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PRODUCT BROCHURE

NI CompactRIO and sbRIO

Contents

The Control and Monitoring Solution You Need

The NI RIO (Reconfigurable I/O) platform combines Intel® and Arm® processors, user-programmable FPGAs, modular I/O, industrial communication, NI LabVIEW programming, and a Linux® real-time OS into a rugged system engineers use for test, measurement, and control. This combination has many advantages as engineers look for hardware solutions.

The shared architecture of the NI RIO platform provides powerful benefits across all its form factors, including the rugged CompactRIO and the compact Single-Board RIO (sbRIO):

Exceptional performance—The platform can handle challenging, time-critical tasks with faster control loops (>1 kHz) and high-speed I/O (up to 1 MS/s per channel), outperforming most PLCs and PACs. The FPGA provides the ability to perform high-speed, deterministic operations with precise timing and control.

Accelerated development—The combination of off-the-shelf hardware and a unified software environment significantly reduces development time compared to designing a custom solution from scratch. You can quickly prototype and then deploy to a different RIO form factor without major software changes.

Rugged reliability—The CompactRIO form factor is built for durability with a cast aluminum design, passive cooling, and industrial-grade environmental specifications (-40 °C to 70 °C, 50 g shock, 5 g_{RMS} vibration). This saves mechanical design time and ensures reliability in harsh environments.

The NI RIO platform is an ideal solution for a variety of applications:

Control systems—The platform's ability to achieve faster control loops and deterministic performance makes it an excellent choice for complex control systems that need to react in real time.

Field monitoring—You can create fully customized devices for IoT applications with onboard data processing, storage, and an array of communication options. The system can also synchronize systems over GPS to coordinate high-speed measurements across large structures.

Test and validation—It's well suited for logging high-speed data in harsh environments where other equipment might fail. It also simplifies the addition of deterministic control to test systems and is perfect for sensor simulation, hardware-in-the-loop (HIL) testing, and other electronic validation that requires a precise step-response.

By leveraging the NI RIO platform, you can focus on solving your unique application challenges, rather than on the complexities of hardware design and integration.
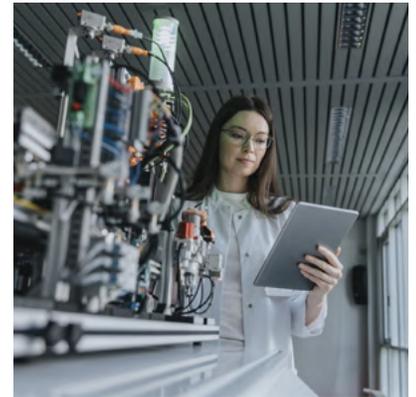
CompactRIO Overview

Features

NI Linux Real-Time OS

Up to 1.91 GHz quad-core processors

Xilinx FPGAs

-40 °C to 70 °C operating temperature range, 50 g shock, and 5 g vibration operating range

Benefits

Faster Development Time

Abstract low-level code and use a single toolchain to build and deploy time-critical applications on your CompactRIO system using LabVIEW.

Combine DAQ and Control

Log data from more than 70 modules for sensor and electrical measurements and add control using digital/analog output modules and industrial communication protocols.

More than 200 modules for electrical signals, sensors, and communication protocols

SSD of up to 16 GB for data logging

Computer ports including video out, USB, and Ethernet for peripherals and communication

LabVIEW programmable main processor and FPGA

Tailor the Platform to Your Needs

Harness the openness of the NI Linux Real-Time OS through thousands of open-source applications, IP, and examples, while collaborating with an active community of users and developers.

Long-Term System Reliability

Use the integrated controller running NI Linux Real-Time OS and a LabVIEW-programmable FPGA to build and deploy robust applications with reliability for long-duration tests.

