APPENDIX B

INDUSTRIAL TERMINATION BOARD

Introduction

The PCLD-881 is an universal screw terminal board designed for feild 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.

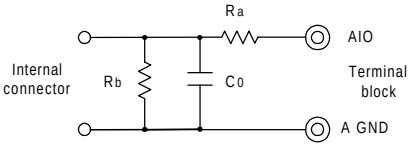
Due to the PCLD-881's special PCB layout you can install passive components to construct your own signal-conditioning circuits. You can easily construct a low-pass filter, attenuator or current-to-voltage converter by adding resistors and capacitors onto the board's circuit pads.

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 W jumper
R_b = none (open)
C_0 = none(open)

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

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

R_a = 10 KW
R_b = none
C_o = 0.01 mF

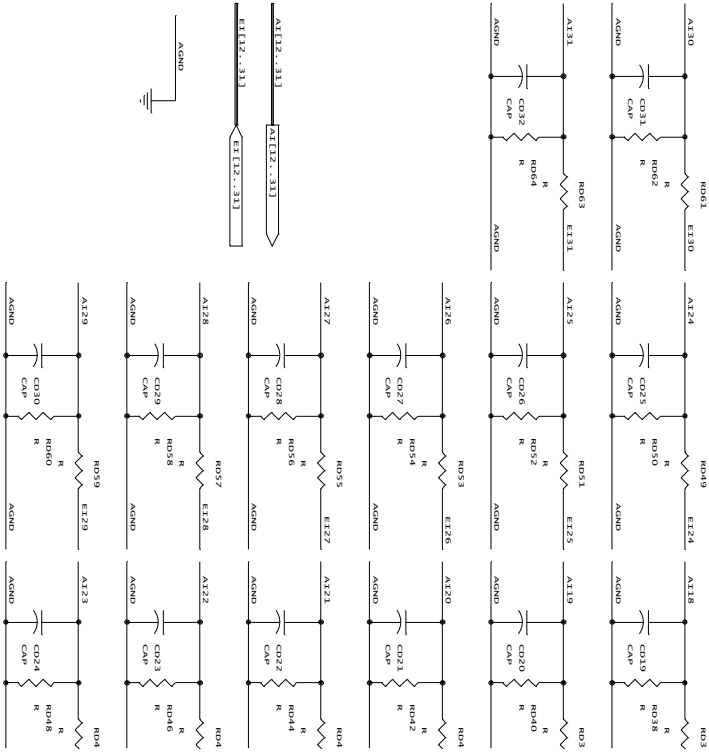
c) 10:1 voltage attenuator:

$$\text{Attenuation} = \frac{Rb}{Ra + Rb}$$

R_a = 9 KW
R_b = 1 KW
C_0 = none
(Assume source impedance $\ll$ 10 KW)

d) 4-20 mA to 1-5 V_{DC} signal converter:
Ra = 0 W jumper
R_b = 250 W (0.1% precision resistor)
C_0 = none

PCLD-881 Circuit Diagram



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