C Series Analog Output Modules

NI 9263, NI 9265 *NEW!*

- ±10 V and 0 to 20 mA analog output ranges, 16-bit resolution, 100 kS/s simultaneous update rate
- 4 channels per module
- Isolation up to 2,300 V_{rms} (withstand), up to 250 V_{rms} (continuous)
- Per-channel digital-to-analog converter (DAC) for simultaneous analog output
- ±30 V overvoltage protection and short-circuit protection for direct connection to actuators and industrial devices
- Excellent relative accuracy optimized for single-point control applications
- NIST-traceable calibration certificate for guaranteed accuracy



Product	Compatibility CompactRIO	Compatibility NI CompactDAQ	Signal Type	Channels	Resolution (bits)	Max Update Rate (S/s)	Range	Current Drive	Simultaneous Updating	Isolation	Connector Options
NI 9263	✓	✓	Voltage	4	16	100 k/ch	±10 V	1 mA/ch	✓	✓	Screw Terminal
NI 9265	✓	–	Current	4	16	100 k/ch	0 to 20 mA	20 mA/ch	✓	✓	Screw Terminal

Table 1. C Series Analog Output Modules Selection Guide

Overview

High-performance analog output modules for National Instruments CompactRIO embedded systems, R Series expansion chassis, and NI CompactDAQ provide accurate signal generations. Each module features built-in signal conditioning and an integrated connector with screw terminal or cable options for flexible and low-cost signal wiring. All modules feature the NI CompactRIO Extreme Industrial Certifications and Ratings.

System Compatibility

You can use NI C Series modules in multiple system types depending on available software. Please see the table above for CompactRIO and NI CompactDAQ module compatibility because not all modules work with both systems. Many of the advanced features described apply only to reconfigurable I/O systems and not to NI CompactDAQ.

Advanced Features

Advanced features include ±30 V overvoltage protection and short-circuit protection, simultaneous 16-bit per-channel digital-to-analog converters (DACs), high-speed settling, excellent monotonicity and NIST-traceable calibration. The NI 926x modules include a channel-to-earth ground double-isolation barrier for safety and noise immunity. The NI 9265 provides high-performance, 0 to 20 mA analog outputs ideal for controlling industrial pressure, flow, and position actuators. The NI 9265 requires a 9 to 36 V external power supply for driving the output current of the module.

When used in CompactRIO, C Series analog output modules connect directly to reconfigurable I/O (RIO) FPGA hardware to create high-performance embedded systems hat deliver the optimization and flexibility of a custom electrical circuit completely dedicated to your input/output application. The reconfigurable FPGA hardware within CompactRIO provides a variety of options for timing, triggering, synchronization, change detection, digital pattern matching, or digital communication. For instance, with CompactRIO you can implement a circuit to generate complex arbitrary waveforms, perform filtering or splining to generate a smooth output signal based on a choppy low-speed output command, simulate a nonlinear sensor, or implement amplitude/phase modulation.

Key Features

- High-performance analog output signal generation for CompactRIO embedded system, R Series expansion chassis, or NI CompactDAQ
- Screw terminals, strain relief, high-voltage, and cable options
- NI CompactRIO Extreme Industrial Certifications and Ratings
- Channel-to-earth ground double-isolation barrier for safety and noise immunity

Visit **ni.com/compactrio** or **ni.com/compactdaq** for up-to-date information on module availability, example programs, application notes, and other developer tools.

North American Hazardous Locations

Typical certifications – Actual specifications vary from product to product. Visit **ni.com/certification** for details.

NATIONAL INSTRUMENTS™

C Series Module Accessories

Connectivity Accessories

CompactRIO and NI CompactDAQ systems are designed to provide flexible options for low-cost field wiring and cabling. Most C Series modules have a unique connector block option to provide secure and safe connections to your CompactRIO or NI CompactDAQ system. The table below contains all of the connector blocks available for C Series I/O modules.

Accessory	Description
NI 9932	10-position strain relief and high-voltage screw-terminal connector kit
NI 9933	37-pin D-Sub connector kit with strain relief and D-Sub shell
NI 9934	25-pin D-Sub connector kit with strain relief and D-Sub shell
NI 9935	15-pin D-Sub connector kit with strain relief and D-Sub shell
NI 9936	10-position screw-terminal plugs (quantity 10)

Note: To meet shock and vibration requirements, you must affix ferrules to the ends of the wires on all screw-terminal connectors.



