Jena, 4th March 2026

Press Release

Scalable embedded test solution for complex vehicle testing

For testing, simulation, and analysis of modern control units and vehicle communication

With the GCAR 6283, GÖPEL electronic is expanding its 62 series with a powerful stand-alone test solution for parallel testing, simulation, and analysis of modern control units and vehicle communication. GCAR 6283 is designed as embedded hardware with the QNX real-time operating system and enables the simultaneous operation of up to twenty bus interfaces on a compact, scalable platform.

Unlike classic interface cards or PC-dependent solutions, the GCAR 6283 test solution executes communication, diagnostic, and simulation functions directly on the hardware. This allows extensive residual bus simulations to be carried out, as well as parallel single ECU tests, high-performance flashing of multiple control units, or combined test tasks independent of the host system. This makes GCAR 6283 particularly attractive for development environments as well as for production, EOL, and run-in applications where high parallelism is required.

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The system is based on a new backplane concept that allows flexible and customer-specific configuration. Plug-in modules allow the GCAR 6283 to be adapted precisely to the required bus systems and the desired number of interfaces. Among others, CAN FD, LIN, and FlexRay as well as Automotive Ethernet with 100BASE-T1, 1000BASE-T1, and 10BASE-T1S are supported. Extensions for CAN XL and Multigigabit Automotive Ethernet are already in planning and ensure the long-term expandability of the platform. In addition, a large number of digital and analog IOs are available, for example for simple test tasks, trigger signals, PWM, or SENT.

Thanks to extensive onboard firmware functions such as E2E security (checksums, message counters), SecOC, network management, and transport and diagnostic protocols, computationally intensive and time-critical tasks are processed directly on the hardware. This creates stable real-time conditions and enables demanding scenarios such as gateway simulations, parallel flash operations, or complex residual bus simulations on a single stand-alone system. For trace tasks, the system can be expanded with an M.2 SSD (slot integrated).

For integration into customer-specific applications, GÖPEL electronic provides a comprehensive programming interface (G-API) based on C and a LabVIEW library. The GCAR 6283 is connected to a PC via a separately pluggable host interface card (1 Gbit Ethernet and 5 Gbit USB). The Net2Run software tool chain from GÖPEL electronic can be used to configure the residual bus simulations. Net2Run is used to derive AUTOSAR-compliant rest bus configurations from common data formats such as ARXML, FIBEX, or DBC. The generated configuration files are then loaded onto the GCAR 6283 via the API and executed there.

With its high interface density, consistent real-time architecture, and modular backplane concept, the GCAR 6283 positions itself as a scalable compact tester for modern ECU and vehicle network tests, far beyond the function of classic communication hardware.

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About GÖPEL electronic

GÖPEL electronic develops and manufactures innovative electrical and optical test, measurement, and inspection equipment for electronic components and printed circuit board assemblies as well as industrial and automotive electronics systems. GÖPEL electronic has four business units:
- Automotive Test Solutions
- Embedded JTAG Solutions
- Inspection Solutions AOI-AXI-SPI-IVS
- Industrial Function Test

The company is active worldwide, with its own subsidiaries as well as through distributors, and generated sales of approximately 40 million euros in 2023 with 240 employees.
Further information: www.goepel.com/en

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