

EDICusb

Multibus USB 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 EDICusb is perfect for use in heterogeneous onboard networks with CAN bus, K-line and LIN bus. The Plug&Play functionality of the USB interface means it is really easy to connect your notebook or desktop to the vehicle buses, whether used in stationary or mobile operation. EDICusb is software-compatible with other EDIC® interfaces* and can thus be operated 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, EDICusb supports a wide range of communication applications. Thanks to the shared time base for CAN and ISO 9141/LIN, EDICusb permits effective gateway tests. Several ECUs can be accessed in diagnostic applications regardless of the bus system. The extensive data buffering of the EDICusb guarantees the fast and parallel flash programming of several ECUs.

The Bluetooth option enables tests in lab equipment in various places. In addition, a digital input enables the evaluation of the ignition signal. Due to the large supply voltage range, EDICusb is perfect for use in both cars and commercial vehicles. It is very easy to connect to the ECU or the vehicle with an optional lab adapter box or OBD cable (SAE-J1962 connector). Power is supplied to the interface via the vehicle thus saving the notebook battery pack during mobile operation. The product compatibility of the EDIC family guarantees simple integration into existing systems.

Advantages of EDICusb

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 EDICusb (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 EDICusb. 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 EDICusb 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
- USB interface to the PC (Plug&Play)
- Status display via 3 LEDs

* EDIC is a registered trademark of Softing AG.

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Data Sheet

EDICusb: Multibus USB Interface for Vehicle Electronics

Technical Data

Format	Approx. 150 x 80 x 30 mm, Weight approx. 300 g
Power supply	8 ... 32 V via vehicle diagnostic connector
Current consumption	Approx. 400 mA at 12 V
Mikrocontroller	16-bit microcontroller XC161CJ, 40 MHz
PC interface	<ul style="list-style-type: none">■ USB V2.0 Full Speed, 12 Mbit/s■ Pluggable USB cable (type B jack) or fixed cable■ Optional on request: Bluetooth® V1.1 Class 2 (range approx. 10 m)
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 (TJA1050, 1Mbit/s)/CAN low-speed (TJA1054, 125 kbit/s), transceiver switchable via software■ Channel 2: CAN high-speed (TJA1050, 1Mbit/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. 125 kBaud (depending on the protocol and bus physics); operation alternative to LIN
SAE J1850	SAE J1850 PWM and VPW: on request
Digital input	For Ignition signal
Temperature range	Operation: 0 ... +50 °C, Storage: -25 ... +70 °C
Vehicle interfering pulses	In acc. with ISO 7637; pulses 1 - 5
EMC conformity	<ul style="list-style-type: none">■ Noise emission: EN 55022, EN 55011 Class A and EN 61000-6-4 (Industry)■ Interference immunity: EN 61000-6-2 (Industry)■ FCC part 15 subpart B limit A (Industry)

Delivery Scope

- EDICusb with USB cable (2 m)
- Manual

System Requirements

Operating system: Windows™ 2000, XP, Vista planned 6/2008

Application Software (optional)

- Diagnostic Tool Set (DTS)
- EDIS with EDIABAS runtime system

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