PmodNIC100™ Reference Manual

Revision: February 7, 2012
Note: This document applies to REV A of the board.

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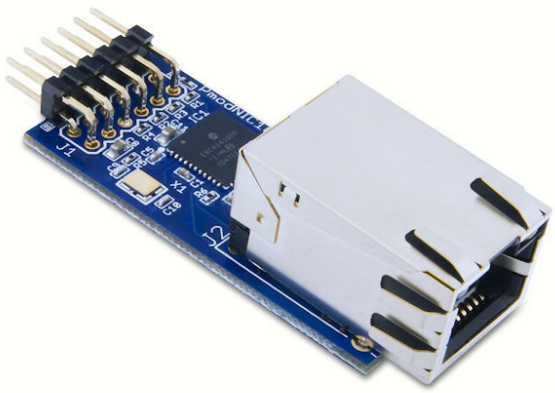
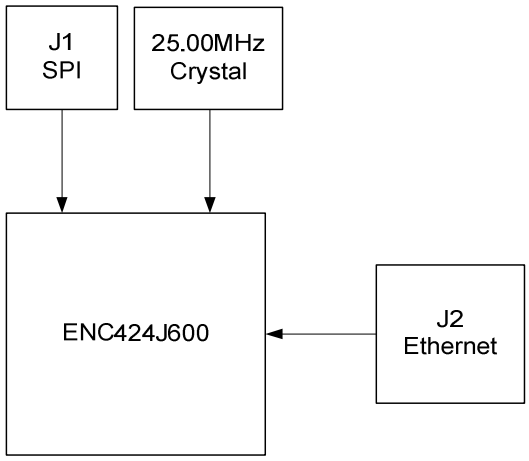
Overview

The PmodNIC100 is a peripheral module designed to provide a complete Ethernet interface. It features the Microchip® ENC424J600 Stand-Alone Ethernet Controller. The ENC424J600 provides integrated MAC and PHY support, so the PmodNIC100 can add Ethernet functionality to any Digilent system board.



Features include:

- standard SPI interface
- 10/100 Mb/s data rates
- IEEE 802.3 compatible Ethernet controller
- MAC support
- 10BASE-T support
- 100Base-TX support



PmodNIC100 Block Diagram

Functional Description

The communications interface between the PmodNIC100 and the host system board uses an SPI bus. The PmodNIC100 communicates in SPI mode 0 only, MSB first.

The INT/SPISEL pin is used by the ENC424J600 to select use of the SPI interface or a parallel interface. The INT/SPISEL pin must be high when the ENC424J600 leaves the power on reset state to enable the SPI interface. This happens within 1µs to 10µs of power on. Once completed, the INT/SPISEL pin functions as an active low interrupt signal, allowing a host to detect multiple interrupt conditions on the PmodNIC100.

For more information about the hardware connections, see the PmodNIC100 schematic at www.digilentinc.com.

The PmodNIC100 provides only the hardware for a network interface. Protocol stack software (such as TCP/IP) must be provided by the user. The Microchip Applications Library, available from the Microchip web site, provides full network stack support for the ENC424J600 Ethernet controller.

For more information about the ENC424J600 Ethernet Controller, see the data sheet at www.microchip.com.

Connector J1 – SPI Communications		
Pin	**Signal**	**Description**
1	SS	Slave Select
2	MOSI	Master out/Slave in Data
3	MISO	Master in/Slave out Data
4	SCK	Serial Clock
5	GND	Power Supply Ground
6	VCC	Power Supply (3.3V)
7	INT/SPISEL	SPI Enable/Interrupt Signal
8	NC	Not Connected
9	NC	Not Connected
10	NC	Not Connected
11	GND	Power Supply Ground
12	VCC	Power Supply (3.3V)
Connector J2 – Ethernet Interface		

Interface Connector Signal Description