI channels in order to achieve maximum noise elimination.

The PXI-2204/05 also feature analog and digital triggering, 2-CH 12-bit analog outputs with waveform generation capability, 24-CH programmable digital I/O lines, and 2-CH 16-bit general-purpose timer/counter. The auto-calibration functions adjust the gain and offset to within specified accuracies such that you do not have to adjust trimpots to calibrate the cards.

Software drivers and SDK support are provided for Windows and Linux environments. Wide range of application development environments including Visual Studio, Labview, Matlab and VEE are supported.

Detailed Specifications

	PXI-2204	PXI-2205
ANALOG INPUT		
CHANNELS	64 single-ended or 32 differential (software selectable per channel	
RESOLUTION	12 bits, no missing codes	16 bits, no missing codes
MAX SAMPLING RATE	3 MS/s	500 kS/s
PROGRAMMABLE GAIN	1, 2, 4, 5, 8, 10, 20, 40, 50, 200	1, 2, 4, 8
BIPOLAR INPUT RANGES	± 0.05 V to ± 10 V	± 1.25 V to ± 10 V
UNIPOLAR INPUT RANGES	0-0.1 V to 0-10 V	0-1.25 V to 0-10 V
OFFSET ERROR	± 2 mV	± 1 mV
GAIN ERROR	±0.06% of FSR	±0.08% of FSR
INPUT COUPLING	DC	DC
OVERVOLTAGE PROTECTION	Power on: Continuous ±35 V, Power off: Continuous ±15V	
INPUT IMPEDANCE	1 GΩ / 100 pF	1 GΩ / 100 pF
CMRR (GAIN = 1)	90 dB	83 dB
SETTLING TIME	1 µs to 0.1% error	2 µs to 0.1% error
-3 DB SMALL SIGNAL BANDWIDTH (GAIN = 1)	2 MHz	850 kHz
TRIGGER SOURCES	Software, external digital/analog	
TRIGGER MODES	Pre-trigger, post-trigger, middle-trigger, delay-trigger, and repeated trigger	
FIFO BUFFER SIZE	1 kSa	1 kSa
DATA TRANSFERS	Polling, scatter-gather DMA	
ANALOG OUTPUT		
CHANNELS	2 voltage outputs	2 voltage outputs
RESOLUTION	12 bits	12 bits
OUTPUT RANGE	0-10 V, ±10 V, 0-AOEXTREF, ±AOEXTREG	
MAXIMUM UPDATE RATE	1 µs	1 µs
SLEW RATE	20 V/µs	20 V/µs
SETTLING TIME	3 µs t0 ±0.5 LSB accuracy	3 µs t0 ±0.5 LSB accuracy
OFFSET ERROR	± 1 mV	± 2 mV
GAIN ERROR	0.02% of max output	±0.04% of max output
DRIVING CAPACITY	5 mA	5 mA
STABILITY	Any passive load, up to 1500 pF	
TRIGGER SOURCES	Software, external digital/analog	
TRIGGER MODES	Post-trigger, delay-trigger and repeated trigger	
FIFO BUFFER SIZE	1 kSa	1 kSa
DATA TRANSFERS	Programmed I/O, scatter-gather DMA	

Detailed Specifications

	PXI-2010	PXI-2005
DIGITAL I/O		
NUMBER OF CHANNELS	24-CH, 8255 programmable input/output	
COMPATIBILITY	5 V/TTL	5 V/TTL
DATA TRANSFERS	Programmed I/O	Programmed I/O
TIMER/COUNTER		
NUMBER OF CHANNELS	2	2
RESOLUTION	16 bits	16 bits
BASE CLOCK AVAILABILITY	40 MHz, external clock up to 10 MHz	
AUTO CALIBRATION		
ONBOARD REFERENCE	+5 V	+5 V
TEMPERATURE DRIFT	±2 ppm/°C	±2 ppm/°C
STABILITY	6 ppm/1000 Hrs	6 ppm/1000 Hrs
GENERAL SPECIFICATIONS		
PXI BUS TYPE	PXI Hybrid Compatible	
MAXIMUM THROUGHPUT	132 MB/s	132 MB/s
CONNECTOR	68-pin VHDCI-type female	68-pin VHDCI-type female
OPERATING TEMPERATURE	0 to 55°C	0 to 55°C
STORAGE TEMPERATURE	-20 to 70°C	-20 to 70°C
HUMIDITY	5 to 95% non-condensing	
POWER REQUIREMENTS		
	+5 V 1.3A	+5 V 2.04 A
	+3.3 V 0.9 A	+3.3 V 0.81 A
	+12 V 0.564 A	+12 V 0.568 A

Notes:

1) All specifications are typical unless otherwise stated as a minimum or maximum.
2) For current detailed specification please refer to the on-line manual at www.vtiinstruments.com.
3) All specifications subject to change without notice.
4) All specifications assume within 24 hours and 5°C of self-calibration temperature unless otherwise specified.
5) Distributed product. These products and manufactured and supported by other leading vendors.

Ordering Information

PXI-2204	Multifunction, 64-CH, 3 MS/s 12-bit, PXI Hybrid Module
PXI-2205	Multifunction, 64-CH, 500 kS/s 16-bit, PXI Hybrid Module

RELATED PRODUCTS

EMX-4350	4-Channel, 625k Sa/s Smart Dynamic Signal Analyzer
EMX-4250	16-Channel, 200k Sa/s Smart Dynamic Signal Analyzer
CMX09	9-slot, 3U PXI Express Chassis
CMX18	18-slot 3U PXI Express Chassis