DT9817 Series

Low Cost Digital I/O Modules for USB

Overview

The DT9817-H and DT9817-R are low-cost modules that offer digital inputs, digital outputs, and 32-bit counter/timer functions.
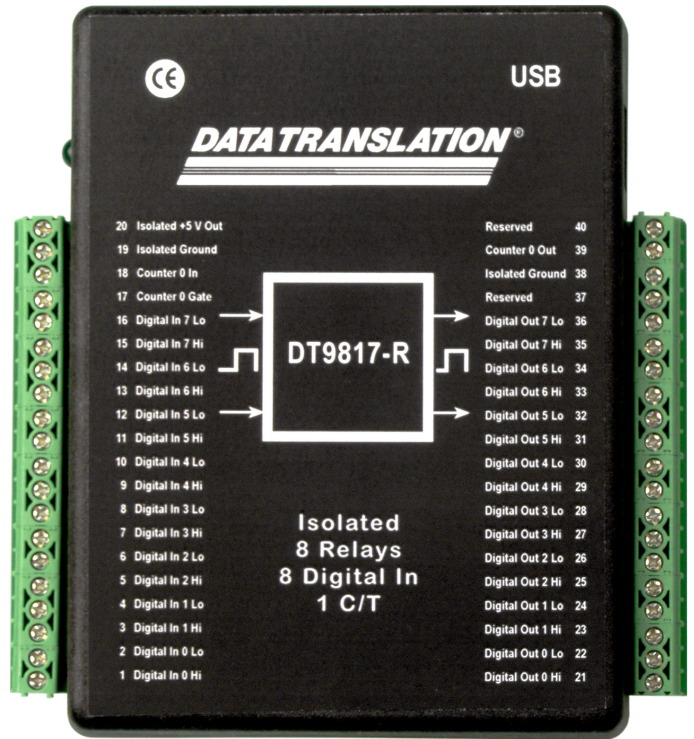
DT9817-H

28 programmable digital I/O lines with high drive capability to drive solid state relays and one 32-bit counter/timer

DT9817-R

8 isolated digital input lines with an input voltage range of ±3 V to ±32 V and 9 isolated digital output lines capable of switching up to ±30 V at 400 mA. Includes one 32-bit counter/timer.

Supported Operating Systems
- Windows® 10/8/7/Vista®/XP 32/64-bit

The DT9817 Series low cost digital I/O modules provide a variety of options for the user in a shielded, rugged enclosure.

Module	Application	Digital I/O	Counter/Timer	Isolation	Source	Sink	Output	Power Fully Loaded
DT9817-H	Solid State Relay	28 programmable	1, 32-bit	—	15 mA	64 mA	—	<150 mA
DT9817-R	Mechanical Relay	16 (8 in, 8 out)	1, 32-bit	Up to 500 V	—	—	±30 V @ 400 mA	<150 mA
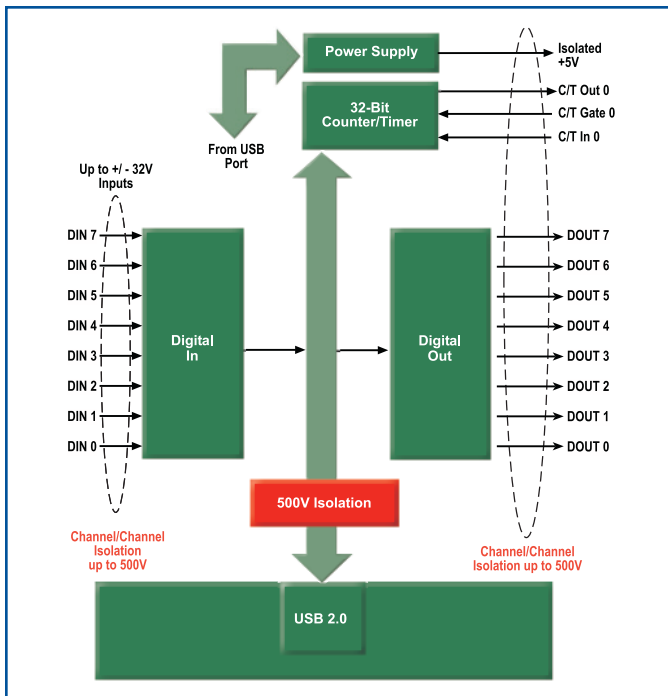
The DT9817-R offers 8 digital input lines, 8 digital output lines, and one counter/timer channel. The 8 outputs are capable of switching up to ±30 V @ 400 mA
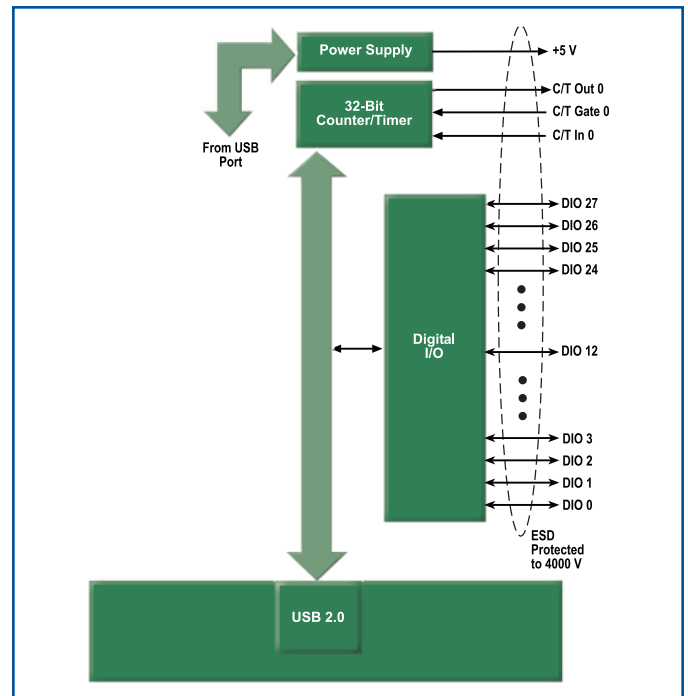
The DT9817-H offers 28 programmable digital I/O lines and one counter/timer channel. The DT9817-H is perfect for driving solid state relays.

