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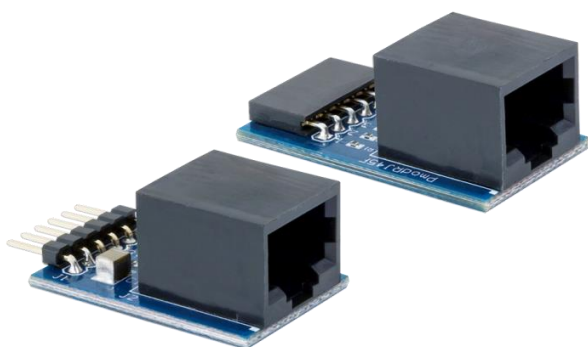
PmodRJ45™ Reference Manual

Revised May 26, 2016

This manual applies to the PmodRJ45 rev. A

Overview

The Digilent PmodRJ45 enables long distance connectivity between devices by providing users with a standard RJ45 (8P8C) port.



The PmodRJ45.

Features include:

- Standard RJ45 (8P8C) port
- Male and female connectors for host and peripheral connectivity
- Small PCB size for flexible designs 1.4" × 0.8" (3.6 cm × 2.0 cm)
- 6-pin Pmod connector with GPIO interface
- Follows [Digilent Pmod Interface Specification](#) Type 1

1 Functional Description

The PmodRJ45 utilizes the traces on RJ45 cables (Ethernet cables) to transmit signals through the cable to the other side. Although the cables are typically used for Ethernet, the data lines can also be used as general purpose inputs and/or outputs as they are essentially just wires. The benefit is to be able to use a widely used shielded cable that nicely contains and conceals all of the data and power wires.

2 Interfacing with the Pmod

The PmodRJ45 communicates with the host board via the GPIO protocol. Since there are four data wires available, other communication protocols such as UART, SPI, or I²C could also be sent through these wires as long as the RJ45 cable is not prohibitively long for the specific protocol to work correctly.

Pin	Signal	Description
1	7	Signal 7 of the RJ45 port
2	5	Signal 5 of the RJ45 port
3	3	Signal 3 of the RJ45 port
4	1	Signal 1 of the RJ45 port
5	GND	Power Supply Ground
6	VCC	Power Supply (3.3V/5V)

Table 1. Pinout description table.

Any external power applied to the PmodRJ45 must be within the limitations of the device receiving power on the other end of the Ethernet cable.

3 Physical Dimensions

The pins on the pin header are spaced 100 mil apart. The PCB is 1.375 inches long on the sides parallel to the pins on the pin header and 0.8 inches long on the sides perpendicular to the pin header.