

Selection Guide

Analog Input/Output Cards

| Interface | Analog Input | | | Analog Output | | | | Digital I/O | Model Number | Page | | |
|-------------|-----------------|----------------------|-------------|-----------------|--------------------|------------|--------------------|------------------|--------------|------|----------|--------|
| | No. of Channels | Sampling Rate (Max.) | Resolution | No. of Channels | Update Rate (Max.) | Resolution | Waveform Generator | No. of Channels | | | | |
| PXI | 4-CH | 2 MS/s | 14-Bit | 2-CH | 1 MS/s | 12-Bit | YES | 24 DI/24 DO | PXI-2010 | 4-2 | | |
| | | 800 kS/s | 16-Bit | | | | | | PXI-2016 | 4-2 | | |
| | | 500 kS/s | | | | | | | PXI-2005 | 4-2 | | |
| | | 250 kS/s | | | | | | | PXI-2006 | 4-2 | | |
| | 96-CH | 3 MS/s | 12-Bit | 2-CH | 1 MS/s | 12-Bit | YES | | PXI-2208 | 4-3 | | |
| | 64-CH | 500 kS/s | 16-Bit | | | | | | PXI-2204 | 4-4 | | |
| | | 250 kS/s | | | | | | | PXI-2205 | 4-4 | | |
| | 8-CH | 400 kS/s | 14-Bit | | | | | | 4-CH | 8-CH | PXI-2501 | 4-5 |
| | 4-CH | 400 kS/s | 14-Bit | | | | | | 8-CH | | PXI-2502 | 4-5 |
| | 64-CH | 250 kS/s | 16-Bit | | | | | | 16-CH | | Static | 12-Bit |
| 16-CH | 100 kS/s | 12-Bit | 16 DI/16 DO | cPCI-9112(1) | 4-6 | | | | | | | |
| | | | 4 DI/4 DO | cPCI-6216V(1) | 4-8 | | | | | | | |
| CompactPCI® | | | | | | | | cPCI-6208A(1)(2) | 4-8 | | | |
| | | | | | | | | cPCI-6208V(1) | 4-8 | | | |

Note: (1) Real I/O version available (2) Current output available

Digital Input/Output Cards

| Interface | Type | Digital Input | | Digital Output | | DIO Update | Tiemr/ Counter | Model Number | Page | | | | |
|-------------|----------------|-----------------|------------------------|-----------------|---|-------------|----------------|--------------|----------------|--------------------|----------------|----------------|------|
| | | Range | No. of Channels | No. of Channels | Range | Driver Type | | | | Update Rate (Max.) | | | |
| CompactPCI® | Isolated DIO | 0-24 V Isolated | 64-CH | 128-CH | 128-CH | 5-35 V | Darlington | | cPCI-7433/R(1) | 4-12 | | | |
| | | | 128-CH | | | | | | cPCI-7452(2) | 4-15 | | | |
| | | | 32-CH | | | | | | cPCI-7432/R(1) | 4-12 | | | |
| | | | 64-CH | | | | | | cPCI-7434/R(1) | 4-12 | | | |
| | Relay DO | 0-24 V Isolated | 16-CH | 8-CH | 120 V _{AC} , 0.5 A 24 V _{DC} , 1 A | Relay | | | cPCI-7252 | 4-11 | | | |
| | High-Speed DIO | 5 V TTL | 32-CH S/W Programmable | | 32-CH | 5 V TTL | | | 80 MB/s | cPCI-7300 | 4-9 | | |
| | | | 32-CH | 32-CH | | | | | 12 MB/s | cPCI-7200 | 4-10 | | |
| | TTL DIO | 5 V TTL | 48-CH S/W Programmable | | 8-CH | 8-CH | | | 1-CH/32-Bit(3) | cPCI-7248 | 4-14 | | |
| | Timer/Counter | | | | | | | | | | 1-CH/16-Bit(4) | cPCI-7249/R(1) | 4-14 |
| | | | | | | | | | | | 10-CH/16-Bit | cPCI-8554/R(1) | 4-16 |

Note: (1) Rear I/O version available (2) with 6U Eurocard from factor (3) Timer (4) Counter

PXI-2000 Series

8/16-CH 16-Bit Analog Output Cards



Ordering Information / Quick Selection Guide

| Model Name | Analog Input | | | | Analog Output | | | DIO | Timer/Counter |
|------------|-----------------|------------|---------------|--------------------|-----------------|------------|-------------|-----------------|-----------------|
| | No. of channels | Resolution | Sampling rate | Input range | No. of channels | Resolution | Update rate | No. of channels | No. of channels |
| PXI-2010 | 4-CH DI | 14 bits | 2 MS/s | ± 1.25 V to ± 10 V | 2 | 12 bits | 1 MS/s | 24-CH 8255 PIO | 2-CH, 16-bit |
| PXI-2016 | 4-CH DI | 16 bits | 800 kS/s | ± 1.25 V to ± 10 V | 2 | 12 bits | 1 MS/s | 24-CH 8255 PIO | 2-CH, 16-bit |
| PXI-2005 | 4-CH DI | 16 bits | 500 kS/s | ± 1.25 V to ± 10 V | 2 | 12 bits | 1 MS/s | 24-CH 8255 PIO | 2-CH, 16-bit |
| PXI-2006 | 4-CH DI | 16 bits | 250 kS/s | ± 1.25 V to ± 10 V | 2 | 12 bits | 1 MS/s | 24-CH 8255 PIO | 2-CH, 16-bit |

Features

- PXI specification Rev. 2.2 compliant
- 4-CH differential analog inputs
- Bipolar or unipolar analog input ranges
- Programmable gains of x1, x2, x4, x8
- Scatter-gather DMA for both analog inputs and outputs
- 2-CH 12-bit multiplying analog outputs with waveform generation
- 24-CH TTL digital input/output
- 2-CH 16-bit general-purpose timer/counter
- Analog and digital triggering
- Fully auto calibration
- Multiple cards synchronization through SSI (System Synchronization Interface) bus or PXI trigger bus

Operating Systems

- Windows Vista/XP/2000/2003

Recommended Software

- AD-Logger
- DAQPilot for Windows
- DAQPilot for LabVIEW™

Terminal Board

DIN-68S-01

Terminal Board with One 68-pin SCSI-II Connector and DIN-Rail Mounting (cables are not included; for information on mating cables, refer to Section 4.)