DT9817-H

The DT9817-H is a low-cost, non-isolated digital I/O module with 28 programmable lines. These 28 lines are organized as three 8-bit ports and one 4-bit port. These ports can be configured as input, output, or any combination required. This module offers high-drive capability that sinks 64 mA and sources 15 mA for driving sold-state relays. It has one, 32-bit counter/timer.

DT9817-R

The DT9817-R is a low-cost, isolated digital I/O module with 8 inputs and 8 outputs and channel to channel isolation up to 500 V. The 8 digital inputs have an input voltage range of +/- 3 V to +/- 32 V and the 8 digital outputs are capable of switching up to +/-30 V at 400 mA. It has one 32-bit counter/timer.

Counter/Timer Subsystem

The counter/timer subsystem on these modules can be run by an internal or external clock source.

- Internal clock – Through software the user can specify the frequency at which to pace the counter/timer operation. This frequency can range from 4 Hz to 12 MHz (4 Hz to 2.5 kHz for the DT9817-R).
- External clock – The user connects an external clock source with a maximum frequency of 6 MHz and then uses a clock divider to specify the actual frequency to pace the counter/timer operation. This is useful when the user wants to pace counter/timer operations at rates not available with the internal clock or if uneven intervals are required.

The subsystem supports four separate operating modes:

