

Digilent PmodDIN1™ Digital Input Module Board

Revision: 3/21/05



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Features

- a 6-pin header
- a 6-pin connector
- four digital-input channels
- eight protection diodes
- four Schmitt-trigger inverters
- four debouncing filters
- small form factor (0.80" x 0.80")

Functional Description

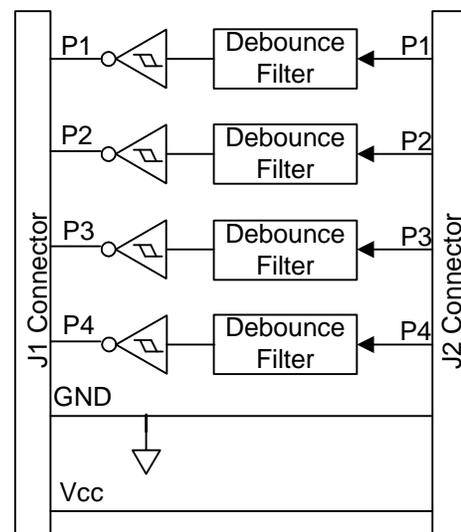
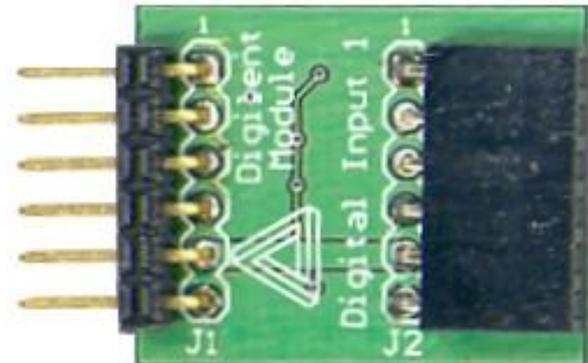
The Digilent PmodDIN1 Digital Input Module Board (the DIN1™) debounces digital input signals so they can be used directly by a Digilent system board. The DIN1 can receive signals from switches, sensor devices, or any other standard logic inputs.

The DIN1 eliminates errors caused by electrical contacts in switches making and breaking contact several times ("bouncing") before settling into position.

Each of the DIN1's four channels has an analog filter consisting of two resistors and a capacitor. The filters absorb and diffuse bounce signals before they can reach the threshold needed to activate the Schmitt-trigger inverters. The Schmitt-trigger inverters ensure signals transition quickly and cleanly between low and high logic levels.

The DIN1 has protection diodes that prevent damage to the inverters from overvoltage. Resistors protect the DIN1 from conflicting output voltages.

The DIN1 has a 6-pin header for easy connection to a Digilent system board. For example, some system boards like the Digilent Pegasus board have a 6-pin header that can connect to the DIN1 with a 6-pin cable. To connect the DIN1 to other Digilent system boards, a Digilent Modular Interface Board (MIB) and a 6-pin cable are needed.



DIN1 Circuit Diagram

The DIN1 can be powered by voltage from either a Digilent system board or an outside device. Damage can result if power is supplied from both sources or if the outside device supplies more than 3V.

For more information, see the reference manual at www.digilentinc.com.