CompactRIO System Architecture

All CompactRIO hardware has three key components: a real-time processor (Intel/Arm), an FPGA, and connections to signal converters (analog-to-digital converters usually found in C Series modules). The core processor and FPGA are separate subsystems that share data over a high-speed bus. I/O modules are connected to the FPGA where data can be processed inline and sent to the main processor, or the data can be part of a closed-loop control program running entirely on the FPGA. Both the main processor and the FPGA are programmed with LabVIEW.
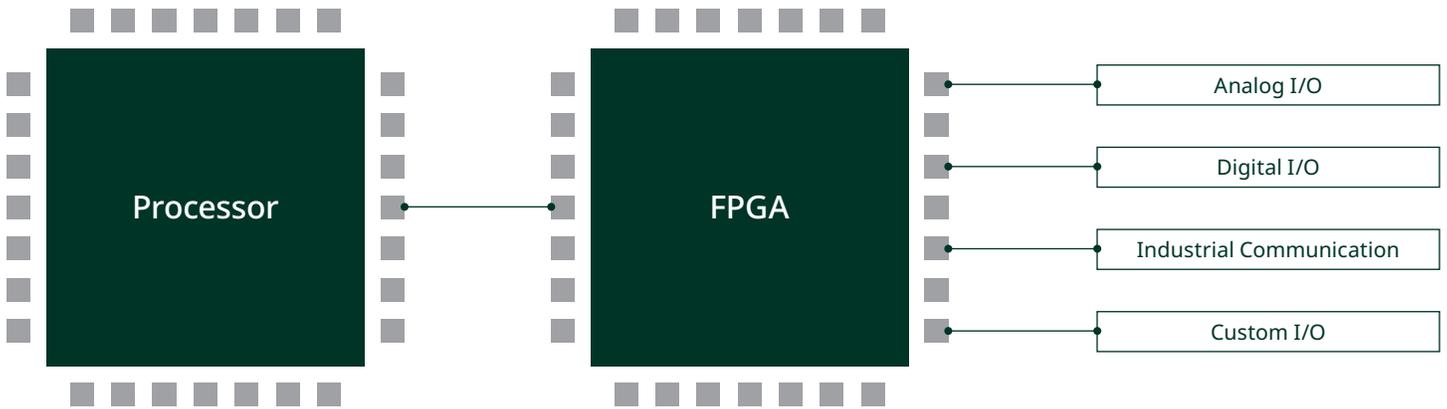
Figure 1. The main processor (left) and FPGA (center) run separate LabVIEW VIs. You—the system designer—decide where the analysis and control logic happens, based on your needs.

Main Processor

The main processor runs a real-time OS based on a standard kernel designed specifically for reliable and deterministic operation. LabVIEW VIs running on the main processor receive data from modules passed through the FPGA, networked systems, or peripherals connected to the controller ports such as HMIs. Host small web services, read/write to disk, or run deterministic PID loops on the main processor for an intelligent control and measurement system programmed with LabVIEW.

LabVIEW Programmable FPGA

Develop a LabVIEW VI for the FPGA to offload time-critical processes for advanced control, signal processing, filtering, or timing logic. NI uses FPGA technology from Xilinx for all LabVIEW-programmable targets, including CompactRIO.

Traditional development for FPGA-based systems requires low-level software tools, HDLs, or vendor-specific toolchains. LabVIEW and CompactRIO give you the benefits of custom measurement circuitry and FPGA processing technology without the burden of learning a separate development tool.

C Series Module Overview

Measurement and Signal Generation

Choose from more than 70 I/O modules that measure electrical signals, read/write digital lines, connect to sensors, or generate output signals for simulation and control. Signal conditioning and conversion happen in the module after which the digital value is collected by the LabVIEW VI running on the FPGA. Engineers use LabVIEW FPGA VIs to design the timing, logic, and synchronization parameters specific to the application. Control logic running on the FPGA can interpret data and send it to the LabVIEW VI running on the main processor, or output data directly to modules without needing to involve the main processor for high-speed closed-loop control.

Figure 2: C Series modules often have multiple options for connecting signal wires such as screw terminal, BNC, DSUB, and more.

Communication Modules: CAN, LIN, RS 232/485

Use communication modules in a CompactRIO system to connect, control, or monitor other systems using common automotive networks or serial protocols.

Figure 3. Many CompactRIO controllers have built-in serial ports on the main processor. Use C Series modules to expand the number of ports available.

GPS Timing and Synchronization Module

Connect GPS-accurate time data to your LabVIEW FPGA VI to time-stamp data, gate acquisitions using the GPS pulse-per-second, or synchronize waveform acquisition between multiple CompactRIO systems installed over a large structure.

Figure 4. The GPS module connects to standard antennas with an SMB connector. Note: the module is not designed for mobile applications and must be stationary.

