

DT351

16-Channel Isolated Digital I/O Board for the PCI Bus

Key Features

- Isolated for use in noisy industrial environments
- Interrupt on digital input lines
- High current drive output capability
- Channel to channel isolation
- Over-current protection
- Supported by Measure Foundry™, test and measurement application builder software that lets you easily create complex measurement applications.

Overview

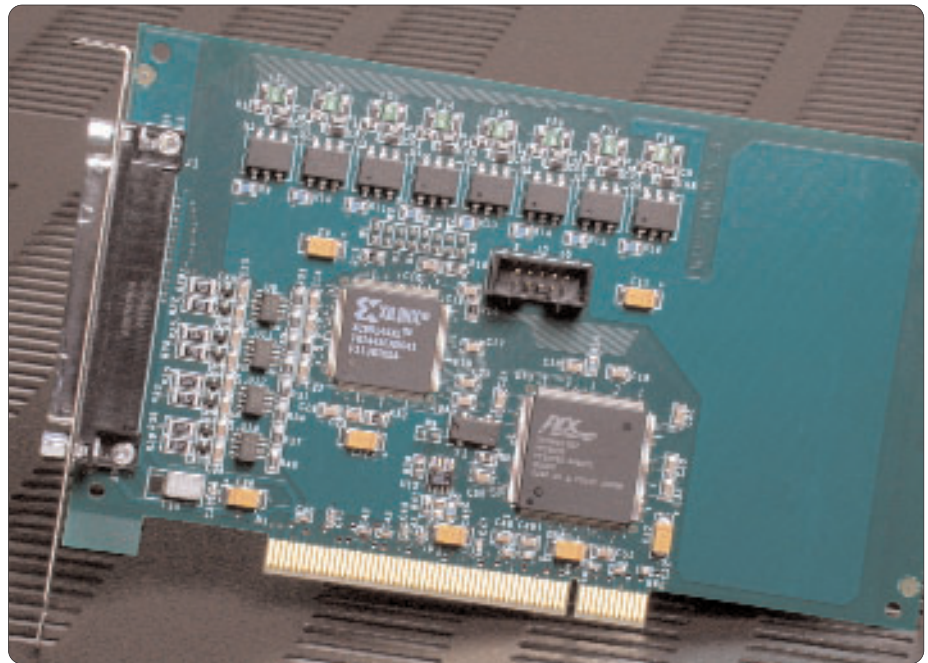
Ideal for industrial applications, the DT351 is a 16-channel isolated digital I/O board for the PCI bus. All inputs and outputs feature channel to channel isolation of at least 250 VDC.

16 Digital I/O Channels

Each DT351 provides 8 isolated inputs and 8 isolated outputs. Channel-to-channel isolation is implemented with isolators on each channel. The digital inputs have a voltage range up to 32 VDC. The ability to interrupt on bit changes on the inputs eases programming and enhances functionality. The outputs can support a maximum load voltage of 60 V, and can drive current to 100 mA.

Replaces Solid State Relays

The DT351 can replace traditional digital I/O boards and external solid state relays and panels. Channel-to-channel isolation of at least 250 VDC and high current out-



DT351 Isolated Digital I/O board provides protection in noisy industrial environments.

put drive of 100 mA per channel make the DT351 ideal for industrial applications. Your computer is protected from damage caused by accidental contact with external high voltages since each channel is galvanically isolated from the computer and from other channels.

Over-Current Protection

The inputs are protected from transients and reversed connections. Fuses on the output channels and short circuit protection guard against damage from incorrect wiring of the connections and gross current excesses. The output line protection is provided by solid state fuses. The fuses will open when the load exceeds 140 mA. The fuses return to normal operation when current is returned to normal operating range. There is also an over voltage clamp protection device which is set at 60 V and provides transient voltage protection.

Software

All boards ship with the Omni CD that includes the following software:

■ DT-Open Layers for .NET with DT-Display:

The DT-Open Layers for .NET Class Library is a collection of classes, methods, properties, and events that provides a programming interface for DT-Open Layers-compatible hardware devices. It can be used from any language that conforms to the Common Language Specification (CLS), including Visual Basic.NET, Visual C#, Visual C++.NET with managed extensions, and Visual J#.NET.

— **DT-Display for .NET** is a control for plotting data to a Windows form. It provides a powerful and user-friendly interface for rendering data.

■ DT-Open Layers for Win32:

DT-Open Layers for Win32 consists of the DataAcq SDK and DTx-EZ.

— The **DataAcq SDK** consists of the necessary header files, libraries, example programs, and documentation to develop your own DT-Open Layers data acquisition and control applications. It is intended for use with non .NET languages, such as ANSI C, Visual C++ 6.0, and Visual Basic 6.0.

— **DTx-EZ** provides visual programming tools for Microsoft Visual Basic and Visual C++ that enable quick and easy development of test and measurement applications.

Note: If you have an existing application that was written using the DataAcq SDK, we recommend that you migrate your application to use the DT-Open Layers for .NET Class Library. This will guarantee compati-

bility with future Data Translation hardware and software.

■ Drivers:

The 32-bit WDM device drivers make your application cross-platform compatible. These drivers support Data Translation USB and PCI boards using Windows 2000/XP.

You can choose to install demo versions of the following software from the CD:

■ Measure Foundry is an open, powerful application builder for test and measurement systems. No programming is required!

■ quickDAQ is a high performance, ready-to-run application that lets you acquire, plot, analyze, and save data to disc at 2MHz per channel without writing any code. quickDAQ supports applications from temperature measurement to high-speed testing and analysis.

