

Introduction

The PCLD-881 is an universal screw terminal board designed for field signal wiring in industrial applications. It can be connected to the analog and digital ports of various PC-LABCards via shielded cable and DB-37 connector.

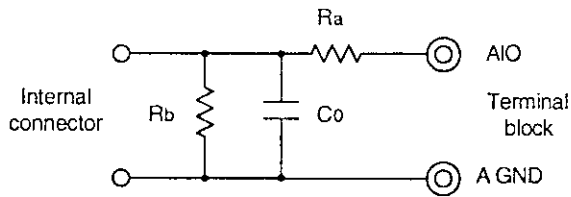
Due to the PCLD-881's special PCB layout you can install passive components to construct your own signal-conditioning circuits. You can easily construct a low-pass filter, attenuator or current-to-voltage converter by adding resistors and capacitors onto the board's circuit pads.

Features

- Low-cost universal screw-terminal board for PC-LabCards with 20-pin connectors
- 40 terminal points for one DB-37 port
- Reserved space for signal-conditioning circuits such as low-pass filter, current shunt and voltage attenuator
- Industrial type termination blocks permit heavy-duty and reliable connections of signals
- Table-top mounting using nylon standoffs. Screws and washers provided for panel or wall mounting
- Dimensions: 8.7" (L) x 4.53" (W) (221 mm x 115 mm)

Applications

- Field wiring for analog and digital I/O channels of PC-LabCards which employ standard or DB-37 connectors
- Signal-conditioning circuits can be implemented as illustrated in the following examples:



a) Straight-through connection (factory setting):

- $R_a = 0 \Omega$ jumper
- $R_b = \text{none}$ (open)
- $C_0 = \text{none}$ (open)

b) 1.6 KHz (3 dB) low pass filter:

- $R_a = 10 \text{ K}\Omega$
- $R_b = \text{none}$
- $C_0 = 0.01 \mu\text{F}$

$$f_{3 \text{ dB}} = \frac{1}{2\pi R_a C_0}$$

c) 10:1 voltage attenuator:

- $R_a = 9 \text{ K}\Omega$
- $R_b = 1 \text{ K}\Omega$
- $C_0 = \text{none}$

$$\text{Attenuation} = \frac{R_b}{R_a + R_b}$$

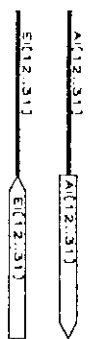
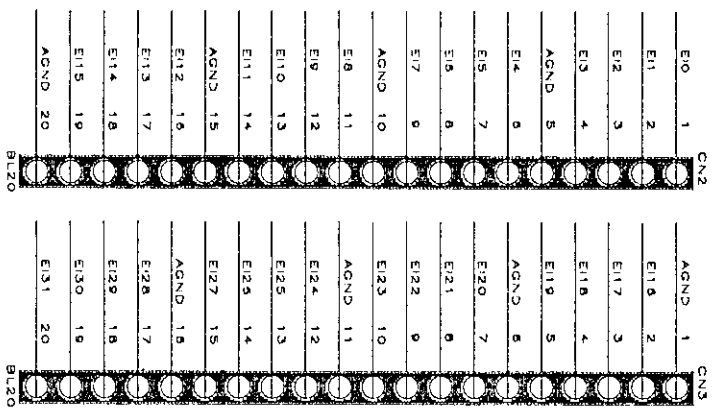
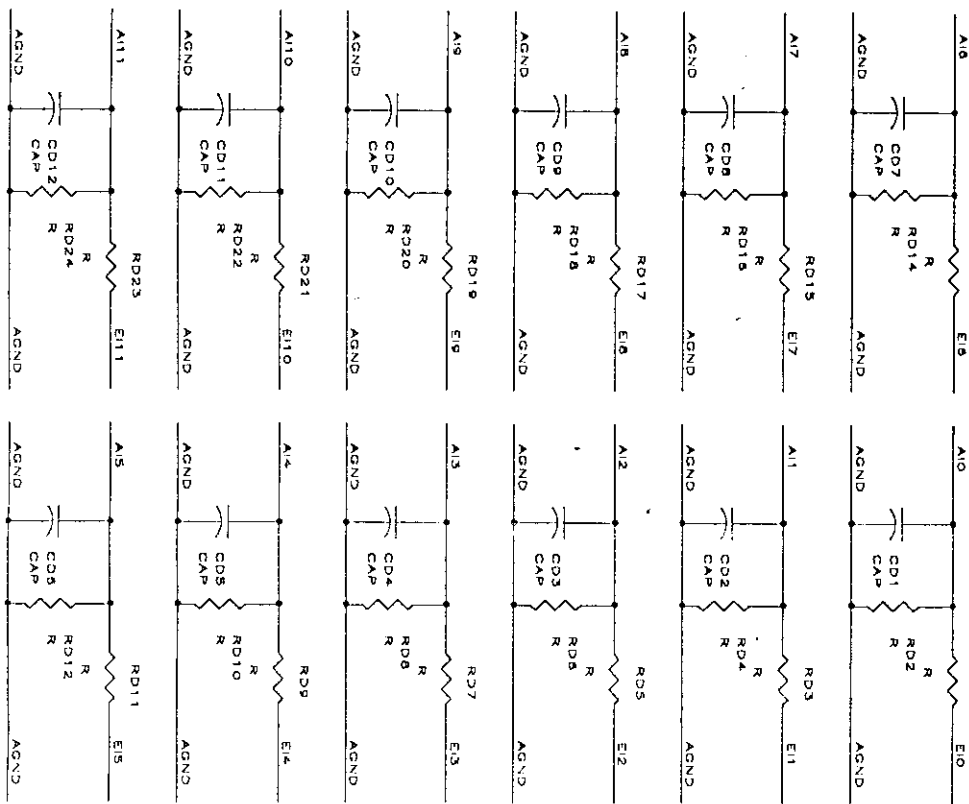
(Assume source impedance $\ll 10 \text{ K}\Omega$)