C Series I/O for Smaller, Rugged, Distributed Systems

C Series Module Specification Overview

Analog Input

Signal Type	Channel Count	Measurement Types	Max Sample Rate	Special Features
Voltage	Up to 32	Options for ±200 mV, ±500 mV, ±1 V, ±5 V, ±10 V, ±60 V, 3 V_{rms}, 300 V_{rms}, 400 V_{rms}, 800 V_{rms}	1 MS/s/ch	Up to channel-channel isolation, antialiasing, and configurable filtering
Current	Up to 16	Options for ±20 mA, 0–5 A_{rms}, 0–20 A_{rms}, 0–50 A_{rms}	200 kS/s	Up to channel-channel isolation, built-in channel diagnostics
Voltage and Current	16	Options for ±20 mA and ±10 V	500 S/s	Channel-earth isolation, built-in noise rejection
Universal	Up to 4	V, mA, TC, RTD, Strain, Ω, IEPE	51.2 kS/s/ch	Up to channel-channel isolation, bridge completion, antialiasing filters, built-in shunt resistors, amplification
Thermocouple	Up to 16	J, K, T, E, N, B, R, and S types	95 S/s/ch	Up to channel-channel isolation, amplification, filtering, CJC
RTD	Up to 8	100 Ω, 1000 Ω	400 S/s	50/60 Hz filtering, bank isolation
Strain-/Bridge-Based	Up to 8	¼, ½, full bridge (120 or 350 Ω)	50 kS/s/ch	External excitation, bridge completion, antialiasing filters
Sound and Vibration	Up to 8	±5 V, ±30 V	102.4 kS/s/ch	IEPE, antialiasing filters

Analog Output

Signal Type	Channel Count	Measurement Types	Max Sample Rate	Special Features
Voltage	Up to 16	Options for 3 V_{rms}, ±10 V, ±40 V (stacked)	1 MS/s/ch	Up to bank isolation
Current	Up to 8	±20 mA	100 kS/s/ch	Channel-earth isolation, built-in open-loop detection

Digital I/O

Signal Type	Channel Count	Measurement Types	Max Sample Rate	Special Features
Input/Output	Up to 32	Options for TTL (3.3 V or 5 V) RS422, 5 V, 12 V, 24 V, 48 V, 72 V, 96 V, 120 V AC, 120 V DC, 240 V AC, 240 V DC	55 ns	Up to channel-channel isolation, sinking or sourcing input, bidirectional channel options
Relay Output	Up to 8	Options for 60 V DC, 30 V_{rms}, 250 V_{rms}	1 operation/s	Up to channel-channel isolation, SPST, or SSR relays

Communication Buses

Signal Type	Channel Count	Measurement Types	Max Sample Rate	Special Features
CAN	1	HS/FD, LS/FT CAN	1 Mb/s	—
LIN	1	LIN	20 kb/s	—
Serial Interface	4 ports	RS232, RS485/RS422	921.6 kb/s	—

Table 1. Specifications for C Series Modules

Model	Part Number	Slots	Processor	FPGA Coprocessor
cRIO-9040	785624-01	4	1.30 GHz Dual-Core Intel Atom®	Good
cRIO-9045	785623-01	8		
cRIO-9047*	785621-01	8	1.60 GHz Quad-Core Intel Atom	
cRIO-9048*	785619-01		1.30 GHz Dual-Core Intel Atom	Better
cRIO-9049	785618-01		1.60 GHz Quad-Core Intel Atom	Best
cRIO-9053	786424-01	4	1.33 GHz Dual-Core Intel Atom	Good
cRIO-9056	786426-01	8		

*Available with conformal coating—a protective layer that enhances resistance to moisture, dust, and chemicals. Coated versions have different part numbers; visit ni.com for accurate ordering information.

Table 2. Specifications for CompactRIO Controllers

The CompactRIO Expansion I/O chassis extends the capabilities of CompactRIO systems by providing additional slots for C Series I/O modules, enabling flexible, high-performance data acquisition and control in rugged, industrial environments. It seamlessly integrates with existing CompactRIO controllers for synchronized, distributed measurement and control applications.

Model	Part Number	Slots	Processor	FPGA	Operating Temperature
NI-9145	784756-01	8	EtherCAT	Good	-40 °C to 70 °C
NI-9147*	783496-01	4	Ethernet		
NI-9149*	783376-01	8			

*Available with conformal coating—a protective layer that enhances resistance to moisture, dust, and chemicals. Coated versions have different part numbers; visit ni.com for accurate ordering information.

Table 3. Specifications for CompactRIO Expansion I/O Chassis

Region / Voltage	Length (m)	Max Current (A)	Part Number
United States 120 VAC	2.3	10	763000-01
United Kingdom 240 VAC	2.5		763064-01
Swiss 220 VAC			763065-01
Australia 240 VAC			763066-01
European 240 VAC, Right Angle			763067-01
North America 240 VAC	3		763068-01
Japan 125 VAC	2.3	12	786377-01
India 250 VAC	2.5	10	763072-01
Korea 220 VAC, Right Angle			784685-01
China 220 VAC			784686-01
Brazil 250VAC			785626-01
Taiwan 125 VAC		15	787642-01

Note: Power cords are required with a desktop power supply. If using an industrial power supply, the CompactRIO controllers do not need a power cord. Instead, wire them directly to the power supply.

