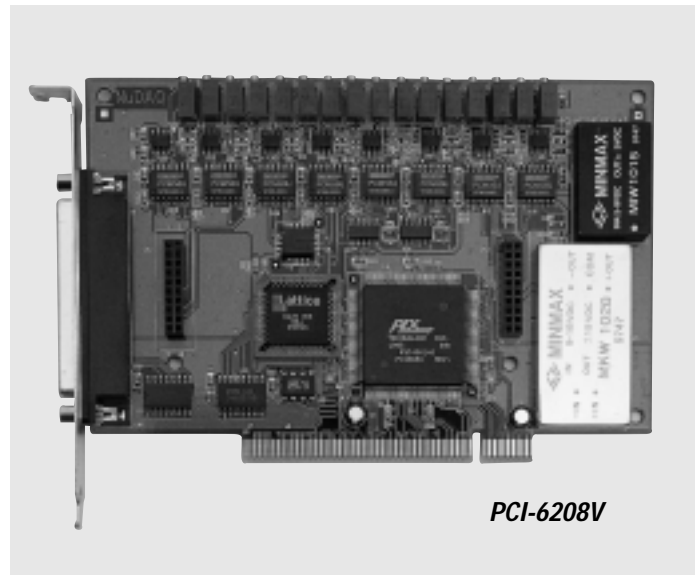


# PCI-6208/6216 Series

## 8/16-CH Analog Output Cards

### Features

- 32-bit PCI-Bus, Plug and Play
- 8-CH voltage outputs for PCI-6208V
- 16-CH voltage outputs for PCI-6216V
- 8-CH voltage and current outputs for PCI-6208A
- 16-bit DA resolution
- Bipolar voltage output range  $\pm 10V$
- Fast 2  $\mu$ sec settling time from  $-10V \sim +10V$  for voltage output
- Current output range on PCI-6208A:  
0~20mA, 4~20mA, 5~25mA programmable
- 4-CH DI, 4-CH DO
- Compact, half-sized PCB
- Rugged DB-37 connector



PCI-6208V

### Introductions

The PCI-6208 Series products are analog output cards with high resolution and high density. All these products are based on the basic version, PCI-6208V. These cards can be used to replace the old ISA bus analog output cards, and can provide better resolution as well as PCI plug and play function.

#### PCI-6208V

The PCI-6208V can offer 8 identical voltage outputs channels. Each channel provides  $\pm 10V$  voltage outputs and 16-bit resolution, 14-bit accuracy is guaranteed. Therefore, this card can cover all of the 12bit uni-polar or bipolar applications. The unique features of the card can achieve high density of 8 channels and create best performance/cost ratio.

#### PCI-6216V/EXP-8V

PCI-6216V is a higher density voltage output card. It combines the PCI-6208V and EXP-8V expansion board together. The EXP-8V provides extra 8 voltage output channels, therefore, the PCI-6216V can be extended up to 16 channels.

#### D/A Converter: PCM-56

All of the PCI-6208/16 analog output channels are identical. Each one is equipped with the PCM-56 which is a state-of-the-art, fully monotonic, digital to analog converter. This device employs ultra-stable nichrome (NiCr) thin-film

resistors to provide monotonicity, low distortion, and low differential linearity error over long period of time.

#### PCI-6208A/EXP-8A

The PCI-6208A is a high performance, 16-bit current and voltage output card, combining PCI-6208V with EXP-8A. The EXP-8A includes 8 precision voltage-to-current converters / transmitters, which converts PCI-6208V voltage output into current source output. Each current output channel is programmable of 0-20mA, 4-20mA, or 5-25mA ranges.

#### Applications

- Industrial process control
- Pressure / temperature transmitters
- Current source for test equipment
- Servo control
- Function generator
- Communication by current signal

### Specifications

#### Voltage Output (D/A)

- Number of Channels
  - 8 channels (PCI-6208V)
  - 8 channels (PCI-6208A)
  - 16 channels (PCI-6216V)
- Resolution: 16-bit
- Output range: Bipolar  $\pm 10V$
- Conversion: PCM56U or equivalent monolithic multiplying

- Settling time: 2  $\mu$  sec ( $-10 \sim +10V$ )
- Voltage output driving capability:  $\pm 5mA$  max.
- Data transfer: program control
- Monotonicity: 15-bit typical
- Gain error:  $\pm 2.0\%$  (without trimming)
- Output initial status: 0V (after RESET or POWER-ON)

