

EDICpci

Multibus PCI Interface for Vehicle Electronics

Flexible Vehicle Interface

Applications in all areas of ECU communication require efficient, easy-to-use and reasonably-priced interfaces to the vehicle electronics. Thanks to its range of interfaces, the EDICpci is perfect for use in heterogeneous onboard networks with CAN bus, K-line and LIN bus. The PCI interface ensures simple connection of the desktop or test bed to the vehicle buses in stationary operation. EDICpci is software-compatible with other EDIC® interfaces* and can thus be used with Softing tools such as DTS, EDIABAS and VAS 5163 (for VW applications).

Areas of Implementation and Applications

In the Simulation, Test/Validation and Manufacturing sectors, EDICpci supports a wide range of communication applications. Several ECUs can be accessed in all kinds of diagnostic applications regardless of the bus system. Thanks to the shared time base as well as parallel access to CAN and ISO 9141/LIN, EDICpci permits effective gateway tests. The extensive data buffering of the EDICpci guarantees fast and parallel flash programming of several ECUs. The battery voltage and ignition signal can be evaluated via analog inputs. Additional free analog inputs and digital outputs can be used for customized automation tasks.

Due to the large supply voltage range and the galvanic isolation, EDICpci is perfect for use in both cars and commercial vehicles, particularly in the manufacturing environment. It is very easy to connect to the ECU or the vehicle with an optional lab adapter box or OBD cable (SAE-J1962 connector). The vehicle supplies the interface with power. The product compatibility of the EDIC family guarantees simple integration into existing systems.

Advantages

Protocol processing in the Interface

The vehicle protocols are processed directly in the interface. This ensures fast response times and reliable real-time behavior regardless of the PC operating system. Extensive buffer mechanisms make parallel operation of several communication channels possible.

D-PDU API

The standardized programming interface guarantees efficient integration into your application.

Data Sheet



Scalability

By combining several EDICpci interfaces (or even other EDIC® interfaces), the number of communication channels available on the PC system can quickly be adapted to the relevant application.

Flexibility

Various software packages with operating software and additional vehicle protocols, such as Diagnostics on CAN (ISO 15765), UDS (ISO 14229), KWP 2000 (ISO 14230), TP 2.0, CAN and LIN, as well as many OEM-specific protocols are available for EDICpci. The support of the relevant bus systems and of the parallel communication channels depends on the software package used.

Software upgrades are also available for EDICpci ensuring it is always perfectly equipped for future applications. Customized software solutions can also be realized on request.

An Overview of Features

- 3 independent channels: 2 x CAN and 1 x ISO 9141/LIN
- Data preprocessing and protocol handling in the interface
- Intelligent data buffering for parallel communication channels
- 8 analog inputs and 2 digital outputs
- Galvanic isolation for simple use in the manufacturing environment
- D-PDU API software available

* EDIC is a registered trademark of Softing AG.

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Data Sheet**EDICpci: Multibus PCI Interface
for Vehicle Electronics****Technical Data**

Format	Standard PCI card
Power supply	8 ... 32 V via vehicle onboard network
Current consumption	10 mA to 500 mA (current limitation in the case of a short circuit)
Microcontroller	Infineon C167, 40 MHz
PC interface	PCI Standard Rev. 2.2 for 5 V and 3.3 V systems
Vehicle interface	D-Sub 25-pin, all signals galvanically isolated from the PC interface
CAN	<ul style="list-style-type: none"> ■ 2 CAN channels in acc. with ISO 11898 and CAN 2.0B with 11-/29-bit identifier ■ Channel 1: CAN high-speed (TJA1041, 1 Mbit/s) / CAN low-speed with optional transceiver piggyback switchable via software ■ Channel 2: CAN high-speed (TJA1050, 1 Mbit/s)
LIN	LIN master or LIN slave node; operation alternative to ISO 9141-2
ISO 9141-2	K- and L-line for 12 V and 24 V vehicle systems; baud rates can be finely set; max. 256 kBaud (depending on the protocol and bus physics); operation alternative to LIN
Analog inputs	<ul style="list-style-type: none"> ■ 6 freely available analog inputs (0 ... 32 V, 10-bit resolution, 2 % accuracy) ■ Ignition (KL 15) ■ Battery voltage (KL 30)
Digital outputs	2 freely available digital outputs, Open Collector, max. 200 mA
Temperature range	Operation: 0 ... +55 °C, Storage: -25 ... +85 °C
Vehicle interfering pulses	In acc. with ISO 7637; pulses 1 -5
EMC conformity	<ul style="list-style-type: none"> ■ Noise emission: EN 55022:1998 Class B ■ Interference immunity: EN 61000-6-2:2001 (Industry) ■ FCC part 15 subpart B class B (Industry)

Delivery Scope

- EDICpci
- User manual
- D-PDU API software ISO 22900-2

System Requirements

Operating system: Windows™ XP, Win 7 from 12/2010

Application Software (optional)

- Diagnostic Tool Set (DTS)

Order Numbers / Options**EDICpci/HW**

- PCI-Bus interface card for ISO 9141-2 and CAN 2.0B

OPT-CAN1053/HW

- Piggyback for CAN low-speed with transceiver TJA1053

OPT-CAN5790/HW

- Piggyback for CAN SingleWire with transceiver AU5790

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