Table 4. Specifications for CompactRIO Controllers

Single Board RIO (sbRIO) Overview
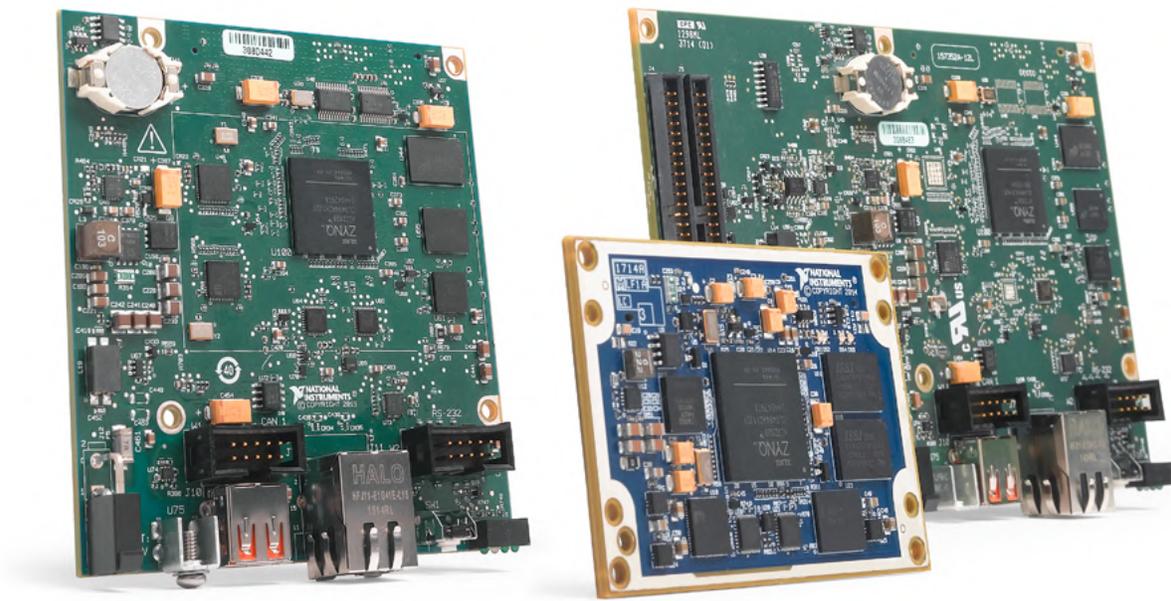
Single-Board RIO (sbRIO)

Single-Board RIO is designed for high-volume and OEM embedded control and analysis applications that require high performance and reliability. Featuring an open embedded architecture and compact size, this flexible, customizable, commercial off-the-shelf (COTS) hardware device is part of an accelerated custom design platform that can help you get your custom embedded control system to market quickly. Built on the CompactRIO platform, you can take advantage of FPGA performance, real-time determinism, and reliability with relatively low nonrecurring engineering compared with custom hardware design. To learn more about sbRIO and explore its full range of capabilities, visit **ni.com/OEM**.

- Combines real-time processor, FPGA, and I/O on a single board
- Designed for high-performance and reliable operation
- Ideal for industrial control, monitoring, and embedded applications

Key Features

Real-time processor
Provides deterministic performance for embedded applications, ensuring reliable and timely execution of high-level code.

Integrated FPGA
Offers high-speed processing for time-critical tasks, enabling precise control over I/O timing and rapid prototyping.

Rugged design
Built to withstand harsh environments, supporting extended temperature ranges, vibration, and shock, and making it suitable for industrial and critical settings.

Reduce development time
With its all-programmable SoC, integrated I/O, and high-density connector, and paired with efficient development software, shortens time to market.