d) 4-20 mA to 1-5 V_{DC} signal converter:

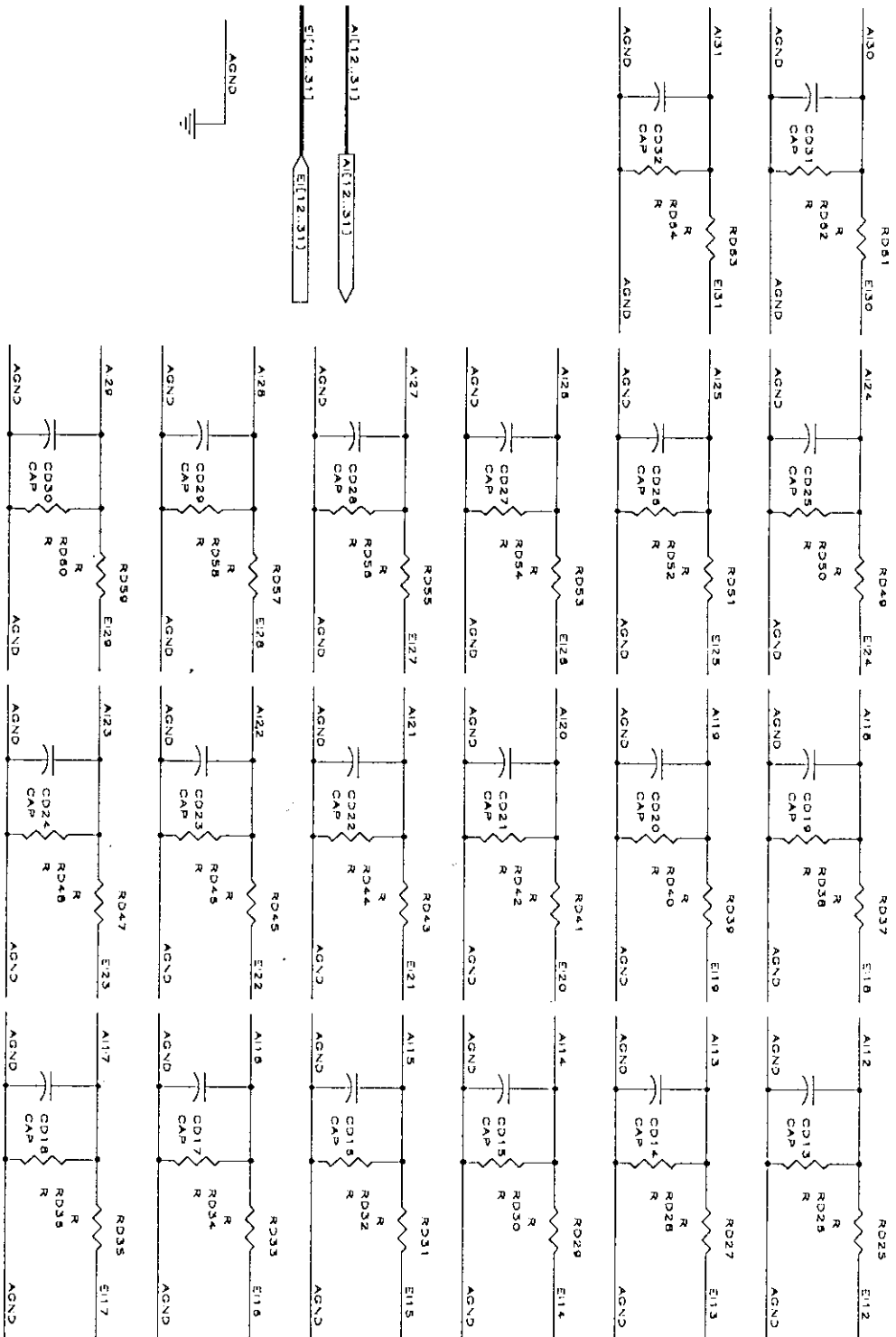
- $R_a = 0 \Omega$ jumper
- $R_b = 250 \Omega$ (0.1% precision resistor)
- $C_0 = \text{none}$

0	20	A10
1	A11	
2	A12	
3	A13	
4	A14	
5	A15	
6	A16	
7	A17	
8	A18	
9	A19	
10	AGND	
11	AGND	
12	AGND	
13	AGND	
14	AGND	
15	AGND	
16	AGND	
17	AGND	
18	AGND	
19	AGND	

CONNECTOR DB37



PCLD-881 Circuit Diagram



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