#### Current Output (PCI-6208A only)

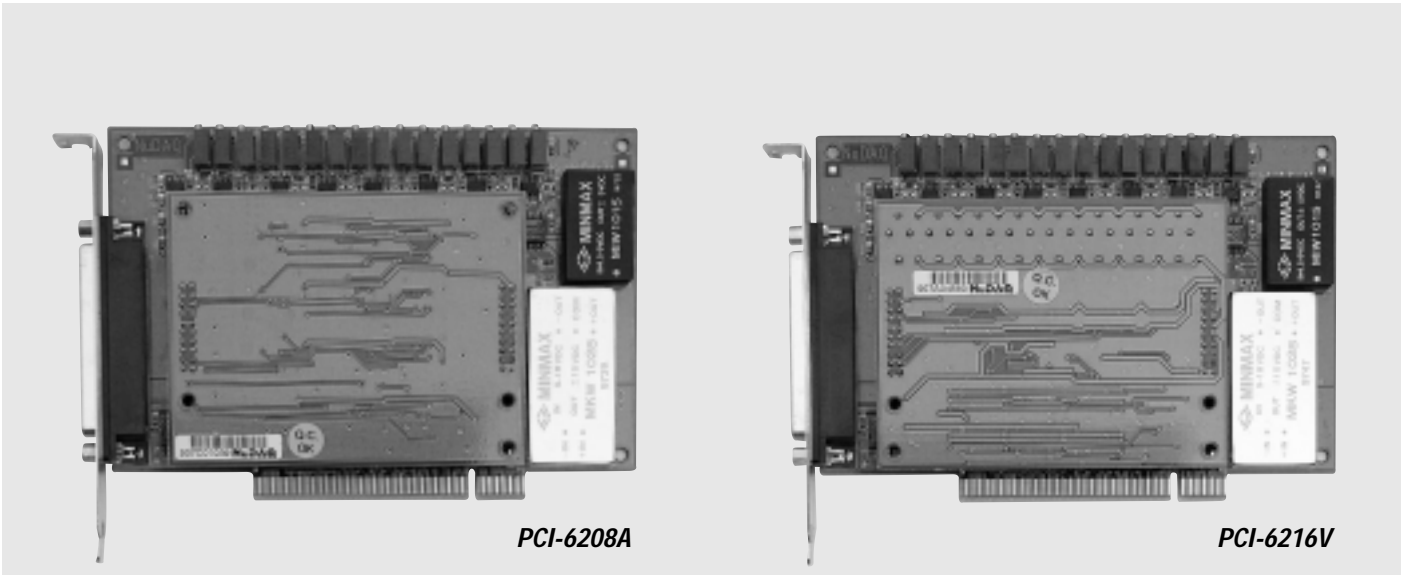
- Number of channels: 8 channels
- Output ranges: Programmable  
0-20mA, 4-20mA, 5-25mA
- Converter
  - Digital to voltage: PCM56U or equivalent
  - Voltage to current: XTR110
- Settling time: 17  $\mu$  sec
- Slew rate: 1.3 mA/ $\mu$ s
- Non-linearity:  $\pm 0.01\%$  of span
- Span error: initial 0.3% of span
- Output resistance: 10  $\Omega$  max.
- Current load resistance: 0 ~ 500 $\Omega$

#### General Purpose Digital I/O

- Number of channels: 4DI/4DO
- Signal characteristic: TTL General

#### General Specifications

- I/O connectors: 37-pin D-sub
- Operating temperature:  $0^\circ \sim 50^\circ C$
- Storage temperature:  $-20^\circ \sim 80^\circ C$
- Humidity: 5 ~ 95%, non-condensing



PCI-6208A

PCI-6216V

■ Power requirement

**PCI-6208V**

- +5V@580 mA typical
- +12V@90 mA typical

**PCI-6216V**

- +5V@1.20 A typical
- +12V@300 mA typical

**PCI-6208A**

- +5V@600 mA typical
- +12V@380 mA typical (with current 20 mA for 8 channels)

- PCB Dimension: Compact and half-size  
172 mm x 105 mm

**Pin Assignments for DB-37 Connector of the PCI-6208/16**

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

**Termination Boards**

- ACLD-9188    • ACLD-9137
- DIN-37D

**Ordering Information**

**PCI-6208V**

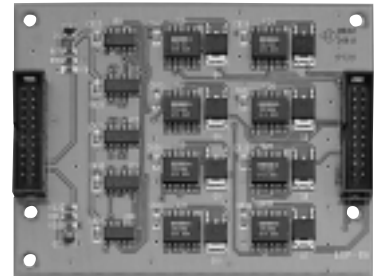
8-CH Voltage Output Card

**PCI-6216V**

16-CH Voltage Output Card

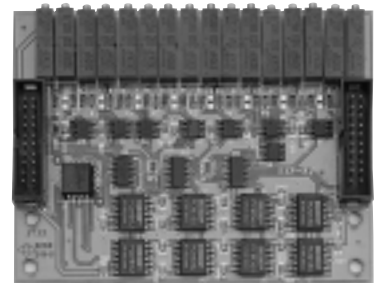
**PCI-6208A**

8-CH Voltage and Current Output Card



EXP-8A

8 precision voltage-to-current converters / transmitters



EXP-8V

extra 8 voltage output channels