

**DAQ-1278****48-CHANNEL ISOLATED PROGRAMMABLE DIGITAL I/O**

Features

Isolated Digital I/O:

48 channel galvanically isolated digital I/O:

- 24 inputs (+5V to +24V nominal range)
- 24 outputs (+5V to +30V switching range)

MOSFET outputs:

Two 2A current sinking high power MOSFET outputs (non-isolated)

Counter/timers:

- Three 8254 timer/counters
- Software selectable configuration
- 8MHz Clock frequency

Programmable I/O pin functions:

Optional I/O pin functions freely programmable in FPGA:

- Input masking and complex interrupt modes
- Counters up to 16-bits
- Up to 8 incremental encoder channels
- PWM outputs and drive for stepper motors

FlexiSet™ software:

FlexiSet™ software configurable non-volatile BASE address and IRQ configuration, IRQ sharing supported

Programmable FPGA:

FPGA programmable through ISA bus, in-circuit configuration



General Description

Galvanically isolated, the DAQ-1278 module is a highly integrated, freely programmable solution for many I/O control interface applications. Different functions can be allocated to the 48 I/O pins by reconfiguring the board control registers. This eliminates the need for different types of low functionality digital boards in a system.

A low-power high-density Xilinx FPGA chip contains all the complex logic needed to adapt the DAQ-1278 to different applications. I/O pins are fully programmable with alternate functions that can be allocated to the pins. These include counter timers, incremental encoders, input masking, output pattern triggering, and PWM control outputs. Two non-isolated power MOSFET outputs, capable of sinking up to 2A, can be used for driving power to PWM devices, relays or stepper motors.

The DAQ-1278's FPGA is reprogrammable through the PC/104 (ISA) bus. This allows for easy reconfiguration of the board and firmware customization without removing the board from the stack. The board includes FlexiSet™ software to configure the BASE address, IRQ and board I/O setup, and stores it to the onboard non-volatile EEPROM.

Specifications

Connectors:

- Two 50-pin digital I/O connectors
- 16-pin timer/power I/O connector
- 16-bit PC/104 (ISA) bus

Interrupts:

Supports XT and AT interrupts

OS Compatibility:

Compatible with x86 operating systems:

- Linux
- Windows CE
- Windows XPE

Options

- Conformal Coating
- Custom Connectors

Potential Applications

Industrial digital control; Event triggering and timing; Incremental encoder interfacing; Versatile digital I/O interfacing; PLC interfacing

Physical Characteristics

Operating Temperature Range:

-40° to +85°C

Humidity:

Up to 95%, non-condensing

Power Input:

+5VDC, +/-5%

Power Consumption:

1.8W, typical

Dimensions:

90 x 96 mm (3.550" x 3.775")

RoHS:

- RoHS (2002/95/CE) Compliant
- Replacement for:
 - DAQ-1274
 - DAQ-1276
 - DAQ-1277



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