

**PCLD-8712**

*User's manual*

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# Introduction

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The PCLD-8712 Screw-terminal Board provides convenient and reliable signal wiring for the PCI-1712/1732 of which has a 68-pin SCSI-II connector. Due to its special PCB layout you can install passive components to construct your own signal-conditioning circuits. The user can easily construct a low-pass filter, attenuator or current shunt converter by adding resistors and capacitors on board's circuit pads.

# Features

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- Low-cost screw-terminal board for the PCI-1712/1732 with 68-pin SCSI-II connector.
- Reserved space for signal-conditioning circuits such as low-pass filter, voltage attenuator and current shunt.
- Industrial-grade screw-clamp terminal blocks for heavy-duty and reliable connections.
- DIN-rail mounting case for easy mounting.
- Dimensions: 169 mm (W) x 112mm (L) x 51mm (H) (6.7" x 4.4" x 2.0")



## Board Layout

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**CN1:** 68-pin SCSI-II connector for connection with the PCI-1712

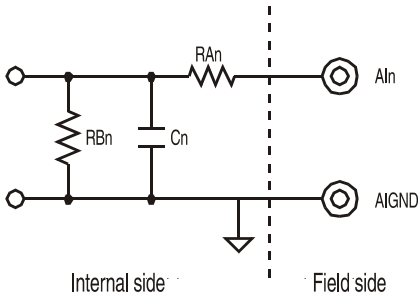
**CN2:** 20-pin connector for digital I/O

## Pin Assignment

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CN			
DIO 0	1	2	DIO 1
DIO 2	3	4	DIO 3
DIO 4	5	6	DIO 5
DIO 6	7	8	DIO 7
DIO 8	9	10	DIO 9
DIO 10	11	12	DIO 11
DIO 12	13	14	DIO 13
DIO 14	15	16	DIO 15
DGND	17	18	DGND
+5 V	19	20	+12 V

# Single-ended Connections



where  $n=0, 1, 2, \dots, 15$

- a) Straight-through connection (factory setting)

$R_{An} = 0 \Omega$  (short)

$R_{Bn} = \text{none}$

$C_n = \text{none}$

- b) 1.6 kHz (3dB) low pass filter

$R_{An} = 10 \text{ k} \Omega$

$P_{Bv} = \text{vov}\epsilon$

$X_v = 0.01 \propto \Phi$

$\phi_{3\text{dB}} =$

- c) 10 : 1 voltage attenuator:

$R_{An} = 9 \text{ k} \Omega$

$P_{Bv} = 1 \text{ k} \Omega$

$X_v = \text{vov}\epsilon$

$\text{Αττενυατιον} =$

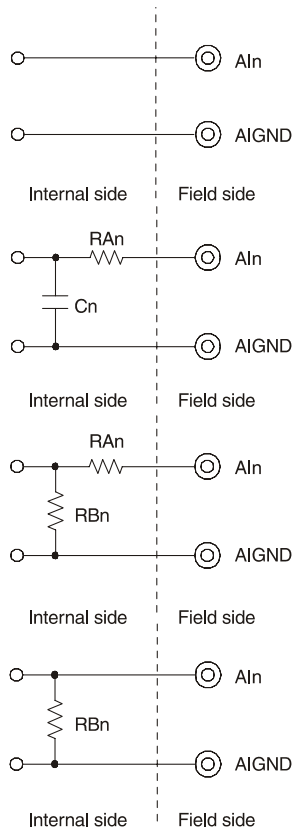
- d) 4 ~ 20 mA to  $1 \frac{R_{Bn}}{R_{An}} \frac{5 \text{V}_{DC}}{DC}$  signal

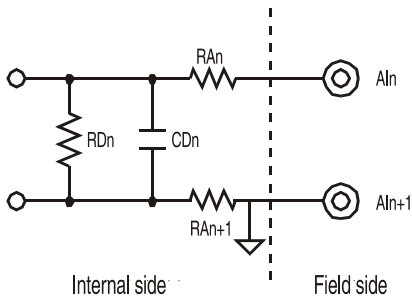
converter:

$R_{An} = 0 \Omega$  (short)

$R_{Bn} = 250 \Omega$  (0.1% precision resistor)

$C_n = \text{none}$





where  $n = 0, 2, 4, \dots, 14$

## Differential Connections

- a) Straight-through connection (factory setting):

$$R_{An} = 0 \Omega \text{ (short)}$$

$$R_{An+1} = 0 \Omega \text{ (short)}$$

$$R_{Dn} = \text{none}$$

$$C_{Dn} = \text{none}$$

- b) 1.6 kHz (3dB) low pass filter

$$R_{An} = \underline{5 \text{ k}\Omega}$$

$$R_{An+1} = 5 \text{ k}\Omega$$

$$R_{Dn} = \text{none}$$

$$C_{Dn} = 0.01 \mu\text{F}$$

$$f_{3\text{dB}} =$$

- c) 10 : 1 voltage attenuator:

$$R_{An} = 4.5 \text{ k}\Omega \frac{R_{Dn}}{R_{An} + R_{An+1} + R_{Dn}}$$

$$R_{An+1} = 4.5 \text{ k}\Omega$$

$$R_{Dn} = 1 \text{ k}\Omega$$

$$C_n = \text{none}$$

$$\text{Attenuation} =$$

- d) 4 ~ 20 mA to 1 ~ 5 V<sub>DC</sub> signal

converter:

