

cPCI-7452

128-CH Isolated DI & 128-CH Isolated DO Card

CompactPCI



Introduction

The ADLINK cPCI-7452 is a 256-CH extra-high-density opto-isolated digital input and output card. It provides a robust 2500 V_{RMS} isolation protection, suitable for most industrial applications. The wide input range of the cPCI-7452 makes it easy to sense the status of external devices. The cPCI-7452 also features a wide output range from 5 to 35 V, suitable for driving relays and use in industrial automation applications. The cPCI-7452 provides sink drive outputs. The cPCI-7452 provides Change-of-State interrupt on all digital input channels, simplifying configuration and management.

Features

- 6U Eurocard form factor, CompactPCI compliant (PICMG 2.0 R3.0)
- 128-CH isolated digital inputs and 128-CH isolated digital outputs
- Non-polarity digital input range
- Isolated input voltage up to 28 V_{DC}
- Isolation voltage up to 2500 V_{RMS}
- Sink current up to 300 mA on each isolated output
- Interrupt sources: 128-CH DI Change-of- State
- Output status read back
- Operating Systems
 - Windows 7/Vista/XP/2000/2003 Server
 - Linux
- Recommended Software
 - AD-Logger
 - VB.NET/VC.NET/VB/VC++/BCB/Delphi
 - DAQBench
- Driver Support
 - DAQPilot for LabVIEW™
 - DAQ-MTLB for MATLAB®
 - PCIS-DASK for Windows
 - PCIS-DASK/X for Linux

Specifications

Isolated Digital Input

- Number of channels: 128
- Maximum input range: 24 V, non-polarity
- Digital logic levels: 0-24 V, non-polarity
 - Input high voltage: 5-24 V
 - Input low voltage: 0-2 V
- Input resistance: 2.4 kΩ @ 1/2 W
- ESD protection CKT switch (Forward)
- Isolation voltage: 2500 V_{RMS} channel-to-system
- Interrupt sources: 128 channel Change-of-state (COS)
- Data transfer: programmed I/O

Isolated Digital Output

- Number of channels: 128
- Supply voltage: 5-35 V
- Output type: open collector Darlington transistor
- Sink current: 500 mA for one channel @ 100% duty
- Isolation voltage: 2500 V_{RMS} channel-to-system
- Data transfer: programmed I/O

Isolation +5 V Power Supply

- Output Voltage: +5 V
- Output Current: 100 mA max. (@ 40°C)

General Specifications

- I/O connector
 - Two 200-pin dual port VHDCI female
- Operating temperature: 0°C to 60°C
- Storage temperature: -20°C to 80°C
- Relative humidity: 5% to 95%, non-condensing
- Power requirements

| 3.3 V | +5 V |
|----------------|----------------|
| 300 mA typical | 1.26 A typical |
- Dimensions (not including connectors)
233.35 mm (L) x 160 mm (W)

Terminal Boards & Cables

■ DIN-100S-01

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

■ ACL-102150-1

SCSI-100 to MINI SCSI-100 connector, 1 M (cPCI-7452 only)

* For more information on mating cables, please refer to P2-61/62.

