CompactDAQ Strain and Load Measurement Bundle

Modular Data Acquisition Bundles For Strain and Load

Use NI DAQ strain and load bundle for:

- Impact and rapid load testing
- System-level validation
- Quick strain-based sensor logging
- Structural design and integrity validation
- Strain testing

Popular Features

Excitation

Up to 10 V internal excitation

Rugged

-40° to 70° C Temp range
50g shock

Bridge Completion

Programmable half- and full-bridge completion

Hardware Bundle for Strain and Load Sensors

Spend less time configuring your test bundle and more time testing your products with NI's strain and load measurement bundles based on CompactDAQ hardware.

	cDAQ-SL1100 P/N: 868018-01	cDAQ-SL4201 P/N: 868019-01
What's in the Box?		
Chassis	cDAQ-9171 	cDAQ-9174 
Module(s)	NI 9237 (x1) 	NI 9237 (x2) 
Accessories	• USB cable (A to B) with captive screw • Quarter Bridge Adapter • RJ-50 to Screw-Terminal Adapter • RJ50 Cables	• USB cable (A to B) with captive screw • Quarter Bridge Adapter • RJ-50 to Screw-Terminal Adapter • RJ50 Cables • Desktop Mounting Kit • AC/DC power supply* *IEC power cord sold separately
Specifications (chassis)		
Slots	1	4
Power Required	USB 2.0 Bus-powered	9-31 VDC
Dimensions (unloaded)	131.4 mm × 88.6 mm × 33.3 mm (5.17 in. × 3.49 in. × 1.31 in.)	159.5 mm × 88.1 mm × 58.9 mm (6.28 in. × 3.47 in. × 2.3 in.)
Operating Temp	-40° to 70° C	
Operating shock/vib	50 g shock and 5 g vibration	
Specifications (module)		
Connectivity	RJ50	
Channels	4	
Sample Rate	50 kilo Sample/Second/Channel	
Isolation	Channel-Earth	
Resolution	24-bit	
Bridge Completion	Full, Half, and Quarter	
Internal Excitation	10 V	

Replacement and Upgrade Options for Strain and Load Sensors

Need more channels or a different sample rate? NI offers more Strain/Bridge Modules for your strain and load test needs.

Strain/Bridge Modules

System Need	Connectivity	Ch	Sample Rate	Bridge Configurations	Model/PN
High quarter bridge channels	Spring Terminal	8	10 kS/s/ch Simultaneous	Quarter	NI-9235
Highest Bridge Resistance	Spring Terminal	8	10 S/s/ch Simultaneous	Quarter	NI-9236
General purpose	RJ50	4	50 S/s/ch Simultaneous	Quarter Half Full	NI-9237*

*In the Strain and Load Measurement Bundles

Other Popular Measurement Types

Measurement	Connectivity	Ch	Sample Rate	Isolation	Model/PN
Sound and Vibration	Spring Terminal	4	51.2 kS/s/ch Simultaneous	None	NI-9234
Voltage Input	Spring Terminal	4	250 kS/s Multiplexed	Channel-Earth	NI-9205
Thermocouple	Spring terminal	16	74 S/s Multiplexed	Channel-Earth	NI-9213
Voltage, current, strain, thermocouple, RTD, ¼ ½ full bridge	Spring terminal	4	100 S/sec Simultaneous	Channel-Channel	NI-9219

CompactDAQ Chassis

Need more than four modules or a different connectivity?

Select the chassis that meets your needs. All hardware use the same software driver.

- Ethernet: 1, 4, and 8-Slot chassis
- USB: 1, 4, 8, 14-Slot chassis
- Wi-Fi: 1-Slot chassis

Contact your NI product expert to get help solving your test challenges.

Improve Test Performance with NI Software

Build an Automated Test System with LabVIEW

- **Acquire data** from NI hardware, 3rd party instruments, and many industry-standard protocols
- **Create interactive UIs** for test monitoring and control.
- **Process** with standard math, probability, and statistical functions.
- **Integrate code** written in Python, C/C++, .NET, and MathWorks MATLAB® software.
- **Save data** to .csv, .tdms, or any custom-defined binary file.

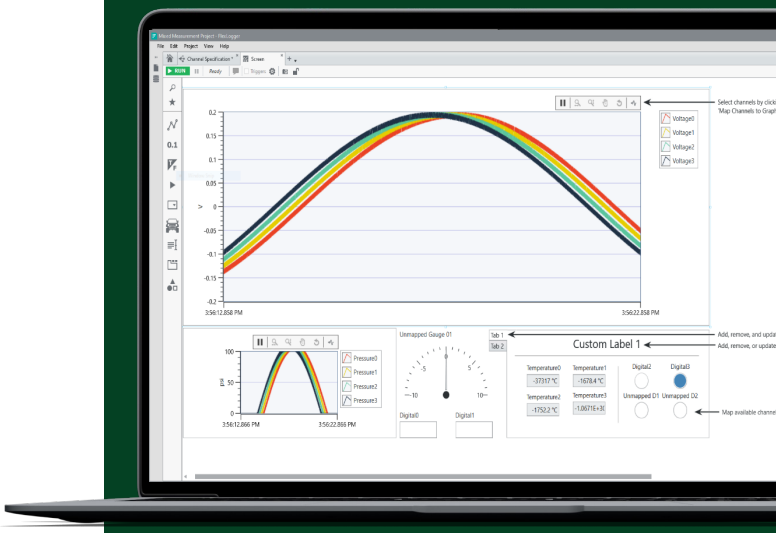
Perform Quick Tests with FlexLogger No-Code Software

- **Configure** quick tests with alarms, test properties, and real-time data displays
- Simplify **sensor measurement** with sensor-specific templates
- **Log test results** to .tdms or .csv files
- **Add calculations** for simple math, filtering, Boolean logic, and more
- **Review data** with an included interactive TDMS file viewer

Develop with Your Preferred Programming Language

- Python
- C, C+, C#
- .NET
- MATLAB® (Contact MathWorks® for the Data Acquisition Toolbox)

**MATLAB is a registered trademark of The MathWorks, Inc.*

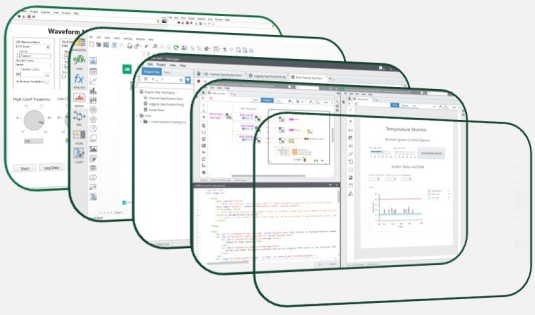


"“FlexLogger makes it easier to troubleshoot and verify that the raw data from different sensors are correct before I start my test. This helps shorten test development by saving time typically wasted on redoing configurations."

- Andy Tarman,
Lab Test Engineer
CNH Industrial

Test Workflow

NI's recommended, and affordable, collection of software for engineers working on research, validation, and production test applications.



Includes: LabVIEW, FlexLogger, DIAdem, and G Web Development Software