

# flexLAB<sup>®</sup>

Flexibility in testing and analysis

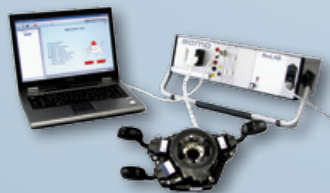


analysing

parameterizing

testing

documentation



# flexLAB<sup>®</sup> – flexibility in testing and analysis

flexLAB<sup>®</sup> is our portable solution for testing and analysis of mechatronic and electronic components. The innovative and forward-looking hardware and software concepts permit a purposive use in processing, production, quality control and on-site working.

flexLAB<sup>®</sup> allows the operator to react quickly to individual test requirements. Product-specific plug-in modules can be exchanged with little effort; the associated testing application software, previously developed with the flexLAB<sup>®</sup>-Software Suite, can be selected just as easy.

By means of the flexLAB<sup>®</sup>-Software Suite the developer of a test software has access to numerous tools and a library consisting of measurement and stimulation LabVIEW<sup>®</sup> VIs. Based on these, product specific test sequences can easily be developed, managed and automatically executed by using NI TestStand<sup>®</sup> as a test management software.

LabVIEW<sup>®</sup>, NI, NI TestStand<sup>®</sup> and CompactRIO<sup>®</sup> are registered trademarks of National Instruments



## flexLAB<sup>®</sup> – combining measurement and application

- ✦ Test system with powerful measurement and stimulation capability based on industrial-proofed CompactRIO<sup>®</sup> I/O modules with integrated signal conditioning functions
- ✦ flexLAB<sup>®</sup>-Communication Engine as a software interface between flexLAB<sup>®</sup>'s embedded real-time processor and the PC-based development or test system
- ✦ Highest possible flexibility through exchangeable product-specific modules
- ✦ Minimal setting-up time
- ✦ Self-test and calibration capability
- ✦ Programmable load power supply
- ✦ Ethernet TCP/IP-PC hardware interface

## Flexibility by means of exchangeable flexLAB<sup>®</sup>- modules

- ✦ Product-specific interface connection to flexLAB<sup>®</sup>- test and stimulation channels
- ✦ Simulation of load circuitry
- ✦ Integration of product-specific additional testing hardware

## Fault analysis within the scope of warranty testing

- ✦ Semi-automatic testing with varying test level
- ✦ Testing for specific fault conditions
- ✦ On-site analysis at customer's

- ✦ Detailed fault analysis using the vehicle's on board supply system

## flexLAB<sup>®</sup> – developing tools

- ✦ SOMA flexLAB<sup>®</sup>-Software Suite
- ✦ NI LabVIEW<sup>®</sup> for test step programming
- ✦ NI TestStand<sup>®</sup> as a test management software

## Examples of use

- ✦ Testing of voltage coded and low current switches
- ✦ Testing and flashing of mechatronic and electronic components via CAN/LIN or different bus systems
- ✦ Dynamic function test of optical and magneto-resistive sensors
- ✦ Testing of system compatibility by simulation of a vehicle's signal network

## Technical Data

- ✦ 32 analog inputs,  $\pm 10V$ , 16bit, sample rate 200kS @ 1ch / 6kS @ 32ch
- ✦ 32 analog outputs, 0-30V, 16bit, sample rate 200kS @ 1ch / 6kS @ 32ch
- ✦ 32 digital inputs, 5V, sample rate 100 kS; 4 DI's configurable as 50 kHz counter
- ✦ 16 analog outputs, 0-10V, 1mAmps, 16bit, max. frequency 25kHz, 4 AO's configurable as arbitrary function generators
- ✦ 64 digital outputs, ground-switching, max. 1.0 Amps per channel
- ✦ 32 digital outputs, +U<sub>B</sub>-switching (configurable), max. 0.25 Amps per channel