■ LV-Link contains all necessary VIs, examples, and documenta-

tion to use Data Translation hardware in LabVIEW 8.0 and greater.

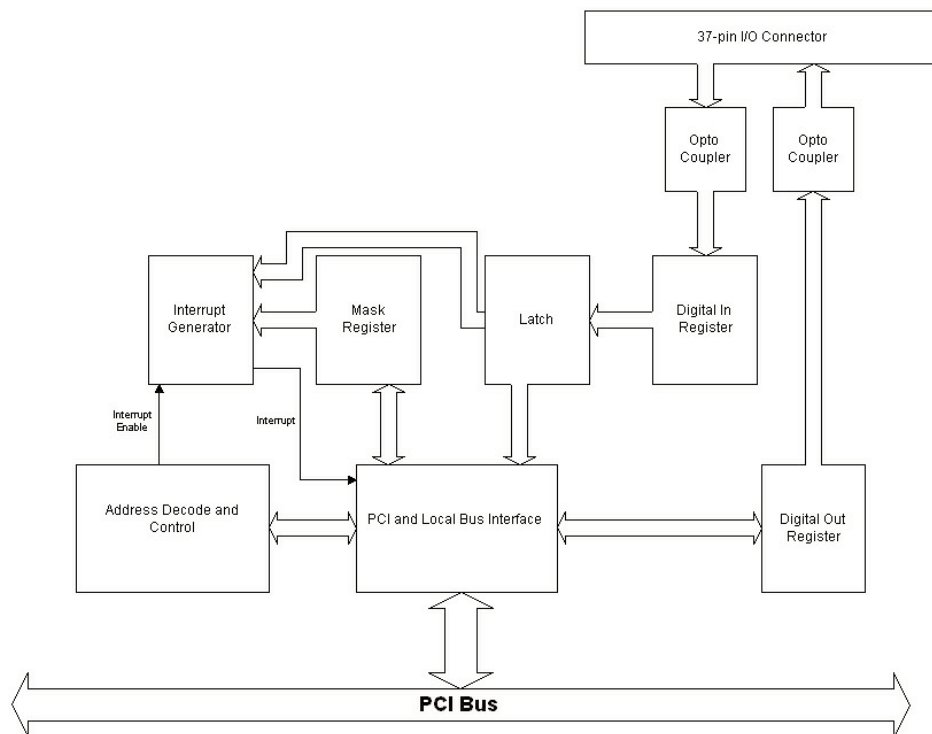
The following software is available as a free download from our web site.

■ DAQ Adaptor for MATLAB™ to access the visualization and analysis capabilities of MATLAB from The MathWorks™.

Accessories

STP37 Screw Terminal Panel and EP333 Cable

The STP37 screw terminal panel simplifies the connection of input and output devices to the DT351. All user connections are made on convenient screw clamp connectors. The STP37 is designed for tabletop or panel mounting, and includes nylon standoffs. The STP37 features LCD indicators to monitor output lines. The panels measure approximately 4 in. wide by 8 in. (10.2 x 20.3 cm). The EP333 is a two meter shielded cable used to connect the DT351 to the STP37.



DT351 Block Diagram

Specifications

All specifications are at 25° C and rated voltage, unless otherwise specified.



DIGITAL INPUTS

Number—8 inputs
Isolation—optical isolation, ≥ 250 VDC
Logic high input voltage 3.5–32 VDC
Logic low input voltage <1.0 VDC
Input resistance 3.3 k Ω typical
Turn on /turn off time 300 μ sec @12 VDC typical

DIGITAL OUTPUTS

Number—8 outputs
Isolation—optical isolation, ≥ 250 VDC
Maximum load current 100 mA
Maximum load voltage 60 VDC
Turn on/turn off time <3 msec
Overcurrent protection >125 mA

GENERAL

Interface

PCI Bus, for use with IBM PC compatibles; I/O mapped

Interrupt—one line; jumper-selected level

Physical/ Environmental

Dimensions—PCI bus board; 10.7 x 17.9 x 1.9 cm (4.2 in. x 7.05 in. x 0.75 in.)

Weight—5 oz (142 g)

Connector—37-pin AMP SCSI 2:
AMP: 747847-4

Mating Connector Kit (includes plug and shell):

AMP: 747563-1

Power

Requirements—+5 V, 2 A

Temperature—

operating: 0 to 60° C; storage: -25 to 85° C

Relative Humidity—to 85%, non-condensing

Ordering Summary

All Data Translation hardware products are covered by a 1-year warranty. For pricing information, see a current price list, visit our web site, or contact your local reseller.

DT351

The DT351 is shipped with the Data Acquisition Omni CD, which includes DT-Open Layers-compliant drivers for Microsoft Windows 98/2000/ME/XP, ready-to-run software, and comprehensive hardware and software user manuals in PDF form. Manuals are available in hard-copy form for an additional charge.

n DT351 16-channel Digital I/O board

Accessories

n STP37—Screw Terminal Panel

n EP333—2 m shielded cable with two 37-pin connectors that mate to the STP and board.

Software

The following software can be purchased separately:

■ Measure Foundry is an open, powerful application builder for test and measurement systems.
SP1300-CD

■ quickDAQ is a high-performance, ready-to-run application that lets you acquire, plot analyze, and save data to disk at up to 2 MHz per channel.
SP8501-CD

■ LV Link to access the power of our boards through LabVIEW.
SP0811

Data Translation now offers free downloads on the Web for:

■ DAQ Adaptor for MATLAB to access the analysis and visualization tools in MATLAB.

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