

# EDICnet

## Intelligent Vehicle Interface with LAN and WLAN Interface

### Powerful Vehicle Interface

Most ECUs in today's onboard vehicle networks use the CAN bus or the K-line as a communication medium for onboard and diagnostic data. It is therefore particularly important in the Manufacturing and Test environment to have easy-to-use access to these vehicle buses from your PC in all kinds of applications. Optimized Manufacturing and Test environments often require the implementation of hardware interfaces with a wireless connection to the test system. EDICnet is a powerful hardware interface perfect for use in precisely such cases. With its sturdy housing, radio or wire connection to the PC and galvanic isolation, it is absolutely perfect particularly for use with test beds and in the Manufacturing environment. Add-ons can be used to meet customer-specific requirements.

### Areas of Implementation and Applications

In the ECU Engineering, Test, Validation, Manufacturing and Service sectors, EDICnet supports a wide range of communication applications. Thanks to the wireless PC connection via WLAN and the extensive and adaptable configuration of vehicle busses, EDICnet is usually used for:

- Functional ECU tests and data interface tests in Manufacturing and Rework
- Mobile programming and coding systems
- Mobile diagnostic testers in the Customer Service sector
- Flexible communication platform for customized applications

### Advantages

#### Additional Communication Processor

As a two-processor system, EDICnet has a powerful 32-bit processor as well as an additional 16-bit microcontroller that handles vehicle communication. The two system kernels guarantee data exchange from the host system (PC) to the ECU via EDICnet in the real time required.

#### Protocol Handling in the Interface

The vehicle protocols are handled 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.

## Data Sheet



### Flexibility

Additional vehicle interfaces, such as SAE J1850 or MOST, as well as alternative CAN bus transceivers can be integrated using add-ons and piggybacks. A variant with display, keyboard and additional digital inputs/outputs is also available for customized projects.

Various software packages with operating software and additional vehicle protocols, such as Diagnostics on CAN (