cPCI-7248/7249R

48-CH DIO & Timer/Counter Cards

CompactPCI



cPCI-7248

Introduction

The ADLINK cPCI-7248 and cPCI-7249R are 48-channel parallel digital input/output (DIO) Cards for the PXI/CompactPCI form factor. The cPCI-7248 and cPCI-7249R devices emulate mode 0 of the industry standard 8255 Programmable Peripheral Interface (PPI) chips. Each PPI offers three 8-bit ports: Port A, Port B and Port C. The Port C is divided into 2 nibble-wide (4-bit) ports.

The cPCI-7248 and cPCI-7249R devices have programmable timer/counters. One 16-bit counter is available for event counting, while the other 32-bit timer is available for timed interrupt generation. The cPCI-7248 and cPCI-7249R devices provide multiple programmable interrupt sources from DIO channels, as well as the output of the timer. The cPCI-7249R is the extended version of the cPCI-7248, which features one more latch register and rear I/O connectivity.

Features

- **3U Eurocard form factor, CompactPCI compliant (PICMG 2.0 R2.1)**
- **48-CH digital TTL inputs/outputs**
- **Emulates 4/2/1 industry standard 8255 PPI (mode 0)**
- **Buffered circuits for higher driving capability**
- **Ports are independently configurable as input or output**
- **External latch signal available for digital inputs**
- **Output status read back**
- **Known power-up states**
- **Onboard 8254 timer/counter chip**
- **1-CH 16-bit event counter to generate event interrupt**
- **1-CH 32-bit timer to generate watchdog timer interrupt**
- **Multiple programmable interrupt sources**
- **+12 V and +5 V power available on the connector**
- **Onboard resettable fuses for power output protection**
- **Rear I/O available on cPCI-7249R**

Operating Systems

- Windows 7/Vista/XP/2000/2003
- Linux

Recommended Software

- AD-Logger
- VB.NET/VC.NET/VB/VC++/BCB/Delphi
- DAQBench

Driver Support

- DAQPilot for Windows
- DAQPilot for LabVIEW™
- DAQ-MTLB for MATLAB®
- PCIS-DASK for Windows
- PCIS-DASK/X for Linux

Specifications

Digital I/O

- Number of channels: 48 inputs/outputs
- Compatibility: 5 V/TTL
- Power-on states:
  pull-high, pull-low, floating (programmable)
- Digital logic levels
  - Input high voltage: 2-5.25 V
  - Input low voltage: 0-0.8 V
  - Output high voltage: 2.4 V minimum
  - Output low voltage: 0.5 V maximum
- Output driving capacity
  - Source current: 15 mA
  - Sink current: 24 mA
- External digital input latch available on cPCI-7249R
- Data transfers: programmed I/O

Interrupt

- Interrupt #0 sources
  - P1C0
  - P1C3
  - 16-bit event counter
- Interrupt #1 sources
  - P2C0
  - P2C3
  - 32-bit timer (based on 2 MHz internal clock)

General Specifications

- I/O connector : One 100-pin SCSI-II female
- Operating temperature: 0°C to 60°C
- Storage temperature: -20°C to 80°C
- Relative humidity: 5% to 95%, non-condensing
- Power requirements

Device	+5 V
cPCI-7248	470 mA typical
cPCI-7249R	700 mA typical

- Dimensions (not including connectors)
  160 mm x 100 mm

Terminal Boards & Cables

DIN-100S-01

Terminal Board with One 100-pin SCSI-II Connector and DIN-Rail Mounting (Cables are not included.)

ACL-102100-1

100-pin SCSI-II cable (mating with AMP-787082-9), 1 M

*** For more information on mating cables, please refer to P2-59/60.**

Ordering Information

■ cPCI-7248
48-CH DIO & Timer/Counter Card

■ cPCI-7249R
48-CH DIO & Timer/Counter Card with Rear I/O

Note:
Rear I/O version can not be used in PXI chassis due to signals conflict with PXI bus

Pin Assignment

cPCI-7248				cPCI-7249R			
P1A0	1	51	EVENT	P1A0	1	51	EVENT
P1A1	2	52	GND	P1A1	2	52	GND
P1A2	3	53	GND	PA12	3	53	GND
P1A3	4	54	GND	P1A3	4	54	GND
P1A4	5	55	GND	P1A4	5	55	GND
P1A5	6	56	GND	P1A5	6	56	GND
P1A6	7	57	GND	P1A6	7	57	GND
P1A7	8	58	GND	P1A7	8	58	GND
P1B0	9	59	GND	P1B0	9	59	GND
P1B1	10	60	GND	P1B1	10	60	GND
P1B2	11	61	GND	P1B2	11	61	GND
P1B3	12	62	GND	P1B3	12	62	GND
P1B4	13	63	GND	P1B4	13	63	GND
P1B5	14	64	GND	P1B5	14	64	GND
P1B6	15	65	GND	P1B6	15	65	GND
P1B7	16	66	GND	P1B7	16	66	GND
P1C0	17	67	GND	P1C0	17	67	GND
P1C1	18	68	GND	P1C1	18	68	GND
P1C2	19	69	GND	P1C2	19	69	GND
P1C3	20	70	GND	P1C3	20	70	GND
P1C4	21	71	GND	P1C4	21	71	GND
P1C5	22	72	GND	P1C5	22	72	GND
P1C6	23	73	GND	P1C6	23	73	GND
P1C7	24	74	GND	P1C7	24	74	GND
+5Vout	25	75	+5Vout	+5Vout	25	75	+5Vout
P2A0	26	76	GND	P2A0	26	76	GND
P2A1	27	77	GND	P2A1	27	77	GND
P2A2	28	78	GND	P2A2	28	78	GND
P2A3	29	79	GND	P2A3	29	79	GND
P2A4	30	80	GND	P2A4	30	80	GND
P2A5	31	81	GND	P2A5	31	81	GND
P2A6	32	82	GND	P2A6	32	82	GND
P2A7	33	83	GND	P2A7	33	83	GND
P2B0	34	84	GND	P2B0	34	84	GND
P2B1	35	85	GND	P2B1	35	85	GND
P2B2	36	86	GND	P2B2	36	86	GND
P2B3	37	87	GND	P2B3	37	87	GND
P2B4	38	88	GND	P2B4	38	88	GND
P2B5	39	89	GND	P2B5	39	89	GND
P2B6	40	90	GND	P2B6	40	90	GND
P2B7	41	91	GND	P2B7	41	91	GND
P2C0	42	92	GND	P2C0	42	92	GND
P2C1	43	93	GND	P2C1	43	93	GND
P2C2	44	94	GND	P2C2	44	94	GND
P2C3	45	95	GND	P2C3	45	95	GND
P2C4	46	96	GND	P2C4	46	96	GND
P2C5	47	97	GND	P2C5	47	97	GND
P2C6	48	98	GND	P2C6	48	98	GND
P2C7	49	99	GND	P2C7	49	99	EXTCLK
+12Vout	50	100	+12Vout	+12Vout	50	100	+12Vout

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