PXI-2208

96-CH 12-Bit 3 MS/s Ultra High-Density Analog Input PXI Module

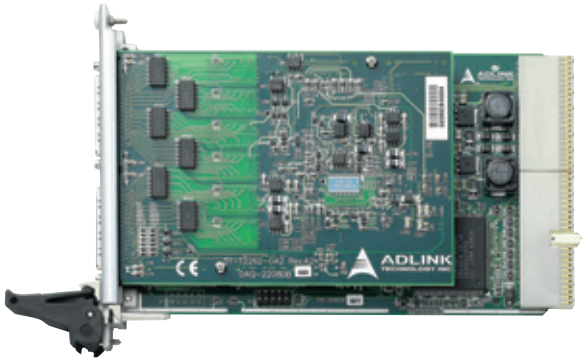
Features

- PXI specifications Rev. 2.2 compliant
- 3U Eurocard form factor, CompactPCI compliant (PICMG 2.0 R3.0)
- 96-CH single-ended or 48-CH differential analog inputs
- Up to 3 MS/s sampling rate
- 12-bit A/D resolution
- Onboard 1 k-sample A/D FIFO
- Bipolar or unipolar analog input ranges
- Programmable gains of x1, x2, x4, x5, x8, x10, x20, x40, x50, x200
- 1024-configuration channel-gain queue
- Scatter-gather DMA for analog inputs
- 24-CH TTL digital input/output
- Analog and digital triggering
- Fully auto calibration
- Multiple modules synchronization through PXI trigger bus

Operating Systems
- Windows Vista/XP/2000/2003
- Linux
- Windows CE (call for availability)

Recommended Software
- VB.NET/VC.NET/VB/VC++/BCB/Delphi
- DAQBench

Driver Support
- DAQPilot for Windows
- DAQ-LVIEW PnP for LabVIEW
- DAQ-MTLB for MATLAB®
- D2K-DASK for Windows
- D2K-DASK/X for Linux



Introduction

ADLINK PXI-2208 is an ultra high-density, high-performance analog input module. This device can sample up to 96 AI channels with various gain settings and scan sequences, making it ideal for dealing with ultra high-density analog signals with various input ranges and sampling speeds. These devices also offer a differential mode for 48 AI channels to achieve maximum noise elimination.

The PXI-2208 also features analog and digital triggering and 24-CH programmable digital I/O lines. Like all the other members in the PXI-2000 family, the PXI-2208 is able to perform analog input at full speed. Multiple modules can also be synchronized through the PXI trigger bus. The auto-calibration feature adjusts the gain and offset to a specified accuracy, eliminating the need to calibrate the modules by adjusting trimpots.

Termination Boards

- **DIN-68S-01**
  Termination Board with a 68-pin SCSI-II Connector and DIN-Rail Mounting (Cables are not included. For information on mating cables, refer to Section 12.)

Termination Board DIN-68S-01
Mating Cable ACL-10568-1

Ordering Information

- **PXI-2208**
  96-CH 12-bit 3 MS/s Ultra High-Density Analog Input PXI Module

Pin Assignment

Connector CN1 Pin Assignment

AI0	(AIH0)	1	35	(AIL0)	AI48
AI1	(AIH1)	2	36	(AIL1)	AI49
AI2	(AIH2)	3	37	(AIL2)	AI50
AI3	(AIH3)	4	38	(AIL3)	AI51
AI4	(AIH4)	5	39	(AIL4)	AI52
AI5	(AIH5)	6	40	(AIL5)	AI53
AI6	(AIH6)	7	41	(AIL6)	AI54
AI7	(AIH7)	8	42	(AIL7)	AI55
AISENSE		9	43	AIGND	
AI8	(AIH8)	10	44	(AIL8)	AI56
AI9	(AIH9)	11	45	(AIL9)	AI57
AI10	(AIH10)	12	46	(AIL10)	AI58
AI11	(AIH11)	13	47	(AIL11)	AI59
AI12	(AIH12)	14	48	(AIL12)	AI60
AI13	(AIH13)	15	49	(AIL13)	AI61
AI14	(AIH14)	16	50	(AIL14)	AI62
AI15	(AIH15)	17	51	(AIL15)	AI63
AI16	(AIH16)	18	52	(AIL16)	AI64
AI17	(AIH17)	19	53	(AIL17)	AI65
AI18	(AIH18)	20	54	(AIL18)	AI66
AI19	(AIH19)	21	55	(AIL19)	AI67
AI20	(AIH20)	22	56	(AIL20)	AI68
AI21	(AIH21)	23	57	(AIL21)	AI69
AI22	(AIH22)	24	58	(AIL22)	AI70
AI23	(AIH23)	25	59	(AIL23)	AI71
AIGND		26	60	AIGND	
AI24	(AIH24)	27	61	(AIL24)	AI72
AI25	(AIH25)	28	62	(AIL25)	AI73
AI26	(AIH26)	29	63	(AIL26)	AI74
AI27	(AIH27)	30	64	(AIL27)	AI75
AI28	(AIH28)	31	65	(AIL28)	AI76
AI29	(AIH29)	32	66	(AIL29)	AI77
AI30	(AIH30)	33	67	(AIL30)	AI78
AI31	(AIH31)	34	68	(AIL31)	AI79

