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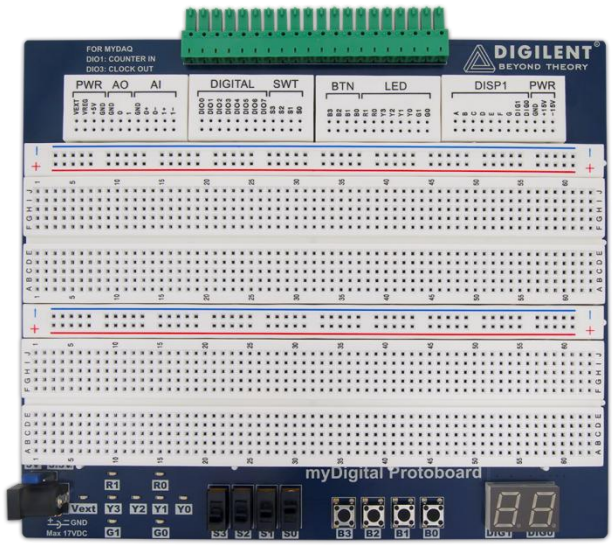
myDigital™ Board Reference Manual

Revised November 14, 2014
This manual applies to the myDigital rev. A

Overview

The Digilent myDigital accessory board for the NI myDAQ is designed to work in conjunction with myDAQ to provide students a cost-effective, portable, and engaging platform for teaching electronics. Along with NI Multisim, the myDigital and myDAQ provide everything needed to allow students to design, construct, and test basic analog and digital designs.



Digilent myDigital board.

- Power supply connector for stand-alone use.
- NI myDAQ miniSystem port connector.
- Breadboard area.
- Seven-segment LED displays.
- Buttons (momentary switches).
- Slide switches.
- Discrete LEDs.
- Onboard power regulator.

1 Using myDigital

NI myDAQ provides power (+5 VDC and ±15 VDC) along with eight configurable digital I/O pins, two analog inputs, and two analog outputs. All of these signals are available to the myDigital at the first two signal blocks at the top of the breadboard when plugged into the MSP connector. Refer to the *NI myDAQ User Guide and Specifications* for detailed specifications on these inputs/outputs. NI myDAQ includes software for using these inputs/outputs for signal generation and measurement, including a two-channel oscilloscope, voltmeter, function generator, digital pattern generator, and more. Separate banana jacks on myDAQ connect to the DMM and allow for accurate measurement of resistance, current, and voltage. All I/O on NI myDAQ is also programmable using LabVIEW™, making it easy to create custom instruments or student projects that incorporate graphical user interfaces.

2 Power Supply

The myDigital can be powered from the myDAQ or power can be brought onto the breadboard through the external power jack. The connector is a standard coaxial power connector (5.5 mm × 2.1 mm) commonly available on DC wall adapters (17 VDC max). An onboard regulator supplies fixed 3.3 or 5 VDC (jumper configurable) from this external power. Both the raw external power and the regulated power are available at the terminal block (Vext and Vreg).

3 Switches and Displays

3.1 Switches

Switches S0 through S3 are slide switches that provide +5 V (1) at the respective terminal block contacts when in the ON position and GND (0) when in the OFF position. Current limited with 200 Ω series resistor.

3.2 Buttons

Buttons B0 through B3 are push-button switches that provide +5 V (1) at the respective terminal block contacts when pushed and GND when released. Current limited with 200 Ω series resistor.

3.3 Discrete LEDs

Individual LED indicators arranged to create three configurations: two "traffic light" style patterns (R1, Y3, G1 and R0, Y1, G0), a horizontal series of a single color (Y3, Y2, Y1, Y0), and a "die" pattern (R1, Y3, G1, Y2, R0, Y1, G0). LEDs can be energized by connecting their terminal block contacts to +5 V (current limiting is built into the board).

3.4 Discrete LEDs

The myDigital has two standard seven-segment displays with direct access to each LED segment (A through G). Use DIG0 and DIG1 terminals to select which digit is enabled by connecting that signal to GND (0) (normally pulled-up or disabled). Connect DISP1 terminals (A through G) high (+5 V) to turn segment ON. Both displays can be used by rapidly alternating between digits.

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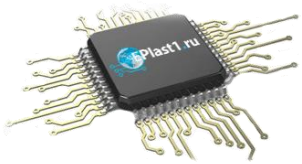

Как с нами связаться

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