	sbRIO-9603	sbRIO-9609	sbRIO-9628	sbRIO-9629	sbRIO-9638	sbRIO-9651	
Description	Digital I/O		Multifunction I/O			SOM	
Part Number — Dev Kit	787287-01	787289-01	787296-01	787298-01	787297-01	783525-01	
Part Number — OEM Kit	787287-02	787289-02	787296-02	787298-02	787297-02	783525-02	
Performance — Processor	Intel 1.33 GHz Dual-Core	Intel 1.91 GHz Quad-Core	Intel 1.33 GHz Dual-Core	Intel 1.91 GHz Quad-Core	Intel 1.33 GHz Dual-Core	667 MHz Dual-Core ARM Cortex® A9	
RAM (DDR3L)	1 GB	2 GB	1 GB	2 GB	1 GB	512 MB	
Disk (eMMC)	4 GB					512 MB	
FPGA	XC7A75T	XC7A200T	XC7A100T	XC7A200T	XC7A100T	XC7Z020	
Onboard Peripherals — TSN Enabled	✓		—		✓	—	Note: sbRIO-9651 uses a J1 Connector and not RMC
Ethernet	2x IEEE 802.1AS-2011 IEEE 1588-2008 (default end-to-end profile)						
USB Type C port	USB 2.0 device					—	
USB Type C port	1x USB 3.1 Gen1 Host					—	
DisplayPort Alt Mode	—	✓			—	—	
USB Type A port	—		2x USB 2.0 host			1x USB 2.0 Host or Device	
SD port	—		microSDHC				
CAN port	1x CAN FD					2x CAN	
RS-232 port	1x		2x			1x	
RS-485 port	—		1x			2x	
Onboard IO — Analog I/O	—		16 SE/8 Differential, 233 kS/s, 16-bit, ±10 V to ±1 V			—	
Analog I/O	—		4x AO 100 kS/s/ch, 16-bit, ±10 V			—	
Digital I/O (5 V tolerant)	—		4x DIO		28x DIO	—	
RMC Connector — C Series	2x C Series interfaces				—	—	
USB	USB 2.0 host				—	—	
DIO	96x DIO, 3.3 V/2.5 V SE/Differential				—	160x DIO, 3.3 V/ 2.5 V/1.8 V/ 1.5 V/1.2 V SE	
PCIe	1x PCIe x1 Gen 2.0				—	—	
SATA	1x SATA Gen 2.0				—	—	
Power	Optional Input Power from RMC (9 V to 30 V), Output power to RMC (3.3 V and 5 V, FPGA VIO)				—	—	

Table 5. Specifications for sbRIO Hardware

| Model	Part Number	Description
sbRIO-9684	785257-01	RIO mezzanine card with GPIC I/O board, including 16-bit 180 kS/s SSAI, DI, DO, LVTLL, HB DO, relay control DO, SCAN AI, AO
Thermal Kit for sbRIO-9603/08/09/28/29/38	787331-01	Thermal kit for sbRIO-9603/08/09/28/29/38, heat spreader, thermal pads, mounting hardware
Standoff	154752-01	9.65 mm standoff for RIO mezzanine cards (qty. 4 standoff: 4-40 x 0.380 in., qty. 8 screws: 4-40 x 1/4 in.)
sbRIO Breakout Box	784507-01	Onboard I/O breakout for 50-pos 2 mm IDC header (includes qty. 2, 6 in. 2 mm IDC ribbon cables)
sbRIO I/O Ribbon Cable	154041-12	50-pin ribbon cable with IDC headers
sbRIO Power Cable	152834-01	Power cable for sbRIO controllers, 2-position Mini-Fit JR to pigtail

**Table 6.** Specifications for sbRIO Accessories

Developing a CompactRIO System with LabVIEW

LabVIEW abstracts the complex, low-level tasks required in embedded system programming so you can design your own advanced measurement and control system without a large team of developers or extensive experience with hardware design languages (HDLs).

Your LabVIEW VI for the main processor and the VI for the FPGA reside in the same LabVIEW project, making it easier to develop a complete system.
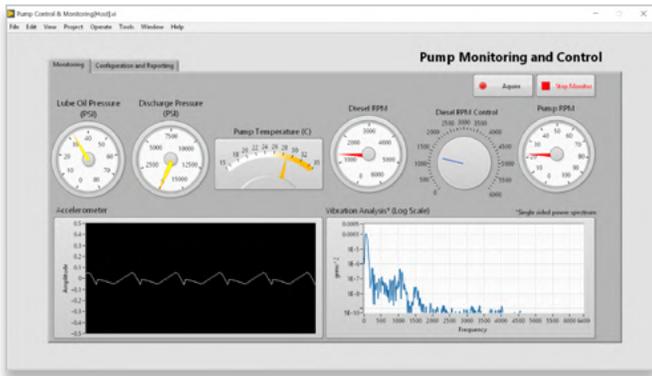
Figure 5. LabVIEW VIs running on CompactRIO have front panels you can see while in development mode or when you connect to the chassis remotely. ORIO systems do not require a user interface and can operate as "headless."
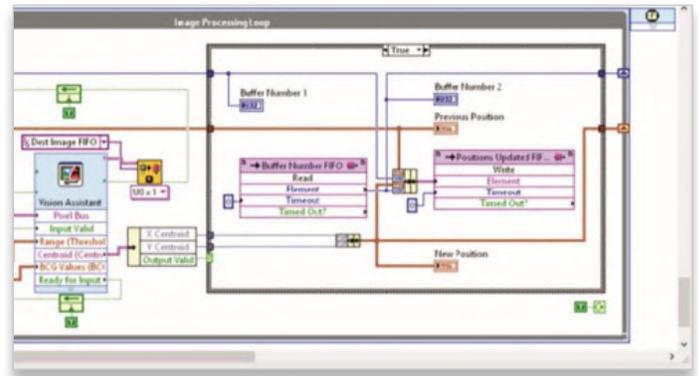
Figure 6. Programming LabVIEW for CompactRIO requires the LabVIEW FPGA and LabVIEW Real-Time modules.