Ordering Information

■ cPCI-7452

128-CH Isolated DI & 128-CH Isolated DO Card

Pin Assignment

| DO Connector | | | | | | DI Connector | | | | | | | |
|--------------|-----|----|---------|--------|--------|--------------|---------|-----|------|---------|--------|--------|--------|
| CN1B | | | CN1A | | | CN2B | | | CN2A | | | | |
| N/C | 100 | 50 | N/C | IDO_0 | 1 51 | IDO_8 | N/C | 100 | 50 | N/C | IDI_0 | 1 51 | IDI_8 |
| IGND | 99 | 49 | IGND | IDO_1 | 2 52 | IDO_9 | COM16 | 99 | 49 | COM15 | IDI_1 | 2 52 | IDI_9 |
| IGND | 98 | 48 | IGND | IDO_2 | 3 53 | IDO_10 | COM16 | 98 | 48 | COM15 | IDI_2 | 3 53 | IDI_10 |
| IGND | 97 | 47 | IGND | IDO_3 | 4 54 | IDO_11 | COM16 | 97 | 47 | COM15 | IDI_3 | 4 54 | IDI_11 |
| VDD2 | 96 | 46 | VDD2 | IDO_4 | 5 55 | IDO_12 | COM16 | 96 | 46 | COM15 | IDI_4 | 5 55 | IDI_12 |
| IDO_127 | 95 | 45 | IDO_119 | IDO_5 | 6 56 | IDO_13 | IDI_127 | 95 | 45 | IDI_119 | IDI_5 | 6 56 | IDI_13 |
| IDO_126 | 94 | 44 | IDO_118 | IDO_6 | 7 57 | IDO_14 | IDI_126 | 94 | 44 | IDI_118 | IDI_6 | 7 57 | IDI_14 |
| IDO_125 | 93 | 43 | IDO_117 | IDO_7 | 8 58 | IDO_15 | IDI_125 | 93 | 43 | IDI_117 | IDI_7 | 8 58 | IDI_15 |
| IDO_124 | 92 | 42 | IDO_116 | VDD1 | 9 59 | VDD1 | IDI_124 | 92 | 42 | IDI_116 | COM1 | 9 59 | COM2 |
| IDO_123 | 91 | 41 | IDO_115 | IGND | 10 60 | IGND | IDI_123 | 91 | 41 | IDI_115 | COM1 | 10 60 | COM2 |
| IDO_122 | 90 | 40 | IDO_114 | IGND | 11 61 | IGND | IDI_122 | 90 | 40 | IDI_114 | COM1 | 11 61 | COM2 |
| IDO_121 | 89 | 39 | IDO_113 | IGND | 12 62 | IGND | IDI_121 | 89 | 39 | IDI_113 | COM1 | 12 62 | COM2 |
| IDO_120 | 88 | 38 | IDO_112 | IDO_16 | 13 63 | IDO_24 | IDI_120 | 88 | 38 | IDI_112 | IDI_16 | 13 63 | IDI_24 |
| IGND | 87 | 37 | IGND | IDO_17 | 14 64 | IDO_25 | COM14 | 87 | 37 | COM13 | IDI_17 | 14 64 | IDI_25 |
| IGND | 86 | 36 | IGND | IDO_18 | 15 65 | IDO_26 | COM14 | 86 | 36 | COM13 | IDI_18 | 15 65 | IDI_26 |
| IGND | 85 | 35 | IGND | IDO_19 | 16 66 | IDO_27 | COM14 | 85 | 35 | COM13 | IDI_19 | 16 66 | IDI_27 |
| VDD2 | 84 | 34 | VDD2 | IDO_20 | 17 67 | IDO_28 | COM14 | 84 | 34 | COM13 | IDI_20 | 17 67 | IDI_28 |
| IDO_111 | 83 | 33 | IDO_103 | IDO_21 | 18 68 | IDO_29 | IDI_111 | 83 | 33 | IDI_103 | IDI_21 | 18 68 | IDI_29 |
| IDO_110 | 82 | 32 | IDO_102 | IDO_22 | 19 69 | IDO_30 | IDI_110 | 82 | 32 | IDI_102 | IDI_22 | 19 69 | IDI_30 |
| IDO_109 | 81 | 31 | IDO_101 | IDO_23 | 20 70 | IDO_31 | IDI_109 | 81 | 31 | IDI_101 | IDI_23 | 20 70 | IDI_31 |
| IDO_108 | 80 | 30 | IDO_100 | VDD1 | 21 71 | VDD1 | IDI_108 | 80 | 30 | IDI_100 | COM3 | 21 71 | COM4 |
| IDO_107 | 79 | 29 | IDO_99 | IGND | 22 72 | IGND | IDI_107 | 79 | 29 | IDI_99 | COM3 | 22 72 | COM4 |
| IDO_106 | 78 | 28 | IDO_98 | IGND | 23 73 | IGND | IDI_106 | 78 | 28 | IDI_98 | COM3 | 23 73 | COM4 |