- Event counting – This mode is used to count the number of falling edges that occur. The user can count up to 4,294,967,296 events before the counter rolls over to 0 and starts counting again.
- Frequency measurement – This mode allows the user to determine the frequency of the clock input.
- Edge-to-edge measurement – This mode allows the user to measure the time interval between a specified start edge and a specified stop edge. The user can measure the pulse width, the period, and the frequency of the signal.
- Rate generation – This mode allows users to generate square waves with an output frequency from 4 Hz to 12 MHz. (4 Hz to 2.5 kHz for the DT9817-R).
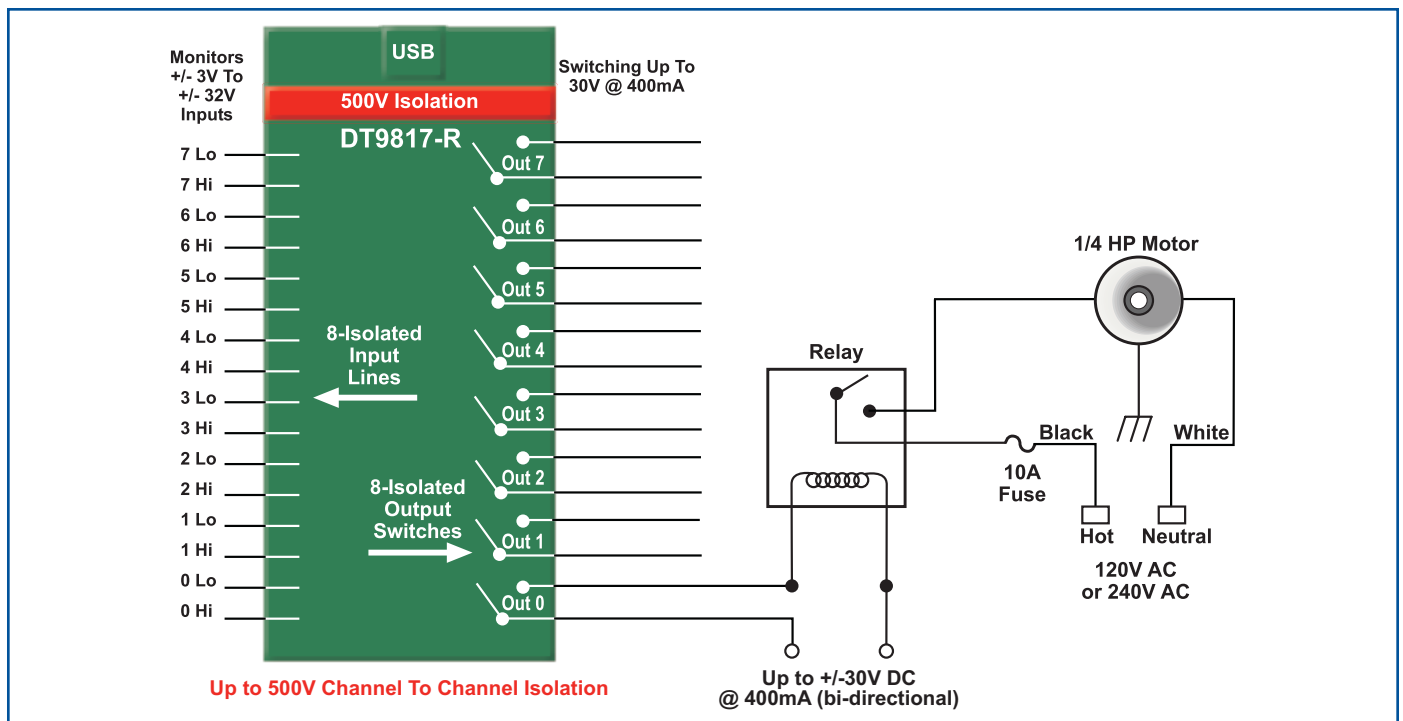
These modules are ideal for control and monitoring applications. Both the DT9817-H and the DT9817-R can be used to control solid-state relays and the DT9817-R can be used to control mechanical relays or high-current electric motors.

Software Options

The following software is available for use with a DT9817 series module and is provided on the Data Acquisition Omni CD:

- **Device Driver** –The device driver allows you to use an ECONseries module with any of the supported software packages or utilities.
- **Calibration Utility** – This utility allows you to calibrate features of an ECONseries module.
- **Quick DataAcq application** – The Quick DataAcq application provides a quick way to get up and running. Using this application, verify key features of the module, display data on the screen, and save data to disk.
- **DT-Open Layers® for .NET Class Library** – Use this class library if you want to use Visual C#® or Visual Basic® for .NET to develop application software using Visual Studio® 2003-2012; the class library complies with the DT-Open Layers standard.
- **DataAcq SDK** – Use the DataAcq SDK to use Visual Studio 6.0 and Microsoft® C or C++ to develop application software using Windows 10/8/7/Vista/XP 32/64-bit; the DataAcq SDK complies with the DT-Open Layers standard.
- **DAQ Adaptor for MATLAB** – Data Translation's DAQ Adaptor provides an interface between the MATLAB® Data Acquisition (DAQ) toolbox from The MathWorks™ and Data Translation's DT-Open Layers architecture.
- **LV-Link** – Data Translation's LV-Link is a library of VIs that enable LabVIEW™ programmers to access the data acquisition features of DT-Open Layers compliant USB and PCI devices.

Easy User Connections

All signals are brought out to on-board screw terminals for easy connections. High quality industrial Phoenix connectors are used to maintain signal integrity in harsh industrial environments.

DIN-RAIL Mounting Kit for USB

This kit provides a simple, standard method for mounting equipment to walls, cabinets, or machinery. The kit contains everything you need to fit it directly on the back of the USB function module housing.

Cross-Series Compatibility

Virtually all Data Translation data acquisition modules are compatible with the DT-Open Layers® software standard. This means any application developed with one of Data Translation's software products can easily be upgrade to a new Data Translation module with little to no reprogramming needed.

DATA TRANSLATION®
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June 2017. Rev 6
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DT9817-Datasheet