Benefits of LabVIEW for Embedded System Design

Reduced Development Time

Focus on solving problems, not low-level programming tasks, with built-in constructs to manage timing and memory in an intuitive programming environment.

Open Software Interoperability

Leverage other programming approaches alongside or with LabVIEW to reuse existing IP and take advantage of existing expertise.

Built-in Libraries

LabVIEW contains nearly 1,000 built-in signal processing, analysis, control, and mathematics functions to accelerate the development of embedded measurement systems.

User-Programmable FPGA

Implement high-speed signal processing, custom timing and triggering, and control algorithms directly in hardware to maximize reliability and determinism.

Remote System Management

Transfer data between systems or remotely update hundreds of controllers at once with built-in system management utilities.

LabVIEW Tools Network

Extend the capabilities of your system with a vast ecosystem of certified, application-specific add-ons.

Leverage the Openness of NI Linux Real-Time OS: A Prebuilt, Validated RTOS

Development Tool Options

Program the real-time processor with LabVIEW, C/C++, or textual math—and reuse code from past projects to save development time.

Linux Ecosystem

Access thousands of open-source applications, IP, and examples—and collaborate with an active community of users and developers.

Security

Boost security and reliability with native support for Security-Enhanced Linux (SELinux), which delivers mandatory access control through custom policy creation.
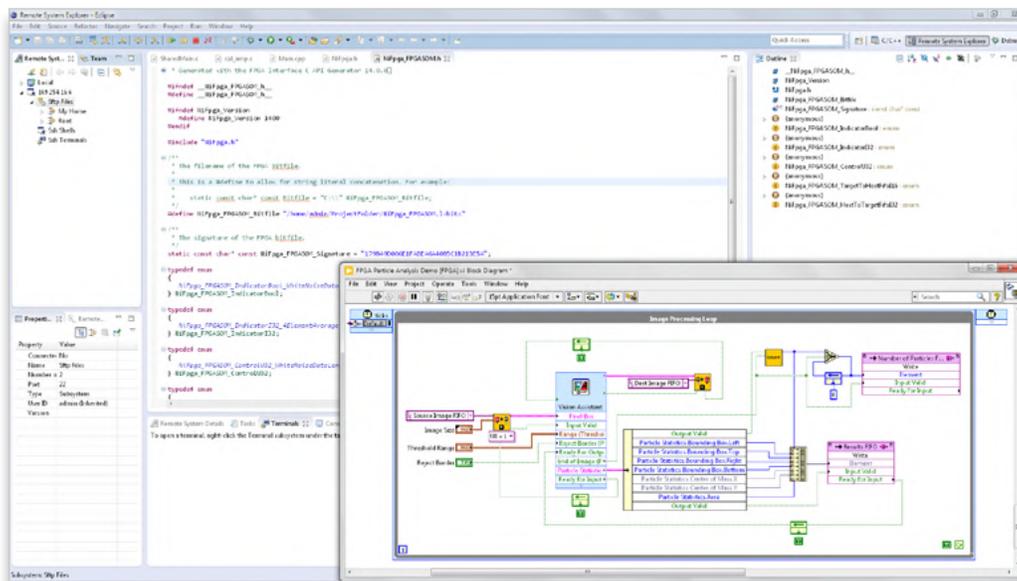
Figure 7. NI Linux Real-Time targets allow you to develop, deploy, and debug C/C++ code using Eclipse or your IDE of choice.

Customize Programmable Hardware With LabVIEW FPGA

Take advantage of the graphical LabVIEW environment to program the onboard FPGA and unlock the incredible power of these devices—even without any knowledge of HDLs like VHDL or Verilog. LabVIEW FPGA removes not only the requirement for HDL programming but also the need to think through timing constraints, I/O configuration, and place and route settings, which are notoriously complex tasks.

- Built-in language constructs to manage clocks/timing, memory, I/O, and data transfer (DMA)
- Cycle-accurate simulation and debugging capabilities
- Support for HDL code integration
- Cloud compile support to reduce compile times
- Access to free IP for complex mathematics, high-speed control, image processing, signal analysis, and more in the FPGA IPNet community

Connect to Industrial Systems

Industrial Communications

With support for common industrial protocols like OPC UA, EtherCAT, Modbus, EtherNet/IP, and more, CompactRIO can connect to a variety of devices, equipment, and infrastructure. Have a brownfield application that requires support for numerous protocols? CompactRIO is an ideal Industrial Internet of Things (IIoT) gateway that can act as the translator between any of its supported protocols, as well as custom communication protocols through the FPGA.

