CompactDAQ Temperature Measurement Bundle

Modular Data Acquisition Bundles For Temperature

Use NI DAQ temperature systems for:

- Thermal chamber tests
- Board-level thermal characterization
- System-level validation
- Temperature field tests
- Quick temperature logging systems

Popular Features

Connection Options

Options for minijack or screw terminal thermocouples

Rugged

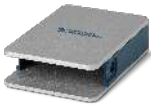
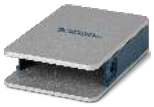
-40° to 70° C Temp range
50g shock

Built-in CJC

Cold-junction compensation improves thermocouple accuracy

Hardware Bundle for Temperature Sensors

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

	cDAQ-T1101 P/N: 865662-01	cDAQ-T1102 P/N: 865682-01	cDAQ-T4202 P/N: 868014-01
What's in the Box?			
Chassis	cDAQ-9171 	cDAQ-9171 	cDAQ-9174 
Module(s)	NI 9210 (x1) 	NI 9213 (x1) 	NI 9213 (x2) 
Accessories	• USB cable (A to B) with captive screw	• USB cable (A to B) with captive screw • Plastic module shell for strain relief and safety	• USB cable (A to B) with captive screw • Plastic module shell for strain relief and safety • 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	Mini-Thermocouple Jack	Spring terminals (bare wires)	Spring terminals (bare wires)
Channels	4	16	32 (total)
Sample Rate	14 Samples / second	74 Samples / second	74 Samples / second
Supported Thermocouples	J, K, N, T, E, R, S, B, and C		
Isolation	Channel-Earth		
Resolution	24-bit		
Cold-junction compensation (CJC)	✓		
Traceable calibration	✓		
Anti-alias filter	✓		

Replacement and Upgrade Options for Temperature Sensors

Need more channels or a different sample rate? NI offers more Temperature Modules for your temperature test needs.

Thermocouple Modules

System Need	Connectivity	Ch	Sample Rate	Isolation	Model/PN
Lowest module cost	Spring Terminal	4	14 S/s Multiplexed	Channel-Earth	NI-9210
Minijack	Mini Jack	4	14 S/s Multiplexed	Channel-Earth	NI-9210*
Lowest cost/channel	Spring terminal	16	74 S/s Multiplexed	Channel-Earth	NI-9213*
Ch-Ch Isolated	Screw Terminal (250V)	8	95 S/s/ch Simultaneous	Channel-Channel	NI-9212
Better accuracy	Screw Terminal	16	68 S/s Multiplexed	Channel-Earth	NI-9214

*In one of the Temperature 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
Load, Pressure, Strain	RJ-50 (accessories sold separately)	4	50 kS/s/ch Simultaneous	Channel-Earth	NI-9237
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.

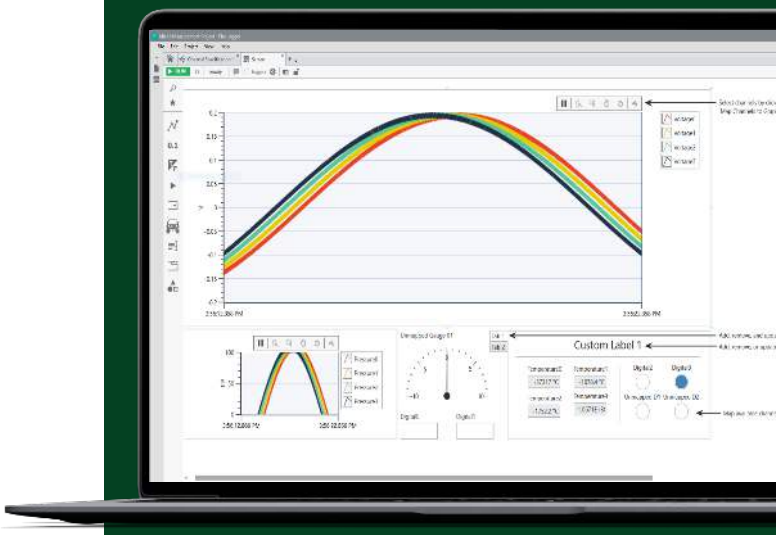
Perform Quick Tests with FlexLogger No-Code Software

- **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.*

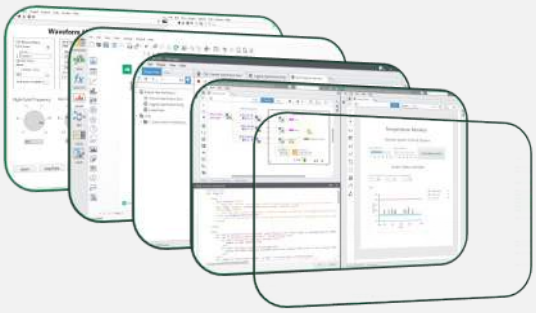


"“FlexLogger makes it easier to troubleshoot and verify that the raw data from different sensors are correct before I start my test. This helps shorten test development by saving time typically wasted on redoing configurations.”

- 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