Advantech AE Technical Share Document

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Category	■ FAQ □ SOP	Related OS	NA
Abstract	Bi-directional Conduction Design on DI port of Advantech Digital Input Function		
Keyword	Bi-directional conduction, Digital input		
Related Product	PCI-1730, PCI-1730U, PCI-1733, PCI-1754, PCI-1756, PCI-1758UDI, PCI-1758UDIO, PCI-1761, PCI-1762, PCIE-1730, PCIE-1754, PCIE-1756		

■ **Problem Description:**

Among all Advantech DAQ DI cards some of the boards are designed to be bi-directional conducted so that give a variety of connection choices for users. This document will show what bi-directional conduction is and be designed in these products.

■ **Problem Analysis:**

Literally, bi-directional conduction can be understood as there are two ways in the DI ports. As a result, users can either make the current flow forward or reverse. That is, Vin in the below picture could be either positive connected to IDI or negative connected to IDI.
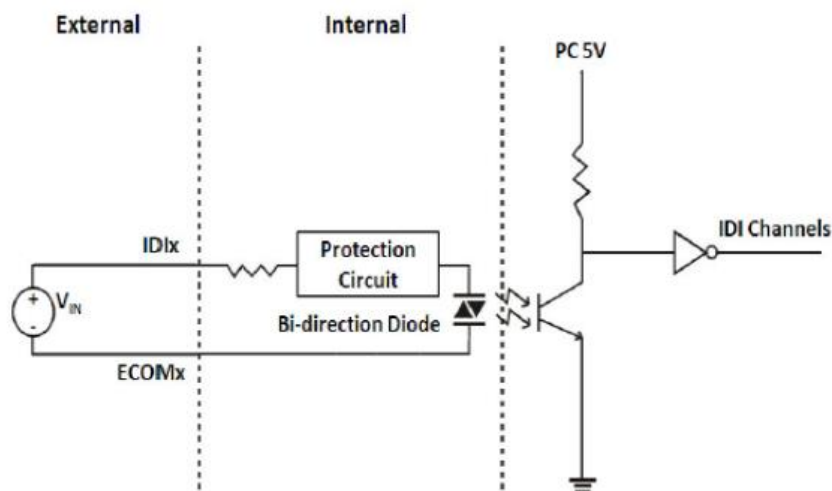
The previous picture describes the real circuit of a bi-directional conducted IDI.

The only thing to beware is that all of the channel related to this ECOM will have the same reaction so that the sensor type on these channels should be the same.

■ **Reference:**