Figure 1. cRIO-9937 Power Supply Plugs



Figure 2. cRIO-9932 Strain Relief and High-Voltage Connector Kit



Figure 3. cRIO-9936 10-Position Screw-Terminal Plugs

The table below lists the recommended connector block accessories for each CompactRIO analog output module.

C Series Analog Output Module	Recommended Module Accessory
NI 9263	NI 9932, NI 9936
NI 9265	NI 9932, NI 9936

The NI 9932 kit provides strain relief and operator protection from high-voltage signals for any 10-position screw-terminal module.

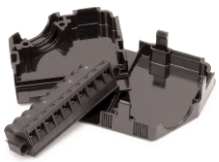


Figure 4. NI 9932 10-Position Strain Relief and High-Voltage Screw-Terminal Connector Kit

The NI 9933 includes a screw-terminal connector with strain relief as well as a D-Sub solder-cup backshell for creating custom cable assemblies for any module with a 37-pin D-Sub connector.

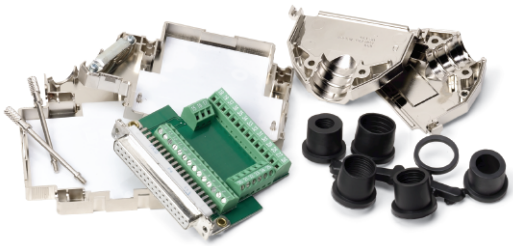


Figure 5. NI 9933 37-Pin D-Sub Connector Kit with Strain Relief and D-Sub Shell

The NI 9934 includes a screw-terminal connector with strain relief as well as a D-Sub solder-cup backshell for creating custom cable assemblies for any module with a 25-pin D-Sub connector.

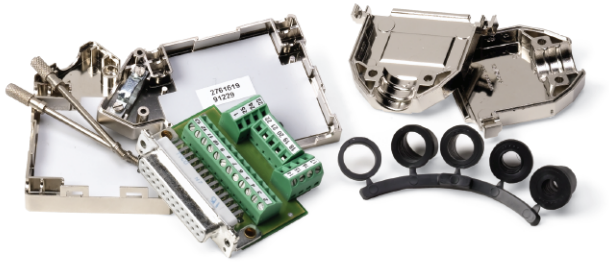


Figure 6. NI 9934 25-Pin D-Sub Connector Kit with Strain Relief and D-Sub Shell

The NI 9935 includes a screw-terminal connector with strain relief as well as a D-Sub solder-cup backshell for creating custom cable assemblies for any module with a 15-pin D-Sub connector.

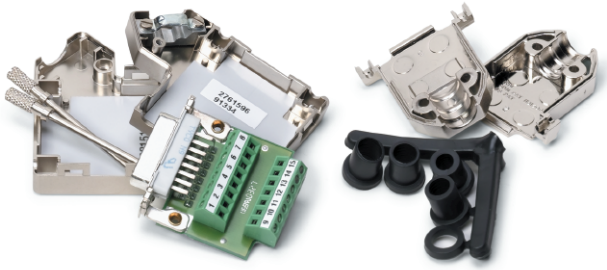


Figure 7. NI 9935 15-Pin D-Sub Connector Kit with Strain Relief and D-Sub Shell

The NI 9936 consists of 10-position screw-terminal plugs for any 10-position screw-terminal module.



Figure 8. NI 9936 10-Position Screw-Terminal Plugs

Visit **ni.com/compactrio** or **ni.com/compactdaq** for up-to-date information on availability of accessories.