EtherNet/IP	Modbus (Serial)	OPC UA
Modbus TCP	RS-232 / RS-485	MQTT
EtherCAT	CAN bus	DNP3

Figure 8. CompactRIO supports common industrial protocols.

Deploy to Rugged Environments

Contained within a compact, rugged package, CompactRIO Controllers feature operating temperature ranges as wide as -40 °C to 70 °C (-40 °F to 158 °F), up to 50 g shock and 5 g vibration ratings, redundant power supply inputs, and a variety of international safety, HazLoc, and environmental certifications and ratings for operation in harsh industrial environments.

Figure 9. Rugged operating specifications and a variety of certifications make CompactRIO well suited for applications in oil and gas and industrial or factory automation environments.

Condition-Based Monitoring and Control Case Studies

Proactive Maintenance Saves Millions

A utility provider partnered with MSO Technologies and Cyth Systems to deploy a circuit breaker health monitoring solution using NI Single-Board RIO and NI LabVIEW FPGA. This proactive, condition-based maintenance system is expected to save more than $400 million over 20 years by extending breaker life, reducing outages, and improving regulatory compliance through continuous data insights and automated event analysis.
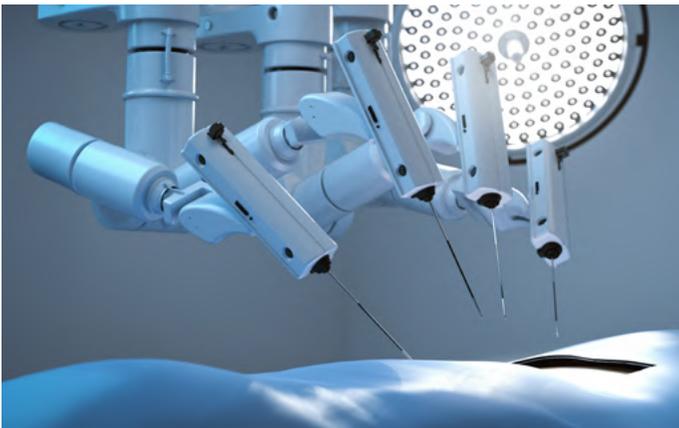
Empowering Robotic Microsurgery with NI CompactRIO and NI LabVIEW

Medical Microinstruments (MMI) used NI CompactRIO hardware and LabVIEW software to rapidly develop the Symani® Surgical System, a robotic platform that enhances precision in microsurgery. In just four years, Symani earned global regulatory approvals and was used in more than 1,500 procedures, revolutionizing surgical capabilities and earning recognition as one of *Time* Magazine's Best Inventions of 2024.

Modernizing Power Plant Monitoring

A major Swedish power plant upgraded its aging data logging system with WireFlow's Lundby Data Logger, a scalable, time-synchronized solution built on NI hardware platforms CompactRIO and CompactDAQ. This modern system supports thousands of I/O channels, high sampling rates, and autonomous offline logging, ensuring long-term reliability, redundancy, and ease of future expansion.

Structural Health Monitoring Case Studies

Monitoring the Xiamen Jimei Bridge in China (10 km)

COCO Highway Consultants used CompactRIO hardware and LabVIEW to create a distributed signal acquisition system for the Xiamen Jimei Bridge. This intelligent solution ensures safety and durability by monitoring various aspects, including load, wind, temperature, humidity, and structural dynamics.

Structural Academic Research (In the Field)

The University of Exeter's Vibration Engineering Section (VES) developed bespoke vibration data loggers. These loggers, using LabVIEW and CompactRIO, enabled sub-microsecond synchronization across large structures without long cables or RF transmissions. By measuring ambient vibrations of the Jiangyin suspension bridge in China, they estimated its modal properties and created a novel monitoring system for civil structures.

Structural Academic Research (In the Classroom)

Tufts University deployed a CompactRIO-based continuous monitoring system on the Dowling Hall Footbridge. The system collects eight acceleration channels and ten temperature channels. The university uses remote access to the system as a live laboratory for research and as a teaching tool for vibration analysis courses.

Embedded Test Systems with Control Case Studies

Safety Testing of London's Underground

Thales UK revolutionized rail testing for the London Underground system by leveraging NI CompactRIO hardware and NI LabVIEW system design software.

They automated rail testing using virtual test trains (VTTs), saving time and costs compared to traditional methods. The VTTs, powered by CompactRIO, mimic passenger trains and provide efficient, bidirectional testing.