Cable

ACL-10568

68-pin SCSI-VHDCI cable (matching with AMP-787082-7)

Specifications

| Model Name | PXI-2010 | PXI-2016 | PXI-2005 | PXI-2006 |
|-------------------------|--|--------------------------------|--------------------------------|--------------------------------|
| Analog Input | | | | |
| Resolution | 14 bits | 16 bits, no missing codes | 16 bits, no missing codes | 16 bits, no missing codes |
| Number of channels | 4 simultaneous-sampling channels with differential input | | | |
| Maximum sampling rate | 2 MS/s | 800 kS/s | 500 kS/s | 250 kS/s |
| Programmable gain | 1, 2, 4, 8 | | | |
| Bipolar input ranges | ±10 V, ±5 V, ±2.5 V, ±1.25 V | | | |
| Unipolar input ranges | 0-10 V, 0-5 V, 0-2.5 V, 0-1.25 V | | | |
| Offset error | ±3 mV | ±1 mV | ±1 mV | ±1 mV |
| Gain error | ±0.03% of FSR | ±0.01% of FSR | ±0.01% of FSR | ±0.01% of FSR |
| Input Coupling | DC | | | |
| Overvoltage protection | Power on: Continuous ±35 V, Power off: Continuous ±15 V | | | |
| Input Impedance | 1 GΩ/100 pF | | | |
| Trigger sources | Software, external digital/analog trigger, SSI bus | | | |
| Trigger modes | Pre-trigger, post-trigger, middle-trigger, delay-trigger, and repeated trigger | | | |
| Data transfers | Polling, scatter-gather DMA | | | |
| Analog Output | | | | |
| Number of channels | 2 voltage outputs | | | |
| Resolution | 12 bits | | | |
| Output ranges | 0-10 V, ±10 V, 0-AOEXTREF, ±AOEXTREF | | | |
| Maximum update rate | 1 μs | | | |
| Slew rate | 20 V/μs | | | |
| Settling time | 3 μs to ±0.5 LSB accuracy | | | |
| Offset error | ±1 mV | | | |
| Gain error | ±0.02% of max. output | | | |
| Driving capacity | 5 mA | | | |
| Trigger sources | Software, external digital/analog trigger, SSI bus | | | |
| Trigger modes | Post-trigger, delay-trigger, and repeated trigger | | | |
| FIFO buffer size | 2 k samples | | | |
| Data transfers | Programmed I/O, scatter-gather DMA | | | |
| Digital I/O | | | | |
| Number of channels | 8255 24-bit programmable input/output | | | |
| Compatibility | 5 V/TTL | | | |
| Data transfers | Programmed I/O | | | |
| Timer/Counter | | | | |
| Number of channels | 2 | | | |
| Resolution | 16 bits | | | |
| Compatibility | 5 V/TTL | | | |
| Base clock available | 40 MHz, external clock up to 10 MHz | | | |
| Auto Calibration | | | | |
| Onboard reference | +5 V | | | |
| Temperature drift | ±2 ppm/°C | | | |
| Stability | 6 ppm/1000 Hrs | | | |
| General | | | | |
| Dimensions | 160 mm x 100 mm (not including connectors) | | | |
| Connector | 68-pin VHDCI-type female | | | |
| Operating temperature | 0 to 55°C | | | |
| Storage temperature | -20 to 70°C | | | |
| Humidity | 5 to 95% non-condensing | | | |
| Power requirements | +5 V 1.82 A typical (PXI-2010) | +5 V 2.26 A typical (PXI-2016) | +5 V 2.04 A typical (PXI-2005) | +5 V 1.82 A typical (PXI-2006) |

PXI-2208

96-CH 12-Bit 3 MS/s Ultra High-Density Analog Input Card



Ordering Information / Quick Selection Guide

| Model Name | Analog Input | | | | Analog Output | | | DIO | Timer/Counter |
|------------|-----------------|------------|---------------|-----------------|-----------------|------------|-------------|-----------------|-----------------|
| | No. of channels | Resolution | Sampling rate | Input range | No. of channels | Resolution | Update rate | No. of channels | No. of channels |
| PXI-2208 | 48 DI/96 SE | 12 bits | 3 MS/s | ±0.05V to ±10 V | - | - | - | 24-bit 8255 PIO | - |

Features

- PXI Specification Rev. 2.2 compliant
- 96-CH single-ended or 48-CH differential analog inputs
- Onboard 1 k-sample A/D FIFO
- Bipolar or unipolar analog input ranges
- Programmable gains of x1, x2, x4, x5, x8, x10, x20, x40, x50, x200
- 1024-configuration channel gain queue
- Scatter-gather DMA for analog inputs
- 24-CH TTL digital input/output
- Analog and digital triggering
- Fully auto calibration
- Multiple cards synchronization through SSI (System Synchronization Interface) bus or PXI trigger bus

Operating Systems

- Windows Vista/XP/2000/2003

Recommended Software

- AD-Logger
- DAQPilot for Windows
- DAQPilot for LabVIEW™

Terminal Board

DIN-68S-01

Terminal Board with One 68-pin SCSI-II Connector and DIN-Rail Mounting (cables are not included; for information on mating cables, refer to Section 4.)

Cable

ACL-10568

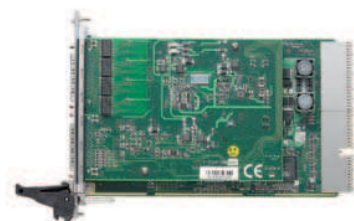
68-pin SCSI-VHDCI cable (matching with AMP-787082-7)

Specifications

| Model Name | PXI-2208 |
|-------------------------------|--|
| Analog Input | |
| Resolution | 12 bits, no missing codes |
| Number of channels | 96 single-ended or 48 differential |
| Channel gain queue size | 1024 |
| Maximum sampling rate | 3 MS/s |
| Programmable gain | 1, 2, 4, 5, 8, 10, 20, 40, 50, 200 |
| Bipolar input ranges | ±10 V, ±5 V, ±2.5 V, ±2 V, ±1.25 V, ±1 V, ±0.5 V, ±0.25 V, ±0.2 V, ±0.05 V |
| Unipolar input ranges | 0-10 V, 0-5 V, 0-4 V, 0-2.5 V, 0-1 V, 0-0.5 V, 0-0.4 V, 0-0.1 V |
| Offset error | ±1 mV |
| Gain error | ±0.03 % of FSR |
| Input Coupling | DC |
| Overvoltage protection | Power on: Continuous ±30 V, Power off: Continuous ±15 V |
| Input Impedance | 1 GΩ/100 pF |
| Settling time | 1 μs to 0.1 % error * |
| Trigger sources | Software, external digital/analog trigger, SSI bus |
| Trigger modes | Pre-trigger, post-trigger, middle-trigger, delay-trigger, and repeated trigger |
| FIFO buffer size | 1 k samples |
| Data Transfers | Polling, scatter-gather DMA |
| Digital I/O | |
| Number of channels | 24-CH 8255 programmable input/output |
| Compatibility | 5 V/TTL |
| Data transfers | Programmed I/O |
| Auto Calibration | |
| Onboard reference | +5 V |
| Temperature drift | ±2 ppm/°C |
| Stability | ±6 ppm/1000 Hrs |
| General Specifications | |
| Dimensions | 160 mm x 100 mm (not including connectors) |
| Connector | 68-pin VHDCI female x 2 |
| Operating temperature | 0 to 55°C |
| Storage temperature | -20 to 70°C |
| Humidity | 5 to 95 % non-condensing |
| Power requirements | +5 V 0.95 A typical |
| *Gain = 1, 2, 4, 8 | |

