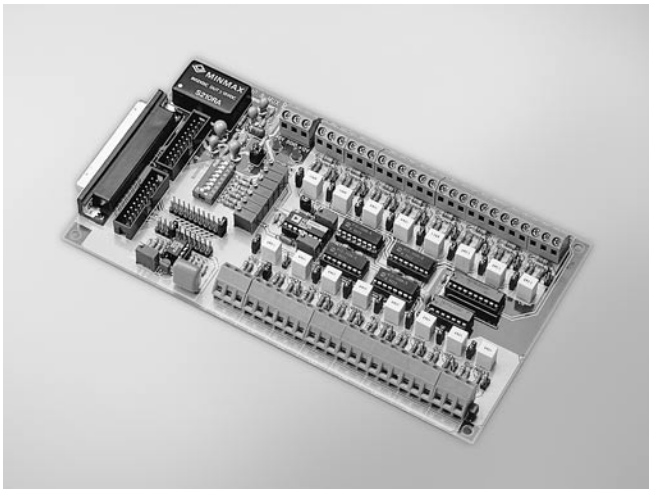
PCLD-789D

Amplifier and Multiplexer Board



Features

- Multiplexes 16 differential inputs to one A/D input
- Expands a PC-LabCard™ product's analog inputs to 128 channels
- High-grade instrumentation amplifier provides switch selectable gains of 1, 2, 10, 50, 100, 200, 1,000
- Onboard cold-junction compensation circuits for direct thermocouple measurement
- Built-in signal conditioning functions include filter, attenuator and current shunt
- Second connectors onboard allow daisy chaining
- Screw-clamp terminal blocks permit easy and reliable connections

Introduction

PCLD-789D is a front-end signal conditioning and channel multiplexing daughterboard for use with PC-LabCard™ product's analog input ports. It multiplexes 16 differential input channels into a single A/D converter input channel. You can cascade up to ten PCLD-789Ds, allowing a single data acquisition card to access 160 analog input channels.

PCLD-789D has DB37 and 20-pin flat cable connectors and lets your PCL-818L or PCL-818HD access up to 128 channels without using an additional digital output cable to select channels. The PCLD-789D uses a high-grade instrumentation amplifier that provides switch-selectable gains of 1, 2, 10, 50, 100, 200 and 1,000. This amplifier lets you accurately measure low-level signals with your PC-LabCard™ product. The board also contains a cold-junction sensing circuit that allows direct temperature measurement from thermocouple transducers. A wide variety of thermocouples are supported with software compensation and linearization.

Specifications

I/O

- **Cold-junction Compensation** +24.4 mV/° C, 0 V at 0° C
- **Input Channels** 16 differential
- **Input Conditions**

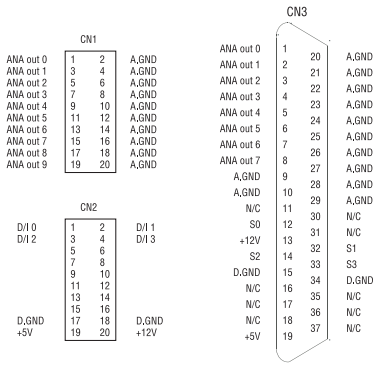
Gains	CMRR	Nonlinearity	Setting Time
1,000	125 dB	0.005% FSR	75 µsec.
100	115 dB	0.005% FSR	15 µsec.
10	105 dB	0.007% FSR	15 µsec.
1	85 dB	0.015% FSR	15 µsec.

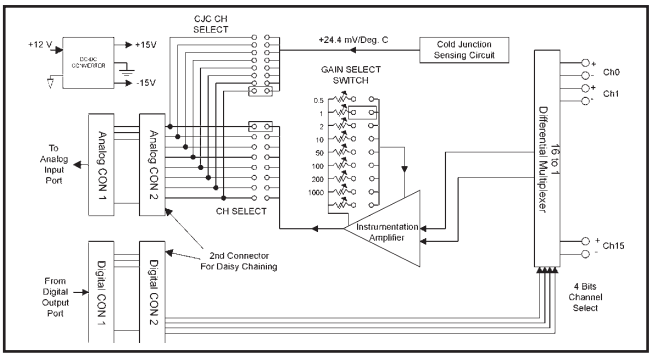
- **Input Range** ±10 V max. depending on the selected gain
- **Output Range** ±10 V max.
- **Overvoltage Protection** ±30 V continuous

General

- **Certifications** CE
- **Connectors**
  Controller: 1 x DB37 male connector
  2 x 20-pin box header for daisy chaining
  I/O: Screw terminals
- **Dimensions (L x W)** 205 x 114 mm (8.1" x 4.5")
- **Mounting** 4 x screw holes for flat surface mounting
- **Power Consumption** +5 V @ 30 mA max, +12 V @ 80 mA max.

Pin Assignments





Block Diagram

Ordering Information

- **PCLD-789D** Amplifier and Multiplexer Board w/ 1m DB37 Cable
- **PCL-10137-1** DB37 Cable, 1 m
- **PCL-10137-2** DB37 Cable, 2 m
- **PCL-10137-3** DB37 Cable, 3 m
- **PCL-10120-1** 20-pin Flat Cable, 1 m
- **PCL-10120-2** 20-pin Flat Cable, 2 m