High-Voltage Transient Root Cause Analysis

Siemens addressed recurring issues with light-rail transit vehicles by developing a rugged monitoring system using NI CompactRIO (cRIO) hardware and LabVIEW software. They identified voltage transients missed by earlier equipment as the root cause, significantly reducing costly failures and operating delays for their customer.

Railway Lab Test Benches

CET EST S.C. developed railway rolling stock integral laboratory solutions, focusing on conducting structural integrity and fatigue resistance tests. They used NI LabVIEW software and CompactRIO hardware to monitor critical parameters, ensuring safety, performance, and durability.

NI Partner Network

The NI Partner Program offers domain, application, and overall test development expertise to help your team get ahead and stay ahead.

Innovate faster with proven scalable solutions. Reduce development time and cost through Integration and Consulting assistance.

Types of Partners

Solution Partners

Experts in delivering products and solutions to solve your specific automated test or automated measurement application challenges.

System Integrators

Specialists in integrating and deploying test and measurement systems, based on your specific requirements and their mature industry capabilities.

Consultants

Consultants offer expert project services in areas such as software development, engineering, science, analytics, or regulatory compliance, or other specialized skills to support complex systems.

Connect with our global community of trusted NI Partners ready to give your business a competitive edge.

Find a Partner or Solution at **ni.com/findapartner**.

NI Hardware Services

All NI hardware includes a one-year warranty for basic repair coverage and calibration in adherence to NI specifications prior to shipment. Additional entitlements are available to improve uptime and lower maintenance costs with service programs for hardware. Learn more at **ni.com/services/hardware**.

Benefits	Hardware Warranty	Standard Service Program	Premium Service Program	Description
Duration at Point of Sale	1 year; included	3 years; optional	3 years; optional	We enhance warranty coverage with additional service benefits provided with a hardware service program.
Technical Support Access	✓	✓	✓	We provide access to support resources for your hardware. **Learn about support services**
Repair Service Coverage*	Factory Defects and Workmanship	Comprehensive and Unlimited	Comprehensive and Unlimited	We restore your device's functionality and includes firmware updates. **Learn more**
Adjustments to Factory Specifications with every repair[3]*	✓	✓	✓	We assure that your device will be adjusted to the manufacturer's specifications, ensuring all measurements are within tolerance as part of the repair process.
Repair Service Turnaround Time*	No Commitment	<10 working days[1] + standard shipping	<10 working days[1] + standard shipping	If we miss our committed repair turnaround time targets, you are entitled to a 25% discount on your next service renewal on that asset.[2]
System Configuration, Assembly, and Test	—	✓	✓	NI technicians assemble, install software in, and test your system per your custom configuration prior to shipment. **Learn more**
System Return Material Authorization (RMA)[4]	—	—	✓	We accept the delivery of fully assembled systems when performing repair services. **Learn more**
Advanced Replacement[5]	—	—	✓	We stock replacement hardware that can be shipped immediately if a repair is needed, fulfilled in <1 working day + express shipping. **Learn more**
Calibration Plan* (optional, with purchase)	—	✓	✓	We perform the requested level of calibration at the specified calibration interval for the duration of the service program. **Learn more**
Calibration Turnaround Time* (optional, with purchase)	—	Standard: <10 working days + standard shipping	Expedited: <3 working days + express shipping[6]	

Note: Updates marked with * will take effect starting Dec 2025.

[1] Does not include shipping times. Some products are not eligible. Standard extended repair turnaround time for RF products is <15 working days + standard shipping.

[2] Discount is applied against the next sequential Service Program renewal period on the same asset. It is applicable only to renewals of same or higher-level service and has no cash value.

[3] Adjustment of Instrument to within tolerable limits as needed. Does not include certificate with as-found or as-left data.

[4] This option is available for PXI, CompactRIO, and CompactDAQ systems.

[5] This option is not available for all NI products in all countries. Contact your local NI sales engineer for more information.

[6] Expedited calibration is only available for the traceable calibration level.

Table 7. Hardware Service Options

Premium Plus Service Program

NI can customize the offerings listed above or offer additional entitlements such as on-site calibration, custom sparing, and lifecycle services through a PremiumPlus Service Program. Contact your NI sales representative to learn more.

Technical Support

NI hardware service programs and warranty include access to technical support provided by NI support agents during local business hours. Service requests can be managed online. Additionally, take advantage of award-winning NI online resources and communities.

Ihr Ansprechpartner / Your Partner:

dataTec AG
E-Mail: info@datatec.eu
datatec.eu

Mess- und Prüftechnik. Die Experten.

Authorized Distributor

Emerson Test & Measurement
11500 N Mopac Expwy
Austin, TX 78759-3504