PXI-2200 Series

64-CH 12/16-Bit Up to 3 MS/s Multi-Function DAQ Cards



Ordering Information / Quick Selection Guide

| Model Name | Analog Input | | | | Analog Output | | | DIO | Timer/Counter |
|------------|-----------------|------------|---------------|------------------|-----------------|------------|-------------|-----------------|-----------------|
| | No. of channels | Resolution | Sampling rate | Input range | No. of channels | Resolution | Update rate | No. of channels | No. of channels |
| PXI-2204 | 32 DI/64 SE | 12 bits | 3 MS/s | ±0.05 V to ±10 V | 2 | 12 bits | 1 MS/s | 24-CH 8255 PIO | 2-CH, 16-bit |
| PXI-2205 | 32 DI/64 SE | 16 bits | 500 kS/s | ±1.25 V to ±10 V | 2 | 12 bits | 1 MS/s | 24-CH 8255 PIO | 2-CH, 16-bit |
| PXI-2206 | 32 DI/64 SE | 16 bits | 250 kS/s | ±1.25 V to ±10 V | 2 | 12 bits | 1 MS/s | 24-CH 8255 PIO | 2-CH, 16-bit |

Features

- PXI specification Rev 2.2 compliant
- 64-CH single-ended or 32-CH differential analog inputs
- Onboard 1 k-sample A/D FIFO
- Bipolar or unipolar analog input ranges
- 512-configuration channel gain queue
- Scatter-gather DMA for both analog inputs and outputs
- 2-CH 12-bit multiplying analog outputs with waveform generation
- Onboard 1 k-sample D/A FIFO
- 24-CH TTL digital input/output
- 2-CH 16-bit general-purpose timer/counter
- Analog and digital triggering
- Fully auto calibration
- Multiple cards synchronization through SSI (System Synchronization Interface) bus or PXI trigger bus

Operating Systems

- Windows Vista/XP/2000/2003

Recommended Software

- AD-Logger
- DAQPilot for Windows
- DAQPilot for LabVIEW™

Terminal Board

DIN-68S-01

Terminal Board with One 68-pin SCSI-II Connector and DIN-Rail Mounting (cables are not included; for information on mating cables, refer to Section 4.)

Cable

ACL-10568

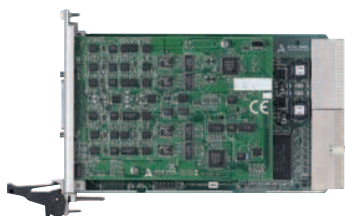
68-pin SCSI-VHDCI cable (matching with AMP-787082-7)

Specifications

| Model Name | PXI-2204 | PXI-2205 | PXI-2206 |
|--------------------------------------|---|-------------------------------|-------------------------------|
| Analog Input | | | |
| Resolution | 12 bits, no missing codes | 16 bits, no missing codes | 16 bits, no missing codes |
| Number of channels | 64 single-ended or 32 differential (software selectable per channel) | | |
| Channel gain queue size | 512 | | |
| Maximum sampling rate | 3 MS/s | 500 kS/s | 250 kS/s |
| Programmable gain | 1, 2, 4, 5, 8, 10, 20, 40, 50, 200 | 1, 2, 4, 8 | 1, 2, 4, 8 |
| Bipolar input ranges | Max. : ±10 V, Min. : ±0.05 V±10 V, ±5 V, ±2.5 V, ±1.25 V±10 V, ±5 V, ±2.5 V, ±1.25 V | | |
| Unipolar input ranges | Max. : 0-10 V, Min. : 0-0.1 V0-10 V, 0-5 V, 0-2.5 V, 0-1.25 V0-10 V, 0-5 V, 0-2.5 V, 0-1.25 V | | |
| Offset error | ±1 mV | ±1 mV | ±1 mV |
| Gain error | ±0.03% of FSR | ±0.01% of FSR | ±0.01% of FSR |
| Input coupling | DC | | |
| Overvoltage protection | Power on: Continuous ±30 V, Power off: Continuous ±15 V | | |
| Input impedance | 1 GΩ/100 pF | | |
| Settling time | 1 μs to 0.1% error * | 2 μs to 0.1% error | 4 μs to 0.01% error |
| Trigger sources | Software, external digital/analog trigger, SSI bus | | |
| Trigger modes | Pre-trigger, post-trigger, middle-trigger, delay-trigger, and repeated trigger | | |
| Data transfers | Polling, scatter-gather DMA | | |
| Analog Output | | | |
| Number of channels | 2 voltage outputs | | |
| Resolution | 12 bits | | |
| Output ranges | 0-10 V, ±10 V, 0-AOEXTREF, ±AOEXTREF | | |
| Maximum update rate | 1 μs | | |
| Slew rate | 20 V/μs | | |
| Settling time | 3 μs to ±0.5 LSB accuracy | | |
| Offset error | ±1 mV | | |
| Gain error | ±0.02% of max. output | | |
| Driving capacity | ±5 mA | | |
| Trigger sources | Software, external digital/analog trigger, SSI bus | | |
| Trigger modes | Post-trigger, delay-trigger, and repeated trigger | | |
| Data transfers | Programmed I/O, scatter-gather DMA | | |
| Digital I/O | | | |
| Number of channels | 24-CH 8255 programmable input/output | | |
| Compatibility | 5 V/TTL | | |
| Data transfers | Programmed I/O | | |
| General-Purpose Timer/Counter | | | |
| Number of channels | 2 | | |
| Resolution | 16 bit | | |
| Base clock available | 40 MHz, external clock up to 10 MHz | | |
| Auto Calibration | | | |
| Onboard reference | +5 V | | |
| Temperature drift | ±2 ppm/°C | | |
| Stability | ±6 ppm/1000 Hrs | | |
| General Specifications | | | |
| Dimensions | 160 mm x 100 mm (not including connectors) | | |
| Connector | 68-pin VHDCI female x 2 | | |
| Operating temperature | 0 to 55°C | | |
| Storage temperature | -20 to 70°C | | |
| Humidity | 5 to 95 %, non-condensing | | |
| Power requirements | +5 V 1.3 A typical (PXI-2204) | +5 V 1.2 A typical (PXI-2205) | +5 V 1.2 A typical (PXI-2206) |

PXI-2500 Series

4/8-CH 12-Bit 1 MS/s Analog Output Multi-Function DAQ Cards



Ordering Information / Quick Selection Guide

| Model Name | Analog Output | | | | Analog Input | | | | DIO | Timer/Counter |
|------------|-----------------|------------|-------------|------------------|-----------------|------------|---------------|--------------------|-----------------|-----------------|
| | No. of channels | Resolution | Update rate | Output range | No. of channels | Resolution | Sampling rate | Input range | No. of channels | No. of channels |
| PXI-2501 | 4 | 12 bits | 1 MS/s | ±10 V, 0 to 10 V | 8 | 14 bits | 400 kS/s | ±10 V or 0 to 10 V | 24-CH 8255 PIO | 2-CH, 16-bit |
| PXI-2502 | 8 | 12 bits | 1 MS/s | ±10 V, 0 to 10 V | 4 | 14 bits | 400 kS/s | ±10 V or 0 to 10 V | 24-CH 8255 PIO | 2-CH, 16-bit |