CompactRIO Ordering Information

Ordering Information

Developer Kits

NI cRIO-9961 Embedded System Developer
Hardware Evaluation Kit 779107-01
NI Reconfigurable I/O
Software Development Kit 779149-03

Reconfigurable Embedded Systems

Real-Time Controllers

NI cRIO-9002 779000-01
NI cRIO-9004 779055-01

Reconfigurable Chassis

NI cRIO-9101 779052-01
NI cRIO-9102 779007-01
NI cRIO-9103 779053-01
NI cRIO-9104 779054-01

Power Supplies

NI PS-1 777567-01
NI PS-2
U.S. 120 VAC/Japan 100 VAC 777584-01
North American 240 VAC 777584-05
NI PS-3
U.S. 120 VAC/Japan 100 VAC 777585-01
North American 240 VAC 777585-05
NI PS-4 778586-90
NI PS-5 778805-90

R Series Expansion Systems

Expansion Chassis

NI cRIO-9151 chassis 779008-01
SH68-C68-S cable, 2 m 186381-02

R Series Devices

PCI

NI PCI-7811R digital I/O 779363-01
NI PCI-7813R digital I/O 779370-01
NI PCI-7830R multifunction I/O 779361-01
NI PCI-7831R multifunction I/O 778797-01
NI PCI-7833R multifunction I/O 779359-01

PXI

NI PXI-7811R digital I/O 778800-01
NI PXI-7813R digital I/O 779362-01
NI PXI-7830R multifunction I/O 779364-01
NI PXI-7831R multifunction I/O 778668-01
NI PXI-7833R multifunction I/O 779360-01

C Series Modules[1]

Analog Input Modules

NI 9201 779013-01
NI 9201 with D-Sub 779372-01
NI 9203 779516-01
NI 9205 779519-01
NI 9205 with D-Sub 779357-01
NI 9206 779526-01
NI 9211 779001-01
NI 9215 779011-01
NI 9215 with BNC 779138-01
NI 9217 779592-01
NI 9221 779014-01
NI 9221 with D-Sub 779373-01
NI 9233 779015-01
NI 9237 779521-01

Analog Output Module

NI 9263 779012-01
NI 9265 779334-01

Digital Input and Counter/Timer Modules

NI 9401 779351-01
NI 9411 779005-01
NI 9421 779002-01
NI 9421 with D-Sub 779136-01
NI 9422 779522-01
NI 9423 779009-01
NI 9425 779139-01
NI 9435 779010-01

Digital Output and Relay Modules

NI 9401 779351-01
NI 9472 779004-01
NI 9472 with D-Sub 779137-01
NI 9474 779003-01
NI 9476 779140-01
NI 9477 779517-01
NI 9481 779006-01

Accessories

NI 9912 779019-01
NI 9915 779018-01
NI 9917 779454-01
NI 9918 779455-01
NI 9932 779017-01
NI 9933 779103-01
NI 9934 779104-01
NI 9935 779016-01
NI 9936 779105-01
NI 9937 779106-01
NI 9939 192692-01

Ethernet Cables

CAT5
5 m 182219-05
CAT5 Crossover
5 m 187375-05

OEM Discounts Available

NI offers aggressive OEM pricing discounts for high-volume OEM applications. Contact NI for a quote.

[1]Visit **ni.com/compactrio** for up-to-date information on module availability.

BUY NOW!

For complete product specifications, pricing, and accessory information, call (800) 813 3693 (U.S.) or go to **ni.com/compactrio**.

NI CompactDAQ Ordering Information

Ordering Information

System Chassis

NI cDAQ-9172
- U.S. (120 VAC) 779508-01
- Switzerland (220 VAC) 779508-02
- Australia (240 VAC) 779508-03
- Europe (240 VAC) 779508-04
- UK (240 VAC) 779508-06
- Japan (100 VAC) 779508-07

C Series Modules[1]

Analog Input Modules

NI 9205 779519-01
NI 9205 with D-Sub 779357-01
NI 9206 779526-01
NI 9211 779001-01
NI 9215 779011-01
NI 9215 with BNC 779138-01
NI 9233 779015-01
NI 9237 779521-01

Analog Output Module

NI 9263 779012-01

Digital Input Modules

NI 9401 779351-01
NI 9421 779002-01
NI 9421 with D-Sub 779136-01

Digital Output and Relay Modules

NI 9401 779351-01
NI 9472 779004-01
NI 9472 with D-Sub 779137-01
NI 9481 779006-01

Accessories

NI 9915 779018-01
NI 9901 779473-01
NI 9933 779103-01
NI 9940 779567-01
NI 9941 779568-01
NI 9917 779454-01
NI 9918 779455-01
NI 9932 779017-01
NI 9936 779105-01

Academic Bundles

Standard Bundle 777448-60
Instrumentation Bundle 777448-61
DSA (Sound and Vibration) Bundle 777448-62

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