

# cPCI-6208/6216 Series

## 8/16-CH 16-Bit Analog Output Modules

### 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/AR)
- 8-CH voltage outputs (cPCI-6208V/VR) & cPCI-6208A/AR
- 16-CH voltage outputs (cPCI-6216V/VR)
- 8-CH current outputs (cPCI-6208A/AR)
- Bipolar 10 V output range
- 4-CH TTL digital inputs & 4-CH TTL digital outputs
- Rear I/O available on the cPCI-6208VR, cPCI-6208AR & cPCI-6216VR

### Operating Systems

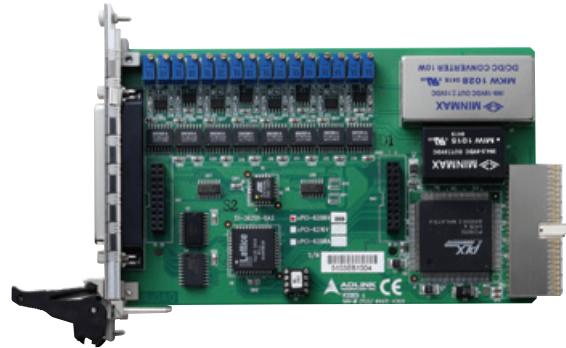
- Windows 98/NT/2000/XP/2003
- Linux
- DOS

### Recommended Software

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

### Driver Support

- DAQ-LVIEW PnP for LabVIEW
- DAQ-MTLB for MATLAB
- DAQBOY for Windows
- PCIS-DASK for Windows
- PCIS-DASK/X for Linux



cPCI-6208V

### Introduction

ADLINK cPCI-6208/6216 series are 8 or 16-CH, 16-bit, analog output modules for PXI/CompactPCI form factor. The cPCI-6208/6216 offers 8/16 voltage outputs with 10 V range, featuring 15-bit monotonicity and 10 V/ $\mu$ s slew rate. The on-board analog switches minimize the power-on glitches. On the rear I/O versions of cPCI-6208/6216 series, users are able to perform on-line calibration through the front panel trim pots.

In addition to the voltage output functions, the cPCI-6208A/AR features 8 current outputs with ranges of 0-20 mA, 4-20 mA and 5-25 mA. With the high-quality on-board current transducers, the device is capable of delivering 14-bit monotonicity with 1.3 mA/ $\mu$ s slew rate.

ADLINK cPCI-6208/6216 series devices provide high-resolution, high-density analog output functionalities for ATE, signal generation, and other industrial control applications.

### Specifications

#### Voltage Output

- Number of channels
  - 8 voltage outputs (cPCI-6208V, cPCI-6208VR & cPCI-6208A)
  - 16 voltage output (cPCI-6216V/VR)
- Resolution: 16 bits
- Monotonicity: 15 bits typical
- Output ranges:  $\pm 10$  V
- Slew rate: 10 V/ $\mu$ s typical
- Settling time: 4  $\mu$ s typical (20 V step)
- Gain Error:  $\pm 0.2\%$  maximum
- DNL:  $\pm 0.65$  LSB typical
- Output driving capacity:  $\pm 5$  mA maximum
- Output Initial Status: 0 V
- Data transfers: programmed I/O

#### Current Output

- Number of channels:
  - 8 current outputs (cPCI-6208A & cPCI-6208AR)
- 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/ $\mu$ s typical
- Settling time: 17  $\mu$ s typical (20 mA step)
- Span Error:  $\pm 0.3\%$  typical
- Output Initial Status:
  - 4 mA (after RESET or POWER-ON)
- Data transfers: programmed I/O

