PCI-9118/L Series 16-CH 12/16 Bit Up to 333 kS/s Analog Input Cards

Features

- Supports a 32-bit 5 V PCI bus
- 12-bit A/D resolution (PCI-9118DG/L & PCI-9118HG/L)
- 16-bit A/D resolution (PCI-9118HR/L)
- Up to 333 kS/s sampling rate (PCI-9118DG/L & PCI-9118HG/L)
- Up to 100 kS/s sampling rate (PCI-9118HR/L)
- 16 single-ended or 8 differential inputs
- 256-configuration channel gain queue
- Onboard 1 k-sample A/D FIFO
- Bipolar or Unipolar analog input ranges
- Programmable gains:
- x1, x2, x4, x8 (PCI-9118DG/L and PCI-9118HR/L)
- x1, x10, x100 (PCI-9118HG/L)
- Bus-mastering DMA for analog inputs
- 4-CH TTL digital inputs and 4-CH TTL digital outputs
- Compact, half-size PCB

Operating Systems

- Windows Vista/XP/2000/2003
- Linux

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[®]
- PCIS-DASK for Windows
- PCIS-DASK/X for Linux



PCI-9118DG/L



PCI-9118HG/L



PCI-9118HR/L

Introduction

ADLINK PCI-9118/L Series are high-performance data acquisition cards. The PCI-9118/L series are the simplified version of the phase-out PCI-9118. The PCI-9118/L series provides fully compatible functionality as the PCI-9118 series except the analog output function. The PCI-9118DG/L and PCI-9118HG/L feature 12-bit resolution, with sampling rate up to 333 kS/s, while the PCI-9118HR/L, on the other hand, features 16-bit resolution, with sampling rate up to 100 kS/s. The 256-location channel gain queues on PCI-9118/L series cards allow high-speed data acquisition with different gains on each channel and non-sequential order of automatic analog input scanning capability. The onboard 1 k-sample A/D FIFO ensures reliable high-speed data acquisition under Windows operating system. The data can be transferred through bus-mastering DMA with gap-free, continuous high throughput, even for a large amount of data.

ADLINK PCI-9118/L series analog input cards deliver cost-effective and reliable data acquisition capabilities, and are ideal for a broad variety of applications.

Specifications

Analog Input

- Number of channels
- 16 single-ended or 8 differential
- Channel gain queue size: 256 configurations Resolution
- 12 bits (PCI-9118DG/L and PCI-9118HG/L)
- 16 bits (PCI-9118HR/L)
- Conversion time
- 3 µs (PCI-9118DG/L and PCI-9118HG/L) • 10 µs (PCI-9118HR/L)
- Maximum sampling rate 333 kS/s (PCI-9118DG/L and PCI-9118HG/L)
- 100 kS/s (PCI-9118HR/L)
- Input signal ranges: (software programmable)

Dovice	Cain	Input Range		
Device	Gain	Bipolar	Unipolar	
PCI-9118DG/L PCI-9118HR/L	1	±5 V	0 to 10 V	
	2	±2.5 V	0 to 5 V	
	4	±1.25 V	0 to 2.5 V	
	8	±0.625 V	0 to 1.25 V	
PCI-9118HG/L	1	±5 V	0 to 10 V	
	10	±0.5 V	0 to 1 V	
	100	±0.05 V	0 to 0.1 V	

Accuracy

Device	Gain	Accuracy
PCI-9118DG/L PCI-9118HR/L	1	0.008 % of FSR ± 1 LSB
	2	0.01 % of FSR ± 1 LSB
	4	0.02 % of FSR ± 1 LSB
	8	0.04 % of FSR ± 1 LSB
PCI-9118HG/L	1	0.008 % of FSR ± 1 LSB
	10	0.01 % of FSR ± 1 LSB
	100	0.02 % of FSR ± 1 LSB

- Input coupling: DC
- Overvoltage protection: continuous ±35 V
- Input impedance: 1 GΩ
- Trigger modes software, pacer, and external trigger
- (5 V/TTL compatible)
- FIFO buffer size: 1 k samples
- Data transfers polling, interrupt, bus-mastering DMA

Digital I/O

- Number of channels: 4 inputs and 4 outputs
- Compatibility: 5 V/TTL
- Data transfers: programmed I/O

General Specifications

- I/O connector: 50-pin SCSI-II female
- Operating temperature: 0 to 55°C
- Storage temperature: -20 to 80°C
- Relative humidity: 5 to 95%, non-condensing
- Power requirements

Device	+5 V		
PCI-9118DG/L PCI-9118HG/L	450 mA typical		
PCI-9118HR/L	485 mA typical		

 Dimensions (not including connectors) 173 mm x 107 mm

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AI8	(AIL0)	2	27	(AIH1) AI1	
Al9	(AIL1)	3	28	(AIH2) AI2	
AI10	(AIL2)	4	29	(AIH3) AI3	
AI11	(AIL3)	5	30	(AIH4) AI4	
AI12	(AIL4)	6	31	(AIH5) AI5	
AI13	(AIL5)	7	32	(AIH6) AI6	
AI14	(AIL6)	8	33	(AIH7) AI7	
AI15	(AIL7)	9	34	AGND	
	N/C	10	35	N/C	
N/C		11	36	N/C	
N/C		12	37	N/C	
+15Vout		13	38	-15Vout	
DGND		14	39	ADGAIN2	
DI1		15	40	D10	
DI3		16	41	DI2	
DO1		17	42	DO0	
DO3		18	43	DO2	
DOSTB		19	44	EXTTRG	
TGOUT		20	45	SSHO	
ADCHN3		21	46	TGIN	
ADCHN5		22	47	ADCHN4	
ADCHN7		23	48	ADCHN6	
Vcc		24	49	Vcc	
DGND		25	50	DGND	

Pin Assignment

U CMMD 1 26 (AIH0) AI0

Termination Boards

DIN-50S-01

Termination Board with one 50-pin SCSI-II Connector and DIN-Rail Mounting (Cables are not included. For information on mating cables, refer to Section 12.)

Ordering Information

- PCI-9118DG/L 16-CH 12-Bit 333 kS/s Normal-Gain
- Analog Input Card
- PCI-9118HG/L
 16-CH 12-Bit 333 kS/s High-Gain
 Analog Input Card
- PCI-9118HR/L
- 16-CH 16-Bit 100 kS/s High-Resolution Analog Input Card