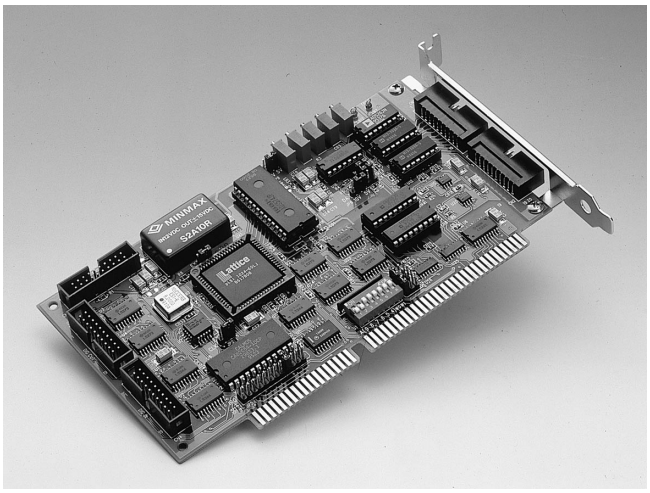
PCL-812PG

MultiLab Analog and Digital I/O Card



Features

- 16 single-ended 12-bit analog input channels
- Two 12-bit analog output channels
- Programmable sampling rate of up to 30 KHz
- A/D with DMA or interrupt
- 16 digital input channels
- 16 digital output channels
- Programmable counter/timer
- Programmable A/D ranges (gains)
- Includes C/C++, Pascal and BASIC drivers as well as calibration, demo and example programs
- Comprehensive application software support

CE

Introduction

The 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, the 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. The 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
- **A/D Converter** 12-bit, 25 µs conversion time
- **Input Range (V, software programmable)** ±10, ±5, ±2.5, ±1.25, ±0.625, ±0.3125
- **Trigger Mode** software, pacer or external trigger
- **Data Transfer** program controlled, interrupt 2 ~ 7, 9 ~ 12, 14, 15 or DMA (Channel 1 or 3) for single channel scan
- **Accuracy** 0.01% of reading ±1 LSB
- **Common Mode Rejection** 60 dB typical
- **Input Impedance** >10 MΩ
- **Overvoltage** continuous ±30 V_{DC} max.

Analog Output

- **Channels** two double-buffered 12-bit channels
- **D/A Range (in V)** 0 ~ 5, 0 ~ 10 w/internal reference; ±10 V max. with external AC or DC reference (accuracy for output above ±9 V may vary depending on power supply used)
- **Settling Time** 30 µsec.
- **Throughput** 30 KS/s max.
- **Output Current** ±5 mA max.
- **Linearity** ±½ bit

Digital Input

- **Channels** 16, TTL level

Digital Output

- **Channels** 16, TTL compatible
- **Driving Capacity** 8.0 mA @ 0.5 V (sink); 0.4 mA @ 2.4 V (source)

A/D pacer and counter (8254 compatible)

- **A/D Pacer** 32-bit timer with a 20 MHz time base
- **Max. and Min. Rates** 500 kHz ~ 0.00046 Hz (one sample every 36 minutes)
- **Counter** one 16-bit counter with a 2 MHz time base

General

- **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)
- **Operating Humidity** 5% ~ 95% RH non-condensing (refer to IEC 68-2-3)
- **I/O Ports** 16 consecutive bytes
- **Connectors** two 20-pin flat cable connectors
- **Dimensions** 185 mm (L) x 100 mm (H) (7.3" x 3.9")

Ordering Information

- **PCL-812PG** MultiLab Analog and Digital I/O Card, user's manual and driver CD-ROM. (cable not included)
- **PCL-10120-1** 20-pin flat cable, 1m
- **PCL-10120-2** 20-pin flat cable, 2m
- **PCLS-OCX** ActiveX Control for data acquisition and control
- **PCLD-780** Screw terminal board
- **PCLD-8115** Industrial wiring terminal board with CJC circuit