

ACL-8111

8-CH 12-Bit 50 kS/s Low Cost Multi-Function DAQ Card

Features

- 12-bit A/D resolution
- Up to 50 kS/s sampling rate
- 8-CH single-ended inputs
- Programmable gains of x1, x2, x4, x8, x16
- Bipolar analog input ranges
- 1-CH 12-bit monolithic multiplying analog output
- 16-CH TTL digital inputs and 16-CH TTL digital outputs
- 3 Programmable A/D trigger modes
- Programmable IRQ level for A/D data transfer

- **Operating Systems**
 - Windows 2000/NT/XP/9x
 - DOS
- **Recommended Software**
 - VB/VC++/BCB/Delphi
 - Turbo C/Borland C
- **Drivers Support**
 - ACLS-LVIEW
 - ACLS-DLL/DLL2
 - DOS library



Introduction

ADLINK ACL-8111 is an 8-CH, 12-bit, 50 kS/s low cost multi-function DAQ card for ISA computers. The ACL-8111 features flexible configurations on analog inputs with the A/D featuring a sampling rate of up to 50 kS/s with resolution at 12 bits. The ACL-8111 device also features 5 programmable input ranges for bipolar inputs. The register map is fully compatible with the PCL-711B.

The ACL-8111 also features 1-CH 12-bit analog output, 16-CH TTL digital inputs and 16-CH TTL digital outputs. ADLINK ACL-8111 delivers cost-effective and reliable data acquisition capabilities and is ideal for a broad variety of applications.

Specifications

Analog Input

- Number of channels: 8 single-ended
- Resolution: 12 bits
- Conversion time: 8 μ s
- Maximum sampling rate: 50 kS/s
- Input signal ranges (software programmable)

Gain	Input Range
1	± 5 V
2	± 2.5 V
4	± 1.25 V
8	± 0.625 V
16	± 0.3125 V

- Accuracy: 0.015% of FSR ± 1 LSB
- Input coupling: DC
- Overvoltage protection: continuous ± 35 V
- Input impedance: 1 G Ω
- Trigger modes: software, pacer and external trigger
- Data transfers: polling, interrupt
- IRQ level: programmable IRQ 2, 3, 4, 5, 6, 7

Analog Output

- Number of channels: 1 voltage output
- Resolution: 12 bits
- Output ranges: 0-5 V, 0-10 V
- Output driving capacity: 5 mA max
- Settling time: 30 μ s
- Data transfers: programmed I/O

Digital I/O

- Number of channels: 16 inputs and 16 outputs
- Compatibility: 5 V/TTL
- Data transfers: programmed I/O

General Specifications

- I/O connector
 - 37-pin D-sub female
 - 20-pin ribbon male x 2
- Operating temperature: 0 to 55 $^{\circ}$ C
- Storage temperature: -20 to 80 $^{\circ}$ C
- Relative humidity: 5 to 95%, noncondensing
- Power requirements

+5 V	+12 V
440 mA typical	60 mA typical

- Dimensions (not including connectors)
158 mm x 108 mm
- I/O base address: 16 consecutive address location

Termination Boards

- **DIN-37D**
Termination Board with a 37-pin D-sub Connector and DIN-Rail Mounting (Including One 1-meter ACL-10137 Cable)
- **DIN-20P**
Termination Board with a 20-pin Ribbon Connector and DIN-Rail Mounting (Including One 1-meter ACL-10120 Cable)
- **ACLD-8125**
Termination Board with a 37-pin D-sub Connector and One Cold Junction Temperature Sensor (Including One 1-meter ACL-10137 Cable)
- **ACLD-9137**
General-Purpose Termination Board with a 37-pin D-sub Male Connector
- **ACLD-9138**
General-Purpose Termination Board with a 37-pin D-sub Connector (Including One 1-meter ACL-10237 Cable)
- **ACLD-9178**
General-Purpose Termination Board with Two 20-pin Ribbon Connectors (Including Two 1-meter ACL-10120 Cables)
- **ACLD-9182A**
Termination Board with 16-CH Isolated Digital Inputs (Including One 1-meter ACL-10120 Cable)
- **ACLD-9185**
Termination Board with 16-CH Relay Outputs (Including One 1-meter ACL-10120 Cable)
- **ACLD-9188**
General-Purpose Termination Board with Two 20-pin Ribbon Connectors and One 37-pin D-sub Connector (Including Two 1-meter ACL-10120 Cables)

Pin Assignment

CN1: Digital Output				CN2: Digital Input			
DO0	1	2	DO1	DI0	1	2	DI1
DO2	3	4	DO3	DI2	3	4	DI3
DO4	5	6	DO5	DI4	5	6	DI5
DO6	7	8	DO7	DI6	7	8	DI7
DO8	9	10	DO9	DI8	9	10	DI9
DO10	11	12	DO11	DI10	11	12	DI11
DO12	13	14	DO13	DI12	13	14	DI13
DO14	15	16	DO15	DI14	15	16	DI15
GND	17	18	GND	GND	17	18	GND
+5Vout	19	20	+12Vout	+5Vout	19	20	+12Vout
CN3: Analog Input / Output & Counter/Timer							
A10	1	20	AGND				
A11	2	21	AGND				
A12	3	22	AGND				
A13	4	23	AGND				
A14	5	24	AGND				
A15	6	25	AGND				
A16	7	26	AGND				
A17	8	27	AGND				
N/C	9	28	N/C				
N/C	10	29	N/C				
N/C	11	30	DA1				
N/C	12	31	N/C				
N/C	13	32	N/C				
N/C	14	33	N/C				
DGND	15	34	N/C				
N/C	16	35	N/C				
N/C	17	36	N/C				
N/C	18	37	N/C				
+5Vout	19						

Ordering Information

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