

# ETAS DESK-LABCAR

## Compact Hardware-in-the-Loop System



Early testing improves quality and mitigates late and costly bug fixes. The DESK-LABCAR is a professional, compact Hardware-in-the-Loop (HiL) system that encourages earlier testing by bringing the testing environment closer to the developer.

### Reliable Quality - Competitive Pricing

The DESK-LABCAR is based on the reliable LABCAR-RTPC technology with more than 10 years of experience in the market, allowing developers to rely on professional HiL technology at a competitive price. Its compact size also enables HiL testing in environments of limited space, e.g. for frontloading on-desk function testing.

### Scalable for the Future

The comprehensive LABCAR hardware and software is fully scalable when requirements for test systems increase, while allowing the reuse of already created tests. This ensures investment protection for challenges of the future, e.g. when new legal require-

## At a glance

- A ready to start, compact Hardware-in-the-Loop system that provides a real-time test environment with professional LABCAR technology
- The basic configuration contains 4 analog and 20 digital input channels and 8 analog and 8 digital output channels, open for further extensions.
- Galvanical isolation of all channels and controlled cut-off relays for each output
- Easy system upgrade with LABCAR hardware and software, and third party products ensures investment protection

ments emerge, system complexity increases, or the scope of the test changes.

### System Components

The basic DESK-LABCAR system is capable of open loop testing with a sufficient amount of input/output channels to cover many use cases, e.g. for the test of body control units, small engine control units or non-automotive applications such as household appliances.

DESK-LABCAR is based on the RTPC and the Multi-IO Interface Board ES5340. LABCAR RTPC is the core of any LABCAR test system and provides multicore real-time simulation capabilities. The RTPC housing can contain 2 PCI Express boards in addition to the ES5340. The Multi-IO Board ES5340 is adaptable to many test scenarios. It contains 4 analog and 20 digital input channels as well as 8 analog and 8 digital output channels.



## Operating Software

The DESK-LABCAR version of LABCAR-OPERATOR provides an Experiment Environment. Its workspace offers access to all interfaces of the ES5340 Board. In this way it is possible to stimulate the unit under test manually or with signal generators and measure or record the respective output signals.

## Easy System Upgrades

The fully scalable DESK-LABCAR allows the extension of hardware and software depending on the customer use case and future development of test system requirements.

The system can be upgraded with up to 4 PCI Express boards, CAN or LIN interfaces, or other I/O boards. An update of the software enables, e.g. the integration of ASCET, MATLAB®, or C models for real-time closed loop simulation, CAN/LIN/FlexRay restbus simulation models and individual hardware configuration as well

as automation with LABCAR-AUTOMATION.

Depending on the customer use case, further ETAS products can be integrated. Function developers can use RT2 in combination with DESK-LABCAR to perform functional tests of their model and software developments. With INCA and the ETAS measurement hardware, measurement and calibration of ECU internal signals is possible.

ETAS Engineering Services offers additional customer specific adaptations.

DESK-LABCAR is a compact, affordable and professional test system which grows with all your needs.



reddot award 2015  
honourable mention

Thanks to its outstanding usability and design, DESK-LABCAR received the Red Dot Award's Honourable Mention in the category of "Measuring and testing technology".

## Technical Data

### Analog output

8	-10 to +10 V (internal ref.)
	-12 to +12 V (external ref.)
	16 Bit

### Digital output

8	0 to 60 V (open collector)
	5 V (internal pull-up)

### Analog input

4	2 x 0 to 5 V
	2 x 0 to 40 V
	12 Bit, 500 kSamples/s

### Digital input

20	0 to 60 V, 125 kHz
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Arbitrary Signal Generator ( free programmable wave form) for each analog and digital output possible

Over-voltage protection:  $\pm 60$  V

Operating temperature range: +5° C to +40° C

PC with Microsoft Windows® 7 Service Pack 1 required for User Software



For further information please contact your ETAS representative.