

For user manuals and dimensional drawings, visit the product page resources tab on ni.com.

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NI 9232

±30 V, IEPE and AC/DC Analog Input, 102.4 kS/s/ch, 3 Ch Module



- 3 channels, 102.4 kS/s/ch simultaneous AI; 41 kHz bandwidth
- ±30 V input, 24-bit resolution, 99 dB dynamic range
- Software-selectable AC/DC coupling; AC coupled (0.1 Hz)
- Software-selectable IEPE signal conditioning (0 mA or 4 mA); IEPE open/short detection
- Transducer Electronic Data Sheet smart sensor compatibility
- -40 °C to 70 °C operating range, 5 g vibration, 50 g shock

Overview

The NI 9232 is a 3-channel C Series dynamic signal acquisition module for making industrial measurements from integrated electronic piezoelectric (IEPE) and non-IEPE sensors with NI CompactDAQ or NI CompactRIO systems.

The NI 9232 delivers 99 dB of dynamic range and incorporates software-selectable AC/DC coupling and IEPE signal conditioning for accelerometers, tachometers, and proximity probes. The three input channels simultaneously digitize signals at rates up to 102.4 kHz per channel with built-in anti-aliasing filters that automatically adjust to your sample rate.

EMC Performance

To ensure EMC compliance, you must use a ferrite bead, such as part number 782802-01.

Recommended Software

NI sound and vibration analysis software, including the NI Sound and Vibration Measurement Suite and the NI Sound and Vibration Toolkit, provides signal processing functionality for performing condition monitoring and machine diagnostics including frequency analysis, order tracking, and display techniques such as orbit plots and shaft centerlines.

Recommended Accessories

- NI 9971 strain relief and operator protection
- EMI suppression ferrite for NI 9232 (782802-01)

Note: To ensure EMC compliance, you must use a ferrite bead, such as part number 782802-01.

Box Contents

- 1 NI 9232 C Series module
- 1 NI 9232 Operating Instructions and Specifications manual

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Comparison Tables

Product Name	Signal Ranges	Channels	Sample Rate	Simultaneous	Resolution	Excitation	Isolation	Connectivity
NI 9232	±30 V	3 Differential	102.4 kS/s/ch	Yes	24-Bit	4 mA	60 VDC Ch-Earth	Screw Terminal
NI 9234	±5 V	4 Differential	51.2 kS/s/ch	Yes	24-Bit	2 mA	None	BNC

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Application and Technology

NI C Series Overview



NI C Series modules are designed to provide high-accuracy measurements to meet the demands of advanced DAQ and control applications. Each module contains measurement-specific signal conditioning to connect to an array of sensors and signals, bank and channel-to-channel isolation options, and support for wide temperature ranges to meet a variety of application and environmental needs all in a single rugged package. You can choose from more than 100 C Series modules for measurement, control, and communication to connect your applications to any sensor on any bus.

Most C Series I/O modules work with both the NI CompactDAQ and NI CompactRIO platforms. The modules are identical, and you can move them from one platform to the other with no modification.

NI CompactRIO Platform



Powered by the NI LabVIEW reconfigurable I/O (RIO) architecture, NI CompactRIO combines an open embedded architecture with small size, extreme ruggedness, and hot-swappable industrial I/O modules. Each system contains an FPGA for custom timing, triggering, and processing with a wide array of modular I/O to meet any embedded application requirement.

[Configure Your Complete NI CompactRIO System](#)

NI CompactDAQ Platform



NI CompactDAQ is a portable, rugged data acquisition platform that integrates connectivity and signal conditioning into modular I/O to directly interface with any sensor or signal. Using NI CompactDAQ with LabVIEW, you can easily customize how you acquire, analyze, present, and manage your measurement data. From research to development to validation, NI provides programmable software, high-accuracy measurements, and local technical support to help ensure you meet your exact measurement application requirements.

[Configure Your Complete NI CompactDAQ System](#)

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Support and Services

System Assurance Programs

NI system assurance programs are designed to make it even easier for you to own an NI system. These programs include configuration and deployment services for your NI PXI, CompactRIO, or Compact FieldPoint system. The NI Basic System Assurance Program provides a simple integration test and ensures that your system is delivered completely assembled in one box. When you configure your system with the NI Standard System Assurance Program, you can select from available NI system driver sets and application development environments to create customized, reorderable software configurations. Your system arrives fully assembled and tested in one box with your software preinstalled. When you order your system with the standard program, you also receive system-specific documentation including a bill of materials, an integration test report, a recommended maintenance plan, and frequently asked question documents. Finally, the standard program reduces the total cost of owning an NI system by providing three years of warranty coverage and calibration service. Use the online product advisors at ni.com/advisor to find a system assurance program to meet your needs.

Calibration

NI measurement hardware is calibrated to ensure measurement accuracy and verify that the device meets its published specifications. To ensure the ongoing accuracy of your measurement hardware, NI offers basic or detailed recalibration service that provides ongoing ISO 9001 audit compliance and confidence in your measurements. To learn more about NI calibration services or to locate a qualified service center near you, contact your local sales office or visit ni.com/calibration.

Technical Support

Get answers to your technical questions using the following National Instruments resources.

- **Support** - Visit ni.com/support to access the NI KnowledgeBase, example programs, and tutorials or to contact our applications engineers who are located in NI sales offices around the world and speak the local language.
- **Discussion Forums** - Visit forums.ni.com for a diverse set of discussion boards on topics you care about.
- **Online Community** - Visit community.ni.com to find, contribute, or collaborate on customer-contributed technical content with users like you.

Repair

While you may never need your hardware repaired, NI understands that unexpected events may lead to necessary repairs. NI offers repair services performed by highly trained technicians who quickly return your device with the guarantee that it will perform to factory specifications. For more information, visit ni.com/repair.

Training and Certifications

The NI training and certification program delivers the fastest, most certain route to increased proficiency and productivity using NI software and hardware. Training builds the skills to more efficiently develop robust, maintainable applications, while certification validates your knowledge and ability.

- **Classroom training in cities worldwide** - the most comprehensive hands-on training taught by engineers.
- **On-site training at your facility** - an excellent option to train multiple employees at the same time.
- **Online instructor-led training** - lower-cost, remote training if classroom or on-site courses are not possible.
- **Course kits** - lowest-cost, self-paced training that you can use as reference guides.
- **Training memberships** and training credits - to buy now and schedule training later.

Visit ni.com/training for more information.

Extended Warranty

NI offers options for extending the standard product warranty to meet the life-cycle requirements of your project. In addition, because NI understands that your requirements may change, the extended warranty is flexible in length and easily renewed. For more information, visit ni.com/warranty.

OEM

NI offers design-in consulting and product integration assistance if you need NI products for OEM applications. For information about special pricing and services for OEM customers, visit ni.com/oem.

Alliance

Our Professional Services Team is comprised of NI applications engineers, NI Consulting Services, and a worldwide National Instruments Alliance Partner program of more than 700 independent consultants and integrators. Services range from start-up assistance to turnkey system integration. Visit ni.com/alliance.

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