Software development
Test stand development
System supplier
Products
Intensity Inspector
Noise Inspector
Signal Inspector

Data Recorder Signal Inspector



The newly developed mobile data recorder solution, the **Signal Inspector**, comes from the **Noise Inspector** product family.

The basis of the **Signal Inspector** is provided by the cRIO platform from National Instruments with a CAE software solution for all the electronic measurement data, irrespective of whether it has to do with strain gauge measurement, acceleration measurement or force measurement.

Signal Inspector

CAE
Software & Systems

Signal measurement in all situations

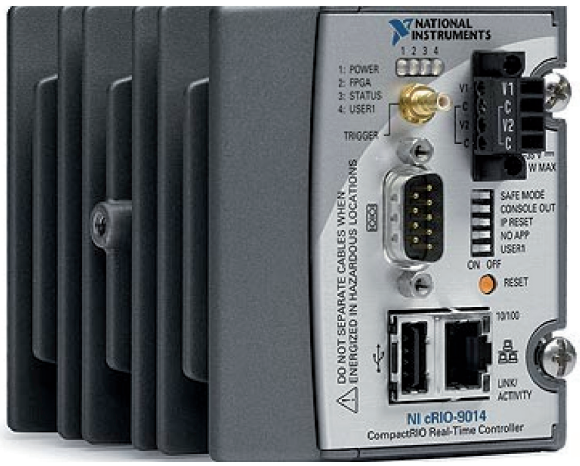
The **Signal Inspector,** our solution for modular data acquisition is suitable for a wide variety of application areas in measurement technology.
The cRIO system with its robust structure and good value architecture consisting of very different measurement modules, the intelligent FPGA chassis and a high-performance real time controller, offers a high degree of flexibility for your measurement tasks.

- Phase-synchronised recording of up to 28 channels
- Various signals, voltage, IEPE (ICP), strain gauge (bridge amplifier), CAN bus
- Continuous or partial recording. Trigger conditions definable for each channel
- Measurement of acceleration, velocity, displacement, force, strain, rpm, analogue and digital process signals
- Online rain flow counting
- Standard data formats such as TDMS or universal file format
- Compatible with standard software, e.g. DIAdem

The hardware

NI cRIO-9014 - real time controller with 128-MB-DRAM and 2-GB memory

- Processor with 400 MHz, non-volatile memory with 2 GB, 128-MB-DRAM
- 10/100BaseT Ethernet port with embedded Web server and File server with a remote panel user interface
- Full-speed USB host port for USB flash connection and Memory devices
- dual 9 to 35 VDC inputs
- Operating temperature range from - 40° C to + 70° C



Real time controller

NI cRIO-9104 embedded CompactRIO chassis with 8 slots and 3 million gates

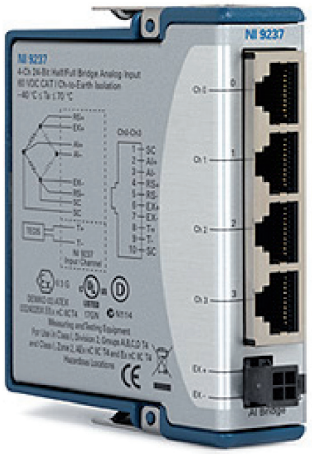
- DIN rail mounting options
- Reconfigurable embedded chassis with 8 slots for CompactRIO-I/O module
- RIO-FPGA with 3 million gates for ultimate processing power
- Operating temperature range from - 40° C to + 70° C



Embedded CompactRIO chassis

NI 9237 - 4 channels, 24-bit resolution, ±25 mV/V simultaneous bridge module

- For strain measurement, force measurement etc.
- Supports half bridge or full bridge in four and six-wire operation.
- Calibration conforms with NIST
- Analogue input modules with RJ50 connections with 24-bit resolution and ±25 mV/V
- 4 simultaneously scanned analogue inputs, maximum scan rate of 50 kS/s
- Programmable half and full bridge completion, up to 10 V internal excitation
- Transient isolation 1000 Vrms.
- - 40° C to + 70° C operating range



Bridge module with simultaneous scanning

NI 9239 - analogue input module with 4 channels and 24 bits

– Channel to channel isolation 250Vrms
– 50 kS/s per channel simultaneous inputs
– Antialias filter
– ±10 V input range



Analogue input module

NI 9233 - 4 channels, ±5 V, 50 kS/s per channel, 24 bit resolution

– IEPE signal conditioning with 2 mA for microphones and acceleration sensors etc.
– Maximum scanning rate of 50 kS/s, AC-coupled (0.5 Hz)
– 24 bit resolution, 102 dB dynamic range, antialias filter
– 4 simultaneously sampled analogue inputs, input range of ±5 V



Input module with IEPE support
Upon request, we can provide 40 further modules from this range.

The Software

Our software development is based on LabVIEW. Through the open software structure, customer-specific adaptations are therefore feasible in the short term. Recorded data can be processed using DIAdem (TDM format). In the supported universal file format (UNV, UFF58) the measurement data can be brought to any other desired analysis system.

The following data formats are available:
– Universal File Format (UNV, UFF58)
– TDM (Technical Data Management)

LabVIEW

What distinguishes the Signal Inspector:

Through continuously synchronised recording of data in connection with interfaces such as USB, W-LAN and CAN bus, the **Signal Inspector** provides the technology for your future tasks.

– Extremely compact and robust device
– far-reaching area of use
– Operation temperature - 40° C to + 70° C
– Vibration up to 50 g shock
– A system with 4 slots, measures just 179.6 x 88.1 x 88.1 mm and only weighs 1.58 kg
– High channel density up to 28 analogue and four digital channels
– Electricity supply with 9 to 35 VDC Low electricity consumption
– Real time controller with 400 MHz-MPC5200 processor
– High storage capacity
– Data transfer via WLAN
– Firmware and configuration software in LabVIEW, customer-specific solutions implementable
– International safety EMC and environmental certificates

Conclusion:

The datalogger with the software **Signal Inspector** is a turnkey solution for your measurement tasks.

Profit from the flexibility and performance strength of our engineering know-how when recording and analysing measurement data.

Software development
Test stand development
System supplier
Products
Intensity Inspector
Noise Inspector
Signal Inspector



Do you already know the case study?

CAE develops a datalogger for measuring the load of a bobsled.

LabVIEW

Please send a fax to: +49 (0) 2521 859-360

Have we awoken your interest?

☐ Yes, I would like the case study on the topic **CAE data recorder Signal Inspector**

Name

Company

E-mail

Postcode / Town

Road

Telephone

Further information is also available from: www.produktentwicklung.de.

CA Software und Systems GmbH
Beckumer Straße 34
59229 Ahlen

Tel. +49 (0) 2382 964371
Fax +49 (0) 2521 859-360
www.cae-systems.de
E-mail: cae@cae-online.de

CAE
Software & Systems