

## Automotive Test Automation

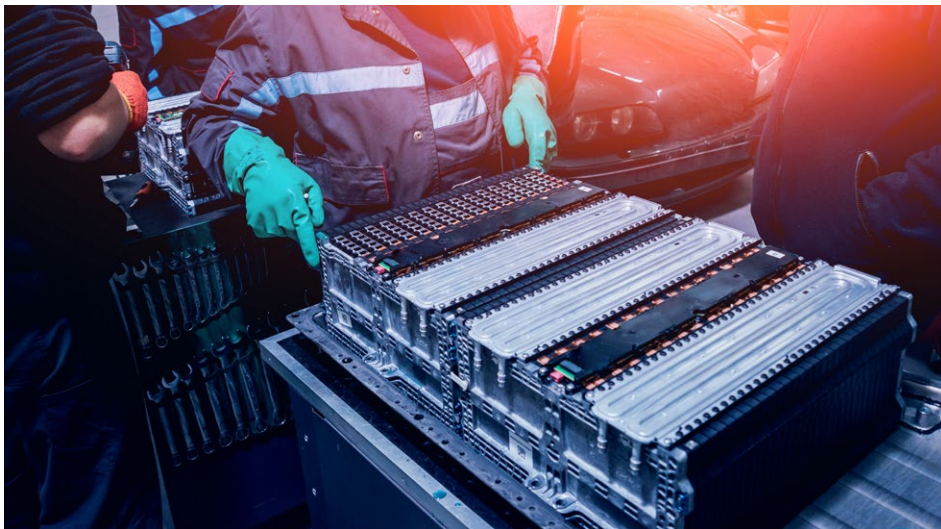
Testing of Batteries and Drive Line  
in E-Mobility



# Electrical, Thermal and Mechanical Evaluation

## Test of Battery and Battery Management System

Gantner Instruments specializes in data acquisition of electrical, thermal and mechanical measurements in the field of test automation. The Q.series product range offers best performance and high isolation for the evaluation of batteries for electrical drives.



- Charging and discharging test
- Short circuit test
- Overcharge, over discharge
  
- Cell, module and pack test
- Live cycle test
- Abuse test
  
- Thermal load
- Mechanical load (nail test)
- Vibration test

### Maximum Flexibility

The innovative High Isolation System is available in different housings to allow the best fit packaging for a wide variety of applications. 19"-systems, rail assembly or portable solutions are based on one technology.

The channel granularity combined with the flexibility to freely mix and distribute modules, maximizes equipment utilization and productivity.

Selectable interfaces to the automation system finally round off the high flexibility. EtherCAT, CAN as well as Ethernet interfaces are available.

**EtherCAT** 



## Available Modules in High Isolation Technology

### A121

- 2-channel, multipurpose inputs for voltage
- Current
- Pt100
- IEPE
- Strain gauge full and half bridges
- Sample rate 100 kHz

### A123

- 4-channel voltage inputs for cell test
- 100 mV
- 1 V
- 10 V
- Sample rate 100 kHz

### A124

- 4-channel thermocouple inputs
- Sample rate 10 kHz

## References

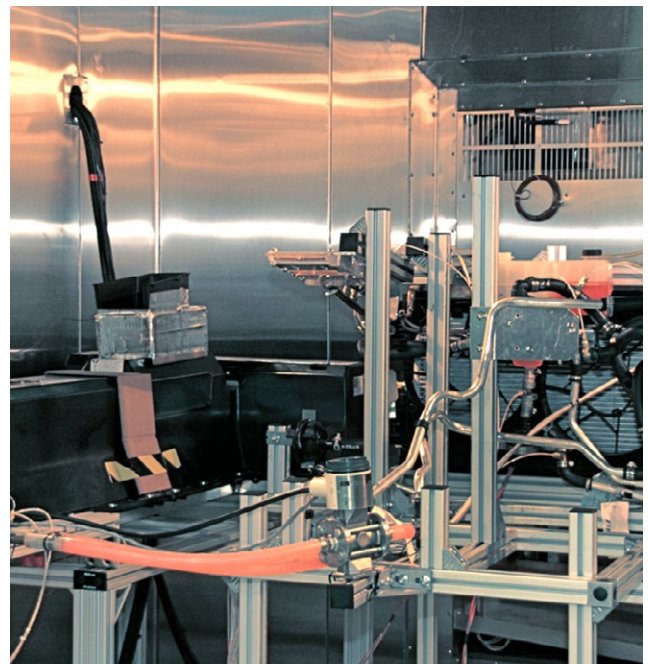
- Daimler AG Research & Technology
- Deutsche Accumotive
- BMW
- VOLVO Cars
- Renault Battery Lab
- General Motors Global Battery Lab
- Tesla Grohmann Automation
- Schäffler
- ZF Friedrichshafen
- Bosch Powertrain Solutions
- TÜV Süd Battery Testing
- Karlsruher Institut für Technologie
- Fraunhofer-Institut für Solare Energiesysteme ISE
- VDE Prüf- und Zertifizierungsinstitut
- and more

### A127

- 4-channel voltage inputs for cell, module and pack test
- 40 V, 120 V, 400 V, 1200 V
- 80 mV, 240 mV, 800 mV, 2400 mV
- Sample rate 100 kHz

### A128

- 4-channel voltage inputs for module and pack test
- 40 V, 120 V, 400 V, 1200 V
- Sample rate 100 kHz



### Isolation 1200 VDC

- Channel to channel
- Channel to power supply
- Channel to interface



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