| IDO_105 | 77 | 27 | IDO_97 | IGND | 24 74 | IGND | IDI_105 | 77 | 27 | IDI_97 | COM3 | 24 74 | COM4 |
| IDO_104 | 76 | 26 | IDO_96 | N/C | 25 75 | N/C | IDI_104 | 76 | 26 | IDI_96 | N/C | 25 75 | N/C |
| N/C | 75 | 25 | N/C | IDO_32 | 26 76 | IDO_40 | N/C | 75 | 25 | N/C | IDI_32 | 26 76 | IDI_40 |
| IGND | 74 | 24 | IGND | IDO_33 | 27 77 | IDO_41 | COM12 | 74 | 24 | COM11 | IDI_33 | 27 77 | IDI_41 |
| IGND | 73 | 23 | IGND | IDO_34 | 28 78 | IDO_42 | COM12 | 73 | 23 | COM11 | IDI_34 | 28 78 | IDI_42 |
| IGND | 72 | 22 | IGND | IDO_35 | 29 79 | IDO_43 | COM12 | 72 | 22 | COM11 | IDI_35 | 29 79 | IDI_43 |
| VDD2 | 71 | 21 | VDD2 | IDO_36 | 30 80 | IDO_44 | COM12 | 71 | 21 | COM11 | IDI_36 | 30 80 | IDI_44 |
| IDO_95 | 70 | 20 | IDO_87 | IDO_37 | 31 81 | IDO_45 | IDI_95 | 70 | 20 | IDI_87 | IDI_37 | 31 81 | IDI_45 |
| IDO_94 | 69 | 19 | IDO_86 | IDO_38 | 32 82 | IDO_46 | IDI_94 | 69 | 19 | IDI_86 | IDI_38 | 32 82 | IDI_46 |
| IDO_93 | 68 | 18 | IDO_85 | IDO_39 | 33 83 | IDO_47 | IDI_93 | 68 | 18 | IDI_85 | IDI_39 | 33 83 | IDI_47 |
| IDO_92 | 67 | 17 | IDO_84 | VDD1 | 34 84 | VDD1 | IDI_92 | 67 | 17 | IDI_84 | COM5 | 34 84 | COM6 |
| IDO_91 | 66 | 16 | IDO_83 | IGND | 35 85 | IGND | IDI_91 | 66 | 16 | IDI_83 | COM5 | 35 85 | COM6 |
| IDO_90 | 65 | 15 | IDO_82 | IGND | 36 86 | IGND | IDI_90 | 65 | 15 | IDI_82 | COM5 | 36 86 | COM6 |
| IDO_89 | 64 | 14 | IDO_81 | IGND | 37 87 | IGND | IDI_89 | 64 | 14 | IDI_81 | COM5 | 37 87 | COM6 |
| IDO_88 | 63 | 13 | IDO_80 | IDO_48 | 38 88 | IDO_56 | IDI_88 | 63 | 13 | IDI_80 | IDI_48 | 38 88 | IDI_56 |
| IGND | 62 | 12 | IGND | IDO_49 | 39 89 | IDO_57 | COM10 | 62 | 12 | COM9 | IDI_49 | 39 89 | IDI_57 |
| IGND | 61 | 11 | IGND | IDO_50 | 40 90 | IDO_58 | COM10 | 61 | 11 | COM9 | IDI_50 | 40 90 | IDI_58 |
| IGND | 60 | 10 | IGND | IDO_51 | 41 91 | IDO_59 | COM10 | 60 | 10 | COM9 | IDI_51 | 41 91 | IDI_59 |
| VDD2 | 59 | 9 | VDD2 | IDO_52 | 42 92 | IDO_60 | COM10 | 59 | 9 | COM9 | IDI_52 | 42 92 | IDI_60 |
| IDO_79 | 58 | 8 | IDO_71 | IDO_53 | 43 93 | IDO_61 | IDI_79 | 58 | 8 | IDI_71 | IDI_53 | 43 93 | IDI_61 |
| IDO_78 | 57 | 7 | IDO_70 | IDO_54 | 44 94 | IDO_62 | IDI_78 | 57 | 7 | IDI_70 | IDI_54 | 44 94 | IDI_62 |
| IDO_77 | 56 | 6 | IDO_69 | IDO_55 | 45 95 | IDO_63 | IDI_77 | 56 | 6 | IDI_69 | IDI_55 | 45 95 | IDI_63 |
| IDO_76 | 55 | 5 | IDO_68 | VDD1 | 46 96 | VDD1 | IDI_76 | 55 | 5 | IDI_68 | COM7 | 46 96 | COM8 |
| IDO_75 | 54 | 4 | IDO_67 | IGND | 47 97 | IGND | IDI_75 | 54 | 4 | IDI_67 | COM7 | 47 97 | COM8 |
| IDO_74 | 53 | 3 | IDO_66 | IGND | 48 98 | IGND | IDI_74 | 53 | 3 | IDI_66 | COM7 | 48 98 | COM8 |
| IDO_73 | 52 | 2 | IDO_65 | IGND | 49 99 | IGND | IDI_73 | 52 | 2 | IDI_65 | COM7 | 49 99 | COM8 |
| IDO_72 | 51 | 1 | IDO_64 | V5V | 50 100 | V5V | IDI_72 | 51 | 1 | IDI_64 | N/C | 50 100 | N/C |

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