#### Digital I/O

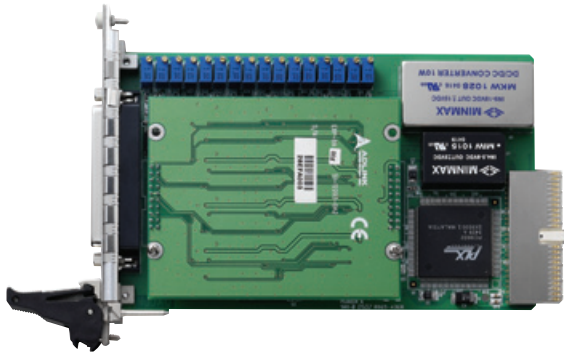
- Number of channels: 4 inputs and 4 outputs
- Compatibility: 5 V/TTL
- Data transfers: programmed I/O

#### General Specifications

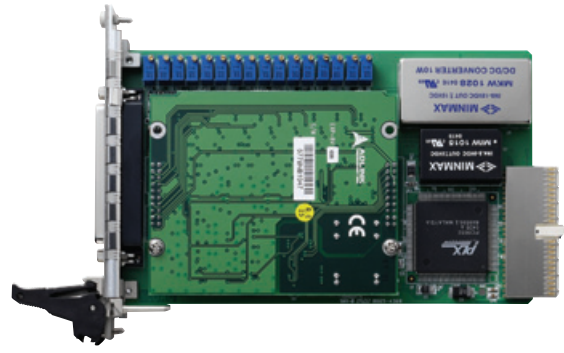
- I/O connector: 37-pin D-sub female
- Operating temperature: 0 to 60°C
- Storage temperature: -20 to 80°C
- Relative humidity: 5 to 95 %, noncondensing
- Power requirements

Device	+5 V	+12 V
cPCI-6208V/VR	580 mA typical	90 mA typical
cPCI-6216V/VR	1200 mA typical	300 mA typical
cPCI-6208A/AR	600 mA typical	380 mA typical

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



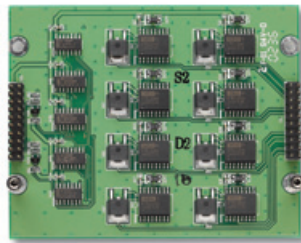
cPCI-6208A



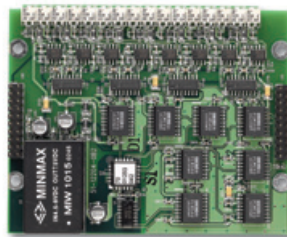
cPCI-6216V

**Termination Boards**

- **DIN-37D**  
Termination Board with a 37-pin D-sub Connector and DIN-Rail Mounting (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)



**EXP-8A**  
8 precision voltage-to-current converters/transmitters



**EXP-8V**  
extra 8 voltage output channels

**Pin Assignment**  
Connector CN1 Pin Assignment

DI3	1	20	DO3
DI2	2	21	DO2
DI1	3	22	DO1
DI0	4	23	DO0
GND	5	24	GND
+5Vout	6	25	-15Vout
+15Vout	7	26	AGND
AGND	8	27	V15(A7)
V14(A6)	9	28	V7
V6	10	29	AGND
AGND	11	30	V13(A5)
V12(A4)	12	31	V5
V4	13	32	AGND
AGND	14	33	V11(A3)
V10(A2)	15	34	V3
V2	16	35	AGND
AGND	17	36	V9(A1)
V8(A0)	18	37	V1
V0	19		

**Ordering Information**

- **cPCI-6208V**  
8-CH 16-Bit Voltage Output Module
- **cPCI-6208VR**  
8-CH 16-Bit Voltage Output Module with Rear I/O
- **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-6216V**  
16-CH 16-Bit Voltage Output Module
- **cPCI-6216VR**  
16-CH 16-Bit Voltage Output Module with Rear I/O

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

1  
Software Solutions

2  
PXI/CompactPCI Platforms

3  
PXI-Based Instruments

4  
PXI/CompactPCI Modules

5  
PCI DAQ Cards

6  
PCI DIO Cards

7  
PCI/104-Plus Products

8  
ISA DAS/DIO Cards

9  
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10  
Motion Vision & COM

11  
Remote I/O Modules

12  
Industrial Computers