Features

- PXI specification Rev 2.2 compliant
- Hardware-based arbitrary waveform generation
- Onboard 8 k-sample D/A FIFO (PXI-2501)
- Onboard 16 k-sample D/A FIFO (PXI-2502)
- Programmable bipolar or unipolar analog output ranges on per channel basis
- Programmable internal or external reference sources on per channel basis
- 8-CH 400 kS/s 14-bit single-ended analog inputs (PXI-2501)
- 4-CH 400 kS/s 14-bit single-ended analog inputs (PXI-2502)
- Onboard 2 k-sample A/D FIFO
- Bipolar or unipolar analog input ranges
- Scatter-gather DMA for both analog inputs and outputs
- 24-CH TTL digital input/output
- 2-CH 16-bit general-purpose timer/counter
- Analog & digital triggering
- Fully auto-calibration
- Multiple cards synchronization through SSI (System Synchronization Interface) bus or PXI trigger bus
- Operating Systems
 - Windows Vista/XP/2000/2003
- Recommended Software
 - AD-Logger
 - DAQPilot for Windows
 - DAQPilot for LabVIEW™

Terminal Board

DIN-68S-01

Terminal Board with One 68-pin SCSI-II Connector and DIN-Rail Mounting (cables are not included; for information on mating cables, refer to Section 4.)

Cable

ACL-10568

68-pin SCSI-VHDCI cable (matching with AMP-787082-7)

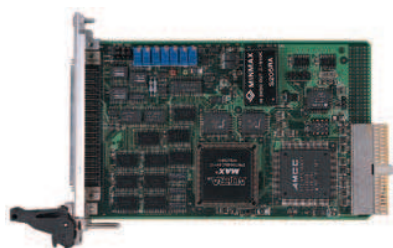
Specifications

| Model Name | PXI-2501 | PXI-2502 |
|-------------------------------|---|--------------------------------|
| Analog Output | | |
| Number of channels | 4 voltage outputs | 8 voltage outputs |
| Resolution | 12 bits | |
| Output ranges | 0-10 V, ±10 V, 0-AOEXTREF, ±AOEXTREF | |
| Maximum update rate | 1 MS/s | |
| Slew rate | 20 V/μs | |
| Settling time | 3 μs to ±0.5 LSB accuracy | |
| Offset error | ±2 mV | |
| Gain error | ±0.02% of max. output | |
| Driving capacity | ±5 mA | |
| Trigger sources | Software, external digital/analog trigger, SSI bus | |
| Trigger modes | Post-trigger, delay-trigger, and repeated trigger | |
| Data transfers | Programmed I/O, scatter-gather DMA | |
| Analog Input | | |
| Resolution | 14 bits, no missing codes | |
| Number of channels | 8 single-ended | 4 single-ended |
| Maximum sampling rate | 400 kS/s | |
| Gain | 1 | |
| Bipolar input ranges | ±10 V | |
| Unipolar input ranges | 0-10 V | |
| Offset error | ±1 mV | |
| Gain error | ±0.03% of FSR | |
| Input coupling | DC | |
| Overvoltage protection | Power on: Continuous ±30 V, Power off: Continuous ±15 V | |
| Input impedance | 1 GΩ/6 pF | |
| Trigger sources | Software, external digital/analog trigger, SSI bus | |
| Trigger modes | Post-trigger, delay-trigger, and repeated trigger | |
| Data transfers | Polling, scatter-gather DMA | |
| Digital I/O | | |
| Number of channels | 24-CH 8255 programmable input/output | |
| Compatibility | 5 V/TTL | |
| Data transfers | Programmed I/O | |
| Timer/Counter | | |
| Number of channels | 2 | |
| Resolution | 16 bits | |
| Compatibility | 5 V/TTL | |
| Base clock available | 40 MHz, external clock up to 10 MHz | |
| Auto Calibration | | |
| Onboard reference | +5 V | |
| Temperature drift | ±2 ppm/°C | |
| Stability | ±6 ppm/1000 Hrs | |
| General Specifications | | |
| Dimensions | 160 mm x 100 mm (not including connectors) | |
| Connector | 68-pin VHDCI female | |
| Operating temperature | 0 to 55°C | |
| Storage temperature | -20 to 70°C | |
| Humidity | 5 to 95 %, non-condensing | |
| Power requirements | +5 V 1.6 A typical (PXI-2501) | +5 V 2.12 A typical (PXI-2502) |

cPCI-9112

16-CH 12-Bit 110 kS/s Multi-Function DAQ Card / Low-Profile DAQ Card

CompactPCI



Specifications

Analog Input

- Number of channels: 16 single-ended or 8 differential
- Resolution: 12 bits
- Conversion time: 8 μ s
- Maximum sampling rate: 110 kS/s
- Input signal ranges

| Gain | Input Range | |
|------|---------------|-------------|
| | Bipolar | Unipolar |
| 0.5 | ± 10 V | - |
| 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 |

- Accuracy

| Gain | Accuracy |
|--------|---------------------------|
| 0.5, 1 | 0.01 % of FSR \pm 1 LSB |
| 2, 4 | 0.02 % of FSR \pm 1 LSB |
| 8 | 0.04 % of FSR \pm 1 LSB |

- Input coupling: DC
- Overvoltage protection: continuous ± 35 V
- Input impedance: 1 G Ω
- Trigger modes: software
- Data transfers: programmed I/O, interrupt, bus-mastering DMA

Analog Output

- Number of channels: 2 voltage outputs
- Resolution: 12 bits
- Output ranges (software programmable)

| Output Range | |
|--------------|----------------------------------|
| Unipolar | 0 to 10 V, 0 to 5 V, 0 to EXTREF |

- Output driving capacity: ± 5 mA max
- Settling time: 30 μ s to 0.5 LSB
- 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-Purpose Timer/Counter

- Number of channels: 1
- Resolution: 16 bits
- Compatibility: 5 V/TTL
- Base clock available: 2 MHz, external clock to 10 MHz

General Specifications

- I/O connector: 37-pin D-sub female
- Operating temperature: 0 $^{\circ}$ C to 60 $^{\circ}$ C
- Storage temperature: -20 $^{\circ}$ C to 80 $^{\circ}$ C
- Relative humidity: 5% to 95 %, non-condensing
- Power requirements

| | +5 V | +12 V |
|--------------|----------------|---------------|
| cPCI-9112(R) | 600 mA typical | 20 mA typical |

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

Terminal Board

DIN-100S-01

Terminal Board with One 100-pin SCSI-II Connector and DIN-Rail Mounting

Cable

ACL-102100

100-pin SCSI-II cable (matching with AMP-787082-9)

Ordering Information

cPCI-9112

16-CH 12-Bit 110 kS/s Multi-Function DAQ Module

cPCI-9112R

16-CH 12-Bit 110 kS/s Multi-Function DAQ Module with rear I/O

Features

- 12-bit A/D resolution
- 16-CH single-ended or 8-CH differential inputs
- Programmable gains of x0.5, x1
- Automatic analog inputs scanning
- Bus-mastering DMA for analog inputs
- 2-CH 12-bit multiplying analog outputs
- 16-CH TTL digital inputs and 16-CH TTL digital outputs
- 1-CH 16-bit general-purpose timer/counter
- Rear I/O available on cPCI-9112R

