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Find the *National Instruments NI 9421* at our website: ***Click HERE***

NI 9421

8 Ch, 24 V Logic, 100 µs C Series Sinking Digital Input Module



- 8-channel, 100 µs digital input
- Hot-swappable operation
- -40 to 70 °C operating range
- 12 to 24 V logic, sinking digital inputs
- Extreme industrial certifications/ratings
- D-Sub or screw-terminal connector options

Overview

The NI 9421 is an eight-channel, 100 µs sinking digital input module for any NI CompactDAQ or CompactRIO chassis. Each channel is compatible with 12 to 24 V signals and features transient overvoltage protection of 2,300 Vrms between the input channels and earth ground. Each channel also has an LED that indicates the state of that channel. The NI cRIO-9421 works with industrial logic levels and signals for direct connection to a wide array of industrial switches, transducers, and devices. There are two connector options for the NI 9421 - a 10-position screw-terminal connector and a 25-position D-Sub connector. This industry-standard 25-position D-Sub connector provides for low-cost cabling to a wide variety of accessories from NI or other vendors. A number of vendors with custom D-Sub cable fabrication services can deliver cables with a pinout that matches your exact application needs. NI recommends the NI 9932 strain-relief connector accessory for the NI 9421 for screw-terminal connectivity and the NI 9934 accessory for 25-position D-Sub connectivity.

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Requirements and Compatibility

OS Information

- Real-Time OS
- Windows

Driver Information

- NI-DAQmx
- NI-RIO

Software Compatibility

- LabVIEW
- LabVIEW SignalExpress
- LabWindows/CVI
- Visual Studio
- Visual Studio .NET

Comparison Tables

Product Name	Signal Levels	Number of Channels	Connectivity	Speed	Special Features
9411	±5 to 24 V	6	15-pin D-Sub	500 ns	Differential/single-ended digital input, differential quad encoder
9421	12 to 24 V	8	Screw-terminal, D-Sub	100 µs	Sinking digital input
9422	24 to 60 V	8	Screw-terminal	250 µs	Sinking/sourcing digital input
9423	11 to 30 V	8	Screw-terminal	1 µs	Sinking digital input
9425	12, 24 V	32	37-pin D-Sub	7 µs	Sinking digital input
9426	24 V	32	37-pin D-Sub	7 µs	Sourcing digital input

Application and Technology

High-performance digital output and switching modules for NI CompactDAQ systems, CompactRIO embedded systems, and R Series expansion chassis provide extended voltage ranges and high-current-switching capacity for direct control of a wide array of industrial and automotive actuators. Each module features an integrated connector junction box with screw-terminal or cable options for flexible, low-cost signal wiring. All modules feature CompactRIO extreme industrial certifications and ratings including -40 to 70 °C operating temperatures and 50 g shock.

When used in CompactRIO, C Series digital output modules connect directly to reconfigurable I/O (RIO) field-programmable gate array (FPGA) hardware to create high-performance embedded systems. The reconfigurable FPGA hardware within CompactRIO provides a variety of options for timing,

triggering, synchronization, digital waveform generation, or digital communication. For instance, with CompactRIO, you can implement a circuit to generate pulse-width modulation (PWM) outputs for controlling motors, heaters, or fans as well as to perform pulse code modulation encoding (PCME) for wireless telemetry applications.

C Series Compatibility

The C Series hardware family features more than 50 measurement modules and several chassis and carriers for deployment. With this variety of modules, you can mix and match measurements such as temperature, acceleration, flow, pressure, strain, acoustic, voltage, current, digital, and more to create a custom system. Install the modules in one of several carriers to create a single module USB, Ethernet, or Wi-Fi system, or combine them in chassis such as NI CompactDAQ and CompactRIO to create a mixed-measurement system with synchronized measurements. You can install up to eight modules in a simple, complete NI CompactDAQ USB data acquisition system to synchronize all of the analog output, analog input, and digital I/O from the modules. For a system without a PC, CompactRIO holds up to eight modules and features a built-in processor, RAM, and storage for an embedded data logger or control unit. For higher-speed control, CompactRIO chassis incorporate an FPGA that you can program with NI LabVIEW software to achieve silicone-speed processing on I/O data from C Series modules.

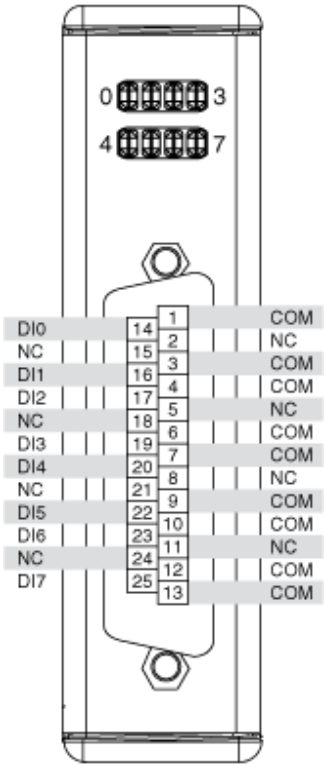
Ordering Information

For a complete list of accessories, visit the product page on ni.com.

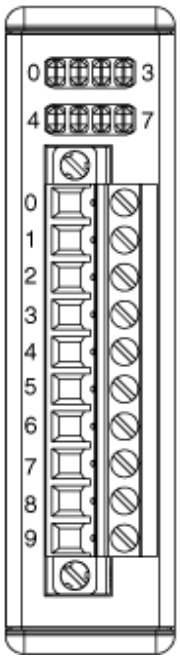
Products	Part Number	Recommended Accessories	Part Number
NI 9421	779002-01		
NI 9421 with DSub Each NI 9421 with DSub requires: 1 Connectivity Accessory	779136-01	**Connectivity Accessory:** Screw Terminals - NI 9934 25pin D-Sub connector kit	779104-01

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Pinouts/Front Panel Connections



Pin assignments (25-pin)



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