PCI-9118 Series

16-CH, 12/16 Bit, Up to 333 kS/s Multi-Function DAQ cards

Features

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

Operating Systems

- Windows 2000/NT/XP/9x
- DOS
- Red Hat Linux
- Windows CE (call for availability)

Recommended Software

- VB/VC++/BCB/Delphi
- DAQBench

Driver Support

- PCIS-DASK for Windows 2000/NT/XP/9x
- PCIS-DASK/X for Red Hat Linux
- PCIS-OCX ActiveX controls
- PCIS-LVIEW/PnP for LabVIEW ***NEW!***



PCI-9118DG



PCI-9118HG

Introduction

ADLINK PCI-9118 Series are high performance data acquisition cards. The PCI-9118DG and PCI-9118HG feature 12-bit resolution, with sampling rate up to 333kS/s, while the PCI-9118HR, on the other hand, features 16-bit resolution, with sampling rate up to 100kS/s. The 256-location channel-gain queues on PCI-9118 series cards allow high-speed data acquisition with different gains on each channel and non-sequential order of automatic analog input scanning capability. The on-board 1k-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 series multi-function DAQ 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 and PCI-9118HG)
- Conversion time:
  - 3 μs (PCI-9118DG and PCI-9118HG)
  - 8 μs (PCI-9118HR)
- Maximum sampling rate:
  - 333 kS/s (PCI-9118DG and PCI-9118HG)
  - 100 kS/s (PCI-9118HR)
  - Input signal ranges: (software programmable)

Device	Gain	Input Range	
		Bipolar	Unipolar
PCI-9118DG PCI-9118HR	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	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 PCI-9118HR	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	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: 1k samples
- Data transfers:
  polling, interrupt, bus mastering DMA

Analog Output

- Number of channels: 2 voltage outputs
- Resolution: 12 bits
- Output ranges: ±10 V
- Output driving capacity: ±5 mA max
- Settling time: 4.5 μs to 0.5 LSB
- Data transfers: programmed I/O

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%, noncondensing
- Power requirements

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

- Dimensions (not including connectors)
  173 mm x 107 mm

Pin Assignment

U_CMMD	1	26	(AIH0)	AI0
AI8 (AIL0)	2	27	(AIH1)	AI1
AI9 (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	DAC0	
N/C	11	36	DAC1	
N/C	12	37	N/C	
+15Vout	13	38	-15Vout	
DGND	14	39	ADGAIN2	
DI1	15	40	DI0	
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	

Termination Boards

DIN-50S
Termination Board with a 50-pin SCSI-II Connector and DIN-Rail Mounting (Including One 1-meter ACL-10250 Cable)

Ordering Information

- **PCI-9118DG**
  16-CH 12-Bit 333 kS/s Normal-Gain Multi-Function DAQ Card
- **PCI-9118HG**
  16-CH 12-Bit 333 kS/s High-Gain Multi-Function DAQ Card
- **PCI-9118HR**
  16-CH 16-Bit 100 kS/s High-Resolution Multi-Function DAQ Card

* All specifications are subject to change without further notice.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000