Operating Systems

- Windows Vista/XP/2000/2003

Recommended Software

- AD-Logger
- DAQPilot for LabVIEW™
- DAQ-MTLB for MATLAB®

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PXI/PCI Modules

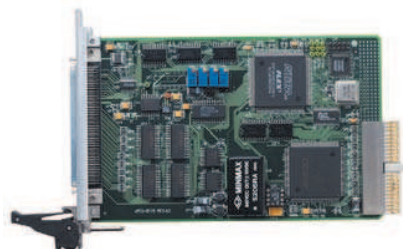
5

Software & Utilities

cPCI-9116 Series

64-CH 16-Bit 250 kS/s Multi-Function DAQ Modules

CompactPCI



Features

- 16-bit A/D resolution, up to 250 kS/s sampling rate
- 64-CH single-ended or 32-CH differential inputs
- Bipolar or unipolar analog input ranges
- 512-configuration channel-gain queue
- Bus-mastering DMA for analog inputs
- 8-CH TTL digital inputs and 8-CH TTL digital outputs
- 1-CH 16-bit general purpose timer/counter
- Rear I/O available on cPCI-9116R

Operating Systems

- Windows Vista/XP/2000/2003

Recommended Software

- AD-Logger
- DAQPilot for Windows
- DAQPilot for LabVIEW™

Specifications

Analog Input

- Number of channels: 64 single-ended or 32 differential (software selectable per channel)
- Resolution: 16 bits
- Maximum sampling rate: 250 kS/s
- Input signal ranges (software programmable)

| Gain | Input Range | |
|------|-------------|-------------|
| | Bipolar | Unipolar |
| 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 |

Accuracy

| Gain | Accuracy |
|------|-----------------------|
| 1 | 0.01 % of FSR ± 1 LSB |
| 2, 4 | 0.02 % of FSR ± 1 LSB |
| 8 | 0.04 % of FSR ± 1 LSB |

- Input coupling: DC
- Overvoltage protection: Continuous ±35 V
- Input impedance: 1 GΩ
- Trigger modes: Software, pre-trigger, post-trigger, middle trigger, delay trigger, and repeated trigger
- Channel-gain queue size: 512 configurations
- FIFO buffer size: 1 k samples
- Data transfers: polling, interrupt, bus-mastering DMA

Digital I/O

- Number of channels: 8 inputs and 8 outputs
- Compatibility: 5 V/TTL
- Data transfers: programmed I/O

General-Purpose timer/counter

- Number of channels: 1
- Resolution: 16 bits
- Compatibility: 5 V/TTL
- Base clock available: 24 MHz, external clock up to 24 MHz

General Specifications

- I/O connector: 100-pin SCSI-II female
- Operating temperature: 0°C to 55°C
- Storage temperature: -20°C to 80°C
- Relative humidity: 5% to 95%, non-condensing
- Power requirements

| +5 V | +12 V |
|----------------|----------------|
| 560 mA typical | 100 mA typical |

- Dimensions (not including connectors)
 - 160 mm x 100 mm (3U)
 - 160 mm x 233.35 mm (6U)

Terminal Board

DIN-100S-01

Terminal Board with One 100-pin SCSI-II Connector and DIN-Rail Mounting (cables are not included; for information on mating cables, refer to Section 4.)

Cable

ACL-102100

100-pin SCSI-II cable (matching with AMP-787082-9)

Ordering Information

cPCI-9116

64-CH 16-Bit 250 kS/s Multi-Function DAQ Module

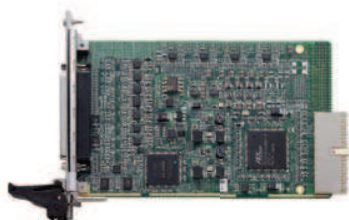
cPCI-9116R

64-CH 16-Bit 250 kS/s Multi-Function DAQ Module with Rear I/O

cPCI-6208/6216 Series

8/16-CH 16-Bit Analog Output Cards

CompactPCI



Features

- 3U Eurocard form factor, CompactPCI compliant PICMG 2.0 R2.1
- 16-bit D/A resolution
- Effective 15-bit resolution current transducers (cPCI-6208A)
- 8-CH voltage outputs (cPCI-6208V-GL)
- 16-CH voltage outputs (cPCI-6216V-GL)
- 8-CH current outputs (cPCI-6208A)
- Bipolar analog output range
- 4-CH TTL digital inputs and 4-CH TTL digital outputs
- Rear I/O available on the cPCI-6208V/R-GL, cPCI-6216V/R-GL & cPCI-6208A/R.

Operating Systems

- Windows Vista/XP/2000/2003

Recommended Software

- AD-Logger
- DAQPilot for Windows
- DAQ-LVIEW PnP for LabVIEW™

Specifications

Voltage Output

- Number of channels
 - 8 voltage outputs (cPCI-6208V-GL & cPCI-6208A)
 - 16 voltage outputs (cPCI-6216V-GL)
- Resolution: 16 bits
- Monotonicity: 15 bits typical
- Output ranges: ± 10 V
- Slew rate: 10 V/ μ s typical
- Settling time: 130 μ s typical (20 V step)
- Gain Error: $\pm 0.2\%$ maximum
- DNL: ± 0.65 LSB typical
- Output driving capacity: ± 5 mA maximum
- Output initial status: 0 V
- Data transfer: programmed I/O

Current Output

- Number of channels: 8 current outputs (cPCI-6208A)
- Resolution: 15 bits typical
- Monotonicity: 14 bits typical
- Output ranges: (Software programmable)
 - 0-20 mA, 4-20 mA, 5-25 mA
- Slew rate: 1.3 mA/ μ s typical
- Settling time: 17 μ s typical (20 mA step)
- Span Error: $\pm 0.3\%$ typical
- Output Initial Status: 4 mA (after RESET or POWER-ON)
- Data transfer: 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: One 37-pin D-sub female
- Operating temperature: 0°C to 50°C
- Storage temperature: -20°C to 80°C
- Relative humidity: 5% to 95%, non-condensing
- Power requirements

| Device | +5 V | +12 V |
|-----------------|----------------|----------------|
| cPCI-6208V/R-GL | 500 mA typical | 200 mA typical |
| cPCI-6216V/R-GL | 1 A typical | 300 mA typical |
| cPCI-6208A/R | 600 mA typical | 380 mA typical |

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

Terminal Board

DIN-37D-01

Terminal Board with One 37-pin D-sub Connector and DIN-Rail Mounting (Cables are not included. For information on mating cables, refer to Section 4.)

Cable

ACL-10137-1MM

37-Pin D-Sub male-male cable, length in 1M.

Note: Please note that cables and terminal boards are not included in product.

