PCLD-8712

User's manual

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Introduction

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

- 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.
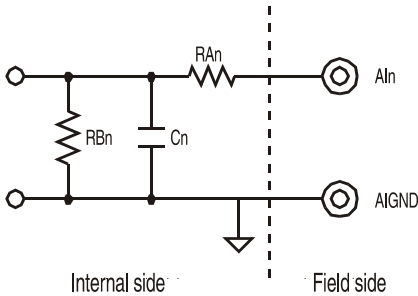- Dimensions:169 mm (W) x 112mm (L) x 51mm (H) (6.7" x 4.4" x 2.0")

Board Layout

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

CN2: 20-pin connector for digital I/O

Pin Assignment

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

Internal side | Field side

where n =0, 1, 2,.....15

a) Straight-through connection (factory setting)
  RAn = 0 Ω (short)
  RBn = none
  Cn = none

b) 1.6 kHz (3dB) low pass filter
  RAn = 10 k Ω
  PBν = νονε
  Xν = 0.01 ∝Φ
  ϕ_{3dB} =

c) 10 : 1 voltage attenuator:
  RAn = 9 k Ω
  PBν = 1 κ Ω
  Xν = νονε
  Αττενυατιον =

d) 4 ~ 20 mA to 1 ~ 5 V $_{DC}$ signal converter:
  RAn = 0 Ω (short)
  RBn = 250 Ω (0.1% precision resistor)
  Cn = none

AIn

RAn

RDn   CDn

AIn+1

RAn+1

where n = 0, 2, 4,.....14

Internal side   Field side
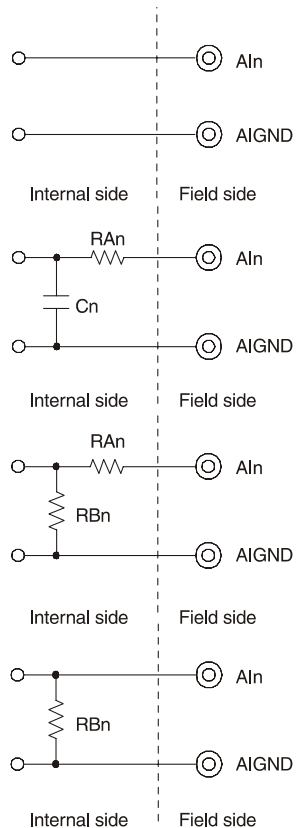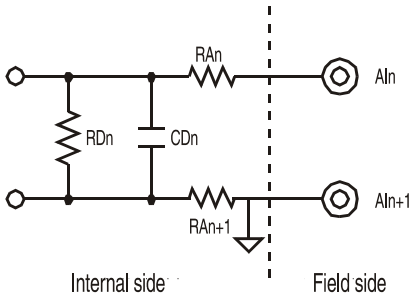
Differential Connections

a) Straight-through connection (factory setting):

RAn = 0 Ω (short)

RAn+1 = 0 Ω (short)

RDn = none

CDn = none

b) 1.6 kHz (3dB) low pass filter

$RAn = 5\ k\Omega \dfrac{1}{\quad\quad\quad}$

RAn+1 = 5 kΩ

RDn = none

CDn = 0.01 μF

f3dB =

c) 10 : 1 voltage attenuator:

$RAn = 4.5\ k\ \Omega \dfrac{RDn}{RAn+RAn+1+RDn}$

RAn+1 = 4.5 kΩ

RDn = 1 kΩ

Cn = none

Attenuation =

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

AIn

AIn+1

Internal side   Field side

RAn

CDn

RAn+1

AIn

AIn+1

Internal side   Field side

RAn

RDn

RAn+1

AIn

AIn+1

Internal side   Field side

RDn

AIn

AIn+1

AIGND

Internal side   Field side