RT Stand
LV 124

QUALITY AND RELIABILITY TEST SYSTEM
FOR AUTOMOTIVE ELECTRIC AND ELECTRONIC COMPONENTS

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WKS Informatik
Continuous Innovation

RTStand is the first fully automated testing system that ensures compliance with automotive norms across all application areas from development to production. All automotive ECUs can be tested on one common platform. Automated execution, data logging, and reporting combine to accelerate testing and reduce the opportunity for human error.

<u>System Highlights:</u>

- Reduction in test times and costs by up to 50% vs. manual testing
- Define and configure new DUTs quickly and easily
- Support of various fieldbuses (CAN, LIN, automotive ethernet, etc.)
- Replicable testing environments and automated reporting
- Native support for all short circuit, ground offset, and feedback tests
- Time synchronization between voltage and current measurements
- Continuous current measurement, from sleep to transmit
- Based on industry-standard NI tools: TestStand, VeriStand, LabVIEW

Originally designed to support LV 124 / LV 148 standards, the system can be customized to support the following norms:

GM: GMW3172   Ford: FMC 1278   FCA: CS 00054   Hyundai/Kia: ES 95400-10   Tesla: TS-0000425-03

Technical Data

	RTStand LV 124 - F8	RTStand LV 124 - F24	RTStand LV 124 - F48	RTStand LV 124 - F96
Number of analog pins	8	24	48	96
Number of bus pins (optional)	14	14	14	14
Maximum current per pin	Up to 30 A or 80 A	Up to 30 A	Up to 30 A	Up to 30 A
Generic DUT connector (for various kinds of ECU)	Yes			
Generic extension connector (for additional hardware)	Yes			
Automated climate chamber control [1]	Yes			
Fully-automated execution E01-E22 (excl. E18, E20) [2]	Yes			
Analog measurement for all voltage pins in parallel	Yes, 100 kHz per pin			
Analog measurement for current (sleep to transmit)	Yes, 100 kHz per pin			
Time-synchronized current and voltage measurements	Yes			
Easy definition of new DUTs	Yes			
Fast definition of additional tests	Yes			
Arbitrary pulse library [3]	Yes			
Voltage measurement accuracy [4]	< +/- 2%			
Current measurement accuracy [4]	< +/- 2%			

1 - some chambers supported by default, others supported on customer request
2 - inquire about a custom list of supported tests
3 - supported on customer request
4 - Dakks Calibrated device (12V reference for voltage, range reference for current)

General Data

Layout	19" rack
Height	1.9 m
Width	76 cm
Length	1 m- 1.3 m; depending on current capabilities (max. 30 A or 80 A)
Power Supply	400 V / 16 A
Humidity	25% to 75%
Temperature Range	Designed for use in indoor, air-conditioned environments only

Tool Chain

User Interaction

User Interface – Intuitive GUI that allows the automated test start of all tests and controls the whole tool chain of the RTStand LV 124 system.

DUT Definition, Activation, and Editing

VariantHandler – defines of any kind of DUT within the system limits. The user provides the pin name and type, as well as definition of the additional tests. All files necessary for the automated testing are generated based on these specifications. After the files are generated, the DUT can be activated for testing and edited for additional requirements.

Test Run Configuration

TemperatureControl – enables the free test run configuration, with or without climate chamber control. The desired temperatures and soak times are preset before using the climate chamber. All configurations can be saved and reloaded at any time.

Pulse Generation

SignalGeneration – generates signals according to an automotive norm. Can run a parallel data acquisition on 2 channels. The disturbance simulation pulse for output is loaded in a graph display and the current output value is marked correspondingly with a cursor. The device also controls the interruption generation (E10/E13 tests) and 4Q amplifier outputs.

Analog Measurement

Tube Analyzer – enables the time-synchronized measurement of all voltages and current pins with up to 100 kHz per pin. The current measurement is done continuously and without interruptions on several ranges, from sleep to transmit modes, covering +/ 150 A.

Log File Visualization

LogViewer – synchronizes display of Tube Analyzer measurement files and other RTStand TDMS files for a fast, visual check of the voltage and current signals.

Reporting

Word Reports – automated Word reports for all tests sequences are generated based on the test results and user input. The reports can be customized per client and edited after generation.
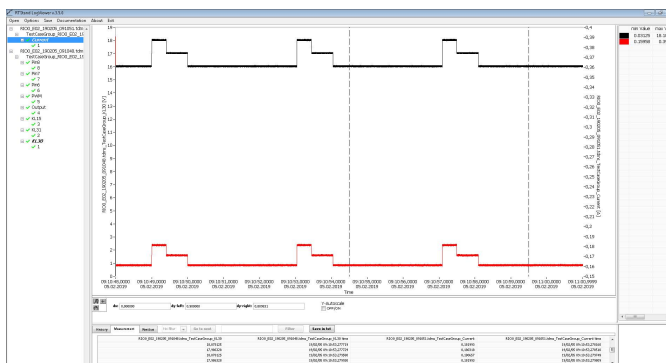
LogViewer
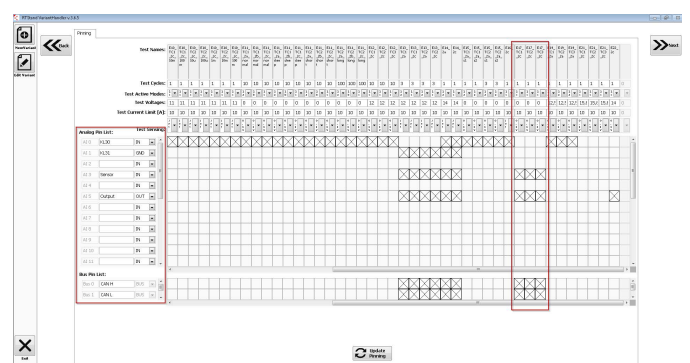
VariantHandler

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