Ordering Information

cPCI-6208A

8-CH 16-Bit Voltage and Current Output Module

cPCI-6208AR

8-CH 16-Bit Voltage and Current Output Module with Rear I/O

cPCI-6208V-GL

8-CH 16-Bit Voltage Output Module

cPCI-6208V/R-GL

8-CH 16-Bit Voltage Output Module with Rear I/O

cPCI-6216V-GL

16-CH 16-Bit Voltage Output Module

cPCI-6216V/R-GL

16-CH 16-Bit Voltage Output Module with Rear

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PXI/PCI Modules

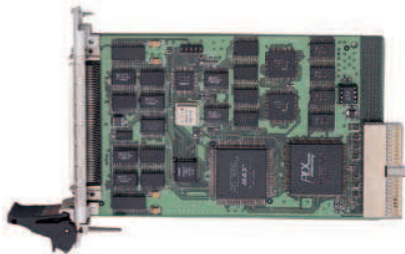
5

Software & Utilities

cPCI-7300

80 MB/s High-Speed 32-CH Digital I/O Card

CompactPCI



Specifications

Digital I/O

- Numbers of channel (Software configurable)
 - 16 DI & 16 DO
 - 32 DI
 - 32 DO
- Compatibility: 5 V/TTL
- Digital logic levels
 - Input high voltage: 2-5.25 V
 - Input low voltage: 0-0.8 V
 - Output high voltage: 2.7 V minimum
 - Output low voltage: 0.5 V maximum
- Input load
 - Terminator OFF
 - Input high current: 1 mA
 - Input low current: 20 mA
 - Terminator ON
 - Termination resistor: 111 Ω
 - Termination voltage: 2.9 V
 - Input high current: 1 mA
 - Input low current: 22.4 mA
- Output driving capacity
 - Source current: 8 mA
 - Sink current: 48 mA

Transfer characteristics

- Data transfers: Bus-mastering DMA with Scatter/Gather
- Data width: 32/16/8 bits (programmable)

Max transfer rate

- DO: 80 MBytes/s, 32-bit output @ 20 MHz
- DI: 80 MBytes/s, 32-bit input @ 20 MHz

Trigger

- DI_TRG for digital inputs, DO_TRG for digital outputs
- Compatibility: 5 V/TTL
- Trigger types: rising or falling edges
- Minimum pulse width: 32 ns

Clocking mode

- Internal clock
 - Internal clock sources: 20 MHz, 10 MHz, Timer#0 output (digital input pacer) and Timer #1 output (digital output pacer)
- External clock up to 40 MHz
- Handshaking
- Burst handshaking

Programmable counter

- Base clock: 10 MHz
- Timer #0 as digital input pacer
- Timer #1 as digital output pacer
- Timer #2: as interrupt source

Auxiliary digital I/O

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

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 | Power | Onboard terminator off | Onboard terminator on |
|-----------|-------|------------------------|-----------------------|
| cPCI-7300 | +5 V | 830 mA typical | 1.0 A typical |

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

Terminal Board

DIN-100S-01

Terminal Board with One 100-pin SCSI-II Connector and DIN-Rail Mounting (Cables are not included. For information on mating cables, refer to Section 4.)

Cable

ACL-102100

100-pin SCSI-II cable (matching with AMP-787082-9)

Ordering Information

■ cPCI-7300

80 MB/s High-Speed 32-CH Digital I/O Module

Features

- 32-CH 5 V/TTL digital inputs/outputs
- 20 MHz (80 MB/s) maximum transfer rate
- 8, 16, or 32-bit transfers
- 4 auxiliary DI & 4 auxiliary DO
- Onboard 64 kB FIFO
- Onboard programmable timer pacer clock
- Timed digital input sampling controlled by internal timer or external clock
- Independent trigger signals to start data acquisition and pattern generation
- Supports handshaking digital I/O transfer mode

■ Operating Systems

- Windows Vista/XP/2000/2003

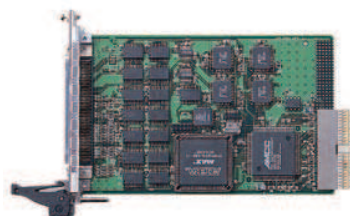
■ Recommended Software

- AD-Logger
- DAQPilot for Windows
- DAQPilot for LabVIEW™

cPCI-7200

12 MB/s High-Speed 32-CH DI & 32-CH DO Card

CompactPCI



Features

- 3U EuroCard form factor, CompactPCI compliant (PICMG 2.0 R2.1)
- 32-CH TTL digital inputs and 32-CH TTL digital outputs
- Up to 12 MB/s transfer rate
- Bus-mastering DMA for both digital inputs and outputs
- Onboard programmable timer pacer clock
- Timed digital input sampling controlled by an onboard timer
- Timed digital output update controlled by an onboard timer
- Supports handshaking digital I/O transfer mode
- Multiple programmable interrupt sources
- Operating Systems
 - Windows Vista/XP/2000/2003
- Recommended Software
 - AD-Logger
 - DAQPilot for Windows
 - DAQPilot for LabVIEW™

Specifications

Digital I/O

- Number of channels:
 - 32-CH digital inputs
 - 32-CH digital outputs
- Compatibility: 5 V/TTL
- Data transfer rate
 - 12 MB/s with external 3 MHz clock, handshaking or external strobe
 - 8 MB/s with internal 2 MHz timer pacer
- Digital logic levels
 - Input high voltage: 2-5.25 V
 - Input low voltage: 0-0.8 V
 - Output high voltage: 2.7 V minimum
 - Output low voltage: 0.5 V maximum
- Output driving capacity
 - Source current: 3.0 mA
 - Sink current: 24 mA
- Data transfers:
 - programmed I/O, interrupt, bus-mastering DMA

Programmable Counter

- Base clock: 4 MHz
- Timer 0: DI clock source
- Timer 1: DO clock source
- Timer 2: Base clock source of timer 0 & 1

Interrupt

- Sources:
 - EO_ACK, EI_REQ, Timer 0, Timer 1 or Timer 2

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-7200 | 800 mA typical |
- Dimensions (not including connectors)
 - 160 mm x 100 mm

Terminal Board

DIN-100S-01

Terminal Board with One 100-pin SCSI-II Connector and DIN-Rail Mounting (Cables are not included. For information on mating cables, refer to Section 4.)

Cable

ACL-102100

100-pin SCSI-II cable (matching with AMP-787082-9)

Ordering Information

cPCI-7200

12 MB/s High-Speed 32-CH DI & 32 CH DO Module Card for Low-Profile PCI

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PXI/PCI Modules

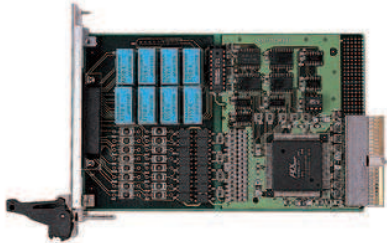
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Software & Utilities

cPCI-7252

8-CH Relay Outputs & 8-CH Isolated DI Card

CompactPCI



Features

- 3U Eurocard form factor, CompactPCI compliant (PICMG 2.0 R2.1) (cPCI-7252)
- 8-CH SPDT
- Non-latching relays
- Onboard LED indicators for relay status
- Onboard relay driving circuits
- Relay output status read back
- 8-CH isolated digital inputs
- Onboard low-pass filtering for digital inputs

