

PCLD-8811

Low-Pass Active Filter Board

Packing List

Before installation, please make sure that you have:

- 1 x Filter Board
- 2 x Screws
- 1 x Pair of Tweezers

If anything is missing or damaged, contact your distributor or sales representative immediately.

Features

- The low-pass active filter has the flattest frequency response as possible in the passband
- 8 set of low-pass Frequencies form 10Hz up to 40KHz
- 2 single-ended or 1 differential AI inputs
- Offset and gain calibration

General Specifications

General

- Connectors 2 x 5 pin male Connectors
- Dimensions 80 x 56 mm
- Filter Type Active Filter - Butterworth
- Offset Error ± 1 LSB (LSB resolution refer to taken DAQ spec.)
- Gain Error ± 1 LSB (LSB resolution refer to taken DAQ spec.)
- Filter Frequency -3dB,10Hz, 50Hz,100Hz, 500Hz, 1KHz, 5KHz, 10KHz,40KHz
- Max. Input Voltage ± 10 V
- Input Impedance $1G \Omega / 2pF$
- Operating Temp. $0 \sim 60^{\circ}C$ ($32 \sim 140^{\circ}F$)
- Storage Temp $-20 \sim 70^{\circ}C$ ($-4 \sim 158^{\circ}F$)

Notes

For more information on this and other Advantech products, please visit our websites at:

<http://www.advantech.com>

For technical support and service:

<http://www.advantech.com/support/>

This startup manual is for PCL-8811.

Part No: 2003881100

1st Edition

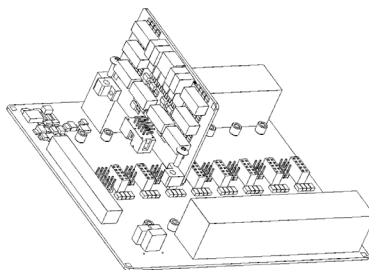
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Getting Started

Before you can use the PCLD-8811, you must enable filter function on PCLD-8810 (please refer to PCLD-8810 Startup manual) and you can refer to the below table to set up the cut-off frequency.

Description	AI0, AI2, AI4... AI14	AI1, AI3, AI5... AI15
Input Mode Switch	SW1 ON : Single-Ended Mode	SW1 OFF : Differential Mode
Offset Calibration	VR1	VR2
Gain Calibration	VR3	VR4
Filter -3dB @40KHz		
Filter -3dB @100KHz		
Filter -3dB @50KHz		
Filter -3dB @1KHz		
Filter -3dB @500Hz		
Filter -3dB @100Hz		
Filter -3dB @50Hz		
Filter -3dB @10Hz		

Diagram



1. Plug the PCLD-8811 onto the PCLD-8810
2. Screw the pillars to the cylinders.

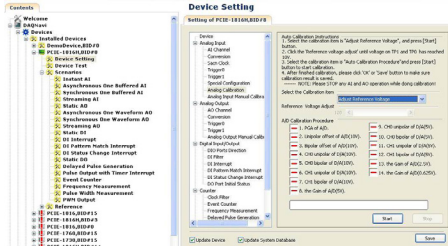
Note: Ensure that the pillar is aligned to the cylinder.

Calibration Process

Before you can use PCLD-8811 to acquire data correctly, you must have offset and gain calibration.

Disconnect PCLD-8810 and open the DAQNav to view the Device as Figure 1.

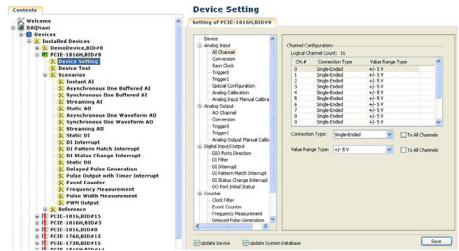
1. Select **Device Setting** and click **Analog Calibration**.
2. Click **Adjust Reference Voltage** first and then click **Auto Calibration Procedure** to finish auto calibration.



Gain Calibration

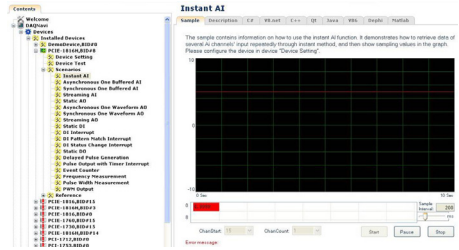
After offset calibration finished, please execute gain calibration as follow:

1. Click **Device Setting** and Setting **Connect Type** and **Value Range Type** of **AI Channel**.



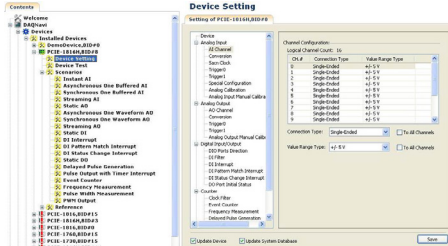
2. Input a 4.999V to AI15 and Adjust VR4 until the value approach to 4.999.

NOTE: please adjust VR3 if the channel number is Even. (e.g. 0,2,4, ...)



Offset Calibration

Connect PCIE-1816H to the PCLD-8810, and PCLD-8811 need to be installed onto which channel you want to calibrate AI 15 connect to AGND on PCLD-8810.



1. Click **Instant AI**.
2. Setting **ChanStart**=15 and **ChanCount**=1
3. Click **Start** to continuously acquire data of AI 15.
4. Adjust VR2 until the value approach to 0.000.

NOTE: please adjust VR1 if the channel number is Even. (e.g. 0,2,4, ...)