

# PCL-812PG

**30 kS/s, 12-bit, 16-ch ISA  
Multifunction Card**



## Features

- 16-ch single-ended analog input
- 12-bit A/D converter, with up to 30 kHz sampling rate
- Programmable gain
- Two 12-bit analog output channels
- 16-ch digital input and 16-ch digital output
- Onboard programmable counter
- A/D with DMA or interrupt

## Introduction

PCL-812PG is a multifunction analog and digital I/O card that features the five most desired measurement and control functions for PC/AT and compatible systems: A/D conversion, D/A conversion, digital input, digital output and counter/timer. This half-size card neatly packages 16 12-bit analog input channels, two 12-bit analog output channels, 16 digital input channels, 16 digital output channels and a programmable counter/timer.

In addition to all the features listed above, PCL-812PG offers the convenience of programmable analog input ranges, where the analog input range can be switched by software commands instead of DIP switches. PCL-812PG also delivers convenience and maximum resolution for applications that need different gains for different channels or different gains for different stages of a process. Comprehensive software support, numerous I/O options and a wide range of available daughterboards make the PCL-812PG ideal for industrial applications that require a combination of analog and digital I/O.

## Specifications

### Analog Input

- **Channels** 16 single-ended
- **Resolution** 12 bits
- **Max. Sampling Rate** 30 kS/s
- **FIFO Size** 0
- **Overvoltage Protection** 30 Vp-p
- **Input Impedance** >10 M $\Omega$
- **Sampling Modes** Software, pacer or external trigger
- **Input Range** (V, software programmable)  
 $\pm 10$ ,  $\pm 5$ ,  $\pm 2.5$ ,  $\pm 1.25$ ,  $\pm 0.625$ ,  $\pm 0.3125$
- **Accuracy** 0.4% of reading  $\pm 1$  LSB

### Analog Output

- **Channels** 2 double-buffered
- **Resolution** 12 bits
- **Output Rate** Software polling
- **Output Range** (V, software programmable)

<b>Internal Reference</b>	<b>Unipolar</b>	0 ~ 5, 0 ~ 10
<b>External Reference</b>		$\pm 10$ max.

- **Driving Capability** 5 mA

### Digital Input

- **Channels** 16
- **Compatibility** 5 V/TTL
- **Input Voltage** Logic 0: 0.8 V  
Logic 1: 2.0 V

### Digital Output

- **Channels** 16
- **Compatibility** 5 V/TTL
- **Output Voltage** Logic 0: 0.5 V max., Logic 1: 2.4 V min.
- **Output Capacity** Sink: 8.0 mA, Source: 0.4 mA

### Counter/Timer

- **Channels** 1
- **Resolution** 16 bits
- **Compatibility** 5 V/TTL
- **Max. Input Frequency** 500 kHz
- **Reference Clock** Internal: 2 MHz  
External Frequency: 10 MHz  
External Voltage Range: 5V/TTL

### General

- **Bus Type** ISA
- **I/O Connectors** 5 x 20-pin box header
- **Dimensions (L x H)** 185 x 100 mm (7.3" x 3.9")
- **Power Consumption** 5 V @ 500 mA typical, 1.0 A max.  
12 V @ 50 mA typical, 100 mA max.
- **Operating Temperature** 0 ~ 50° C (32 ~ 122° F)
- **Storage Temperature** -20 ~ 65° C (-4 ~ 149° F)
- **Storage Humidity** 5 ~ 95% RH, non-condensing (refer to IEC 68-2-3)

## Ordering Information

- **PCL-812PG** 30 kS/s, 12-bit, 16-ch ISA Multifunction Card
- **PCL-10120-1** 20-pin Flat Cable, 1 m
- **PCL-10120-2** 20-pin Flat Cable, 2 m
- **PCLD-780** Screw Terminal Board w/ Two 20-pin Flat Cables

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