

## ISA Multi-Function Board

# A-812PG

## 16-channel 12-bit 62.5KS/s Multi-Function board



### Functional Description

The A-812PG is a 12-bit multifunction analog and digital I/O board for the PC/AT compatible computer. The A-812PG offers 16-channel single-ended analog input and plus 2-channel analog output with 12-bit resolution. In addition, the A-812PG has 16-channel digital input, 16-channel digital output, and one timer/counter channel. The max. sampling rate of A-812PG is 62.5K samples/s. It is completely compatible to PCL-812PG.

### Applications

- Laboratory automation
- Sensor interface

### Specifications

#### Analog Input

- Number of channels: 16 single-ended
- Resolution: 12-bit
- ADC conversion rate: 62.5KS/s max
- Input impedance:  $10,000M\Omega // 6pF$
- Over voltage protection:  $\pm 35V$
- Accuracy: 0.01% of reading,  $\pm 1$  bit
- Linearity:  $\pm 1$  bit
- On chip sample & hold
- Zero drift :  $\pm 25ppm/^{\circ}C$  of FS max
- Input Range :  
 $\pm 10V, \pm 5V, \pm 2.5V, \pm 1.25V, \pm 0.625V, \pm 0.3125V$

#### Analog Output

- Number of channels: 2 independent
- Type: 12-bit double-buffered (AD-7541)
- Linearity:  $\pm 1/2$  bit
- Output range: 0~5V, 0~10V, 0~Ext Ref
- External reference: +10V or -10V max
- Output driving:  $\pm 5$  mA
- Settling time: 0.6  $\mu$  s to 0.01% for full scale step

### Features

- 12-bit A/D converter
- 62.5KS/s sampling rate(Max.)
- 16 single-ended analog inputs
- Software programmable gain: 1,2,4,8,16
- Bipolar analog input
- A/D Trigger modes : Software trigger, Pacer trigger, external trigger
- A/D data transfer modes : polling, interrupt DMA
- 16 digital inputs & 16 digital outputs
- Bipolar analog input
- Two 12-bit D/A voltage output
- One general purpose programmable timer/ counter

### Digital I/O

- 16 TTL-level input
- Input low  $V_{IL} = 0.8 V_{max}$  ;  $I_{IL} = -0.4$  mA max
- Input high  $V_{IH} = 2.0 V_{min}$  ;  $I_{IH} = 20 \mu$  A max
- 16 TTL-level output
- Output low  $V_{OL} = 0.5 V_{max}$ ; @ $I_{OL} = 8$  mA max
- Output high  $V_{OH} = 2.7 V_{min}$ ; @ $I_{OH} = 0.4$  mA max

### Timer/Counter

- Number of channels: 1
- Resolution: 16-bit
- Compatibility: 5V/TTL
- Internal clock: 2MHz
- External clock: up to 10 MHz
- A/D pacer: cascaded 32-bit counter
- Programmable internal timer: 0.0047Hz~0.5MNz

### General Specifications

- I/O connector: five 20-pin ribbon male
- Power requirements: +5V @ 500 mA typical
- Operating temperature: 0 ~ 60°C
- Operating humidity: 0 ~ 90% non-condensing
- Storage temperature: -20 ~ 70°C
- Dimensions: 163 mm x 124 mm

### Ordering Information

#### Standard

**A-812PG:** 16-channel 12-bit 62.5 KS/s multi-function board

#### Optional

- DB-8025:** General screw terminal board
- DB-8125:** General screw terminal board
- DB-16P:** 16-channel isolated digital input board
- DB-16R:** 16-channel SPDT relay board
- DN-20:** DIN-rail mounting terminal board
- ADP-20:** 20-pin extender