Operating Systems

- Windows Vista/XP/2000/2003

Recommended Software

- AD-Logger
- DAQPilot for Windows
- DAQPilot for LabVIEW™

Specifications

Relay Output

- Number of channels: 8
- Relay types
 - Channel 0-7: SPDT (normal open)
- Contact rating
 - AC: 120 V @ 0.5 A
 - DC: 24 V @ 1 A
- Breakdown voltage: 1000 V_{RMS}
- Contact resistance: 100 m
- Relay ON/OFF time
 - Operate time: 8 ms
 - Release time: 8 ms
- LED indicators: onboard LEDs for relay status
- Expected life
 - >5x10⁵ operations @ 1 A, 24 Vdc
 - >2x10⁵ operations @ 0.5 A, 120 V_{AC}
- Data transfers: programmed I/O

Isolated Digital Input

- Number of channels: 8
- Maximum input range: 24 V, non-polarity
- Digital logic levels
 - 0-24 V, non-polarity
 - Input high voltage: 3-24 V
 - Input low voltage: 0-1 V
- Input resistance: 1.2 kΩ @ 0.5 W
- Isolation voltage: 5000 V_{RMS}
- Data transfers: programmed I/O

General Specifications

- I/O connector
 - 50-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 | Power Consumption |
|------------|-------------------|
| LPCle-7250 | +3.3 V @ 280 mA |
| | +12 V @ 180 mA |

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

Terminal Board

DIN-50S-01

Terminal Board with One 50-pin SCSI-II Connector and DIN-Rail Mounting (Cables are not included. For information on mating cables, refer to Section 4.)

Cable

ACL-10250

50-pin SCSI-II cable (matching with AMP-787082-5)

Ordering Information

cPCI-7252

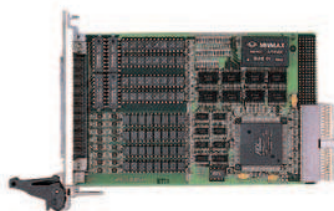
8-CH Relay Output & 16-CH Isolated DI Module

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

cPCI-7432/7433/7434

64-CH Isolated Digital I/O Cards

CompactPCI



Features

- 3U Eurocard form factor, CompactPCI compliant (PICMG 2.0 R2.1)
- 32-CH isolated digital inputs & 32-CH isolated digital outputs (cPCI-7432/7432R/7432RP)
- 64-CH isolated digital inputs (cPCI-7433/7433R)
- 64-CH isolated digital outputs (cPCI-7434/7434R/7434P/7434RP)
- Isolation Voltage:
 - 2500 V_{RMS}: cPCI-7432R/7432RP/7433R
 - 5000 V_{RMS}: cPCI-7432/7433/7434/7434R/7434P/7434RP
- Sink current up to 500 mA on single isolated output
- Isolated input voltage up to 24 V (cPCI-7432/7432R/7432RP/7433/7433R)
- Two external interrupt sources (cPCI-7432/7432R/7432RP/7433/7433R)
- Operating Systems
 - Windows Vista/XP/2000/2003
- Recommended Software
 - AD-Logger
 - DAQPilot for Windows
 - DAQPilot for LabVIEW™

Specifications

Isolated Digital Input

- Number of channels
 - 32 (cPCI-7432/7432R/7432RP)
 - 64 (cPCI-7433/7433R)
- Maximum input range (Non-polarity)
 - 24 V, non-polarity (cPCI-7432/7432R/7432RP/7433/7433R)
- Digital logic levels: 0 V to 24 V, non-polarity
 - Input high voltage: 5 V to 24 V
 - Input low voltage: 0 V to 1.5 V
- Input resistance
 - 2.4 kΩ @ 0.5 W (cPCI-7432/7432R/7432RP)
 - 2.4 kΩ @ 1 W (cPCI-7433/7433R)
- Isolation voltage: 2500 V_{RMS}: cPCI-7432R/7432RP/7433R
5000 V_{RMS}: cPCI-7432/7433
- Interrupt sources: digital input channel 0 & 1
- Data transfers: programmed I/O

Isolated Digital Output

- Number of channels
 - 32 (cPCI-7432/7432R/7432RP)
 - 64 (cPCI-7434/7434R/7434P/7434RP)
- Output type: open collector Darlington transistor
- Sink current (cPCI-7432/7432R/7434/7434R)
 - 500 mA for single channel @ 100% duty
 - 500 mA for all channels @ 20% duty
- Source current (cPCI-7432RP/7434P/7434RP)
 - 260 mA for all channel @ 100% duty
 - 59 mA for all channels @ 20% duty
- Power dissipation:
 - Max. 2.25 W per chip (8 DO channels) (cPCI-7432/7432R/7434/7434R)
 - Max. 1.47 W perchip (8 DO channels) (cPCI-7432RP/7434P/7434RP)
- Supply voltage: 5-35 V
- Isolation voltage: 2500 V_{RMS}
- Data transfers: programmed I/O

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-7432/7432R/7432RP | 530 mA typical |
| cPCI-7433/7433R | 500 mA typical |
| cPCI-7434/7434R/7434P/7434RP | 560 mA typical |

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

Terminal Board

■ DIN-100S-01

Terminal Board with One 100-pin SCSI-II Connector and DIN-Rail Mounting (Cables are not included. For information on mating cables, refer to Section 4.)

Note:

Legacy DIN-502S can be replaced by two DIN-50S-01 and ACL-10252-1 (100-Pin to two 50-Pin Cable, 1 M)

Cable

■ ACL-102100

100-pin SCSI-II cable (matching with AMP-787082-9)

Ordering Information

■ cPCI-7432R

32-CH Isolated DI & 32-CH Isolated DO Card with Rear I/O

■ cPCI-7432RP

cPCI-7432 with Rear I/O & Source Current Transistor

■ cPCI-7433

64-CH Isolated DI Card

■ cPCI-7433R

64-CH Isolated DI Card with Rear I/O

■ cPCI-7434

64-CH Isolated DO Card

■ cPCI-7434R

64-CH Isolated DO Card with Rear I/O

■ cPCI-7434P

64-CH Isolated DO Card with Source Current Transistor

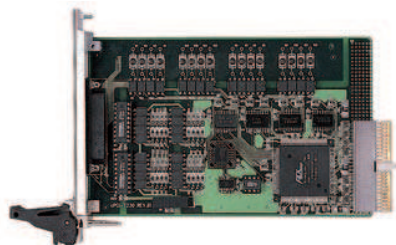
■ cPCI-7434RP

cPCI-7434 with Rear I/O & Source Current Transistor

cPCI-7230

32-CH Isolated DIO Card

CompactPCI



Features

- 3U Eurocard form factor, CompactPCI compliant (PICMG 2.0 R2.1)
- 16-CH isolated digital inputs & 16-CH isolated digital outputs
- 5000 VRMS optical isolation
- Sink current up to 500 mA on single isolated output
- Two external interrupt sources

Operating Systems

- Windows Vista/XP/2000/2003

Recommended Software

- AD-Logger
- DAQPilot for Windows
- DAQPilot for LabVIEW™

Specifications

Isolated Digital Input

- Number of channels
 - 16
- Maximum input range
 - 24 V, non-polarity
- Digital logic levels
 - 0-24 V, non-polarity
 - Input high voltage: 5-24 V
 - Input low voltage: 0-1.5 V
- Input resistance: 1.2 k @ 0.5 W
- Isolation voltage
 - 5000 V_{RMS}
- Interrupt sources
 - Digital input channel 0 and 1
- Data transfers: programmed I/O

Isolated Digital Output

- Number of channels
 - 16
- Output type: Darlington transistor
- Sink current
 - 500 mA for single channel @ 100% duty
 - 500 mA for all channels @ 20% duty
- Power dissipation
 - Max. 2.25 W per chip (8 DO channels)
- Supply voltage: 5-35 V_{DC}
- Isolation voltage: 2500 V_{RMS}
- Data transfers: programmed I/O

General Specifications

- I/O connector
 - One 50-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 | Power Consumption |
|-----------|---------------------|
| cPCI-7230 | +5V@ 270 mA typical |
- Dimensions (not including connectors)
 - 160 mm x 100 mm

Terminal Board

DIN-50S-01

Terminal Board with One 50-pin SCSI-II Connector and DIN-Rail Mounting (Cables are not included. For information on mating cables, refer to Section 4.)

Cable

ACL-10250

50-pin SCSI-II cable (matching with AMP-787082-5)

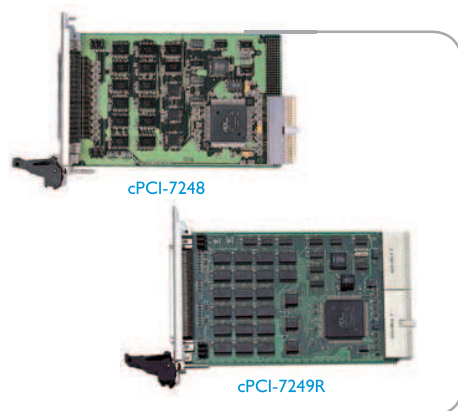
Ordering Information

cPCI-7230

16-CH Isolated DI & 16-CH Isolated DO Module

cPCI-7248/7249R

48-CH DIO & Timer/Counter Modules



CompactPCI

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
- 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 Vista/XP/2000/2003

Recommended Software

- AD-Logger
- DAQPilot for Windows
- DAQPilot for LabVIEW™

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
 - PIC0
 - PIC3
 - 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 Board

DIN-100S-01

Terminal Board with One 100-pin SCSI-II Connector and DIN-Rail Mounting (Cables are not included. For information on mating cables, refer to Section 4.)

Cable

ACL-102100

100-pin SCSI-II cable (matching with AMP-787082-9)

Ordering Information

cPCI-7248

48-CH DIO & Timer/Counter Module

cPCI-7249R

48-CH DIO & Timer/Counter Module with Rear I/O

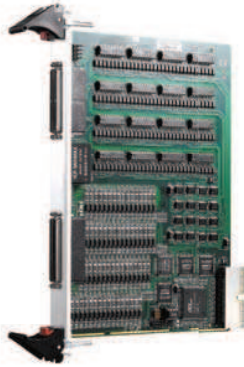
Note:

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

cPCI-7452

I28-CH Isolated DI & I28-CH Isolated DO Module

CompactPCI



Features

- 6U Eurocard form factor, CompactPCI compliant (PICMG 2.0 R3.0)
- I28-CH isolated digital inputs and I28-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: I28-CH DI Change-of- State
- Output status read back

Operating Systems

- Windows Vista/XP/2000/2003
- Linux
- Windows CE (call for availability)

Recommended Software

- AD-Logger
- DAQPilot for Windows
- DAQPilot for LabVIEW™

Specifications

Isolated Digital Input

- Number of channels: 128
- Maximum input range: 28 V, non-polarity
- Digital logic levels: 0-28 V, non-polarity
 - Input high voltage: 5-28 V
 - Input low voltage: 0-1.5 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: 300 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 x 2
- 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 Board

DIN-100S-01

Terminal Board with One 100-pin SCSI-II Connector and DIN-Rail Mounting (Cables are not included. For information on mating cables, refer to Section 4.)

Cable

ACL-102150

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

Ordering Information

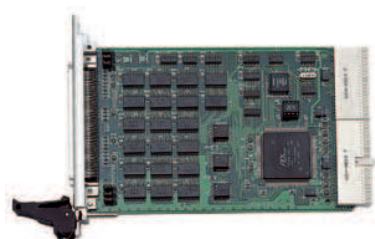
cPCI-7452

I28-CH Isolated DI & I28-CH Isolated DO Module

cPCI-8554

12-CH 16-Bit Timer/Counter & Digital I/O Module

CompactPCI



Specifications

General-Purpose Timer/Counters

- Number of channels: 10
- Counter width: 16 bits
- Compatibility: 5 V/TTL
- Base clock available:
 - 8 MHz or external clock up to 10 MHz
- Programmable clock sources
 - cascaded 32-bit timer output
 - external clock
 - timer/counter output of the last channel
 - Onboard 8 MHz clock

Cascaded Timer

- Number of channels: 1
- Counter width: 32 bits
- Compatibility: 5 V/TTL
- Base clock available: 8 MHz, fixed

Programmable De-bounce Filters for External Clocks

- Number of channels: 11
- Filtered inputs: external clock, external interrupt
 - Glitch rejection pulse width: 4 periods of the de-bounce clock
- De-bounce clock: up to 2 MHz, programmable

Interrupt

- Number of interrupt sources: 2
- Sources: external interrupt input and output of counter # 12

Digital I/O

- Number of channels: 8 inputs and 8 outputs
- Compatibility: 5 V/TTL
- Data transfers: programmed I/O

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-8554/cPCI-8554R | 350 mA typical |

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

Terminal Board

DIN-100S-01

Terminal Board with One 100-pin SCSI-II Connector and DIN-Rail Mounting (Cables are not included. For information on mating cables, refer to Section 4.)

Note:
Legacy DIN-502S can be replaced by two DIN-50S-01 and ACL-10252-1 (100-Pin to two 50-Pin Cable, 1 M)

Cable

ACL-102100

100-pin SCSI-II cable (matching with AMP-787082-9)

Ordering Information

cPCI-8554

12-CH 16-Bit Timer/Counter & Digital I/O Module

cPCI-8554R

12-CH 16-Bit Timer/Counter & Digital I/O Module with Rear I/O

Note:

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

Features

- 3U Eurocard form factor, CompactPCI compliant (PICMG 2.0 R3.0)
- Onboard four 8254 programmable timer/counter chips
- 10-CH independent 16-bit down counters
- 1-CH 32-bit cascaded timer
- Onboard 8 MHz clock source
- Programmable de-bounce filters for external clock & external interrupt inputs
- Programmable interrupt sources
- 8-CH TTL digital inputs & 8-CH TTL digital outputs

Operating Systems

- Windows Vista/XP/2000/2003

Recommended Software

- AD-Logger
- DAQPilot for Windows
- DAQPilot for LabVIEW™

1

PXI

2

Modular Instruments

3

GPB & Expansion

4

PXI/PCI Modules

5

Software & Utilities