Pin Assignment

Connector CN2 Pin Assignment

AI32	(AIH32)	1	35	(AIL32)	AI80
AI33	(AIH33)	2	36	(AIL33)	AI81
AI34	(AIH34)	3	37	(AIL34)	AI82
AI35	(AIH35)	4	38	(AIL35)	AI83
AI36	(AIH36)	5	39	(AIL36)	AI84
AI37	(AIH37)	6	40	(AIL37)	AI85
AI38	(AIH38)	7	41	(AIL38)	AI86
AI39	(AIH39)	8	42	(AIL39)	AI87
EXTATRIG		9	43	AIGND	
AI40	(AIH40)	10	44	(AIL40)	AI88
AI41	(AIH41)	11	45	(AIL41)	AI89
AI42	(AIH42)	12	46	(AIL42)	AI90
AI43	(AIH43)	13	47	(AIL43)	AI91
AI44	(AIH44)	14	48	(AIL44)	AI92
AI45	(AIH45)	15	49	(AIL45)	AI93
AI46	(AIH46)	16	50	(AIL46)	AI94
AI47	(AIH47)	17	51	(AIL47)	AI95
AIGND		18	52	AIGND	
N/C		19	53	N/C	
EXTDTRIG		20	54	AFI0	
EXTTIMEBASE		21	55	DGND	
PB7		22	56	PB6	
PB5		23	57	PB4	
PB3		24	58	PB2	
PB1		25	59	PB0	
PC7		26	60	PC6	
PC5		27	61	PC4	
DGND		28	62	DGND	
PC3		29	63	PC2	
PC1		30	64	PC0	
PA7		31	65	PA6	
PA5		32	66	PA4	
PA3		33	67	PA2	
PA1		34	68	PA0	

Specifications

Model Number	PXI-2208
Analog Input	
Resolution	12 bits, no missing codes
Number of channels	96 single-ended or 48 differential (software selectable per channel)
Channel gain queue size	1024
Maximum sampling rate	3 MS/s
Programmable gain	1, 2, 4, 5, 8, 10, 20, 40, 50, 200
Bipolar input ranges	±10 V, ±5 V, ±2.5 V, ±1.25 V, ±1 V, ±0.5 V, ±0.25 V, ±0.2 V, ±0.05 V
Unipolar input ranges	0-10 V, 0-5 V, 0-4 V, 0-2.5 V, 0-2 V, 0-1 V, 0-0.5 V, 0-0.4 V, 0-0.1 V
Offset error	±2 mV
Gain error	±0.03 % of FSR
Input Coupling	DC
Overvoltage protection	Power on: continuous ±30 V, Power off: continuous ±15 V
Input Impedance	1 GΩ/100 pF
CMRR (gain = 1)	90 dB
Settling time	1 μs to 0.1 % error *
-3 dB small signal bandwidth (gain = 1)	2 MHz
Trigger sources	Software, external digital/analog trigger, PXI trigger bus
Trigger modes	Pre-trigger, post-trigger, middle-trigger, delay-trigger, and repeated trigger
FIFO buffer size	1 k samples
Data Transfers	Polling, scatter-gather DMA
Digital I/O	
Number of channels	24-CH 8255 programmable input/output
Compatibility	5 V/TTL
Data transfers	Programmed I/O
Auto Calibration	
Onboard reference	+5 V
Temperature drift	±2 ppm/˚C
Stability	±6 ppm/1000 Hrs
General Specifications	
Dimensions	160 mm x 100 mm (not including connectors)
Connector	68-pin VHDCI female x 2
Operating temperature	0 to 55˚C
Storage temperature	-20 to 70˚C
Humidity	5 to 95 %, non-condensing
Power requirements	+5 V 950 mA typical

*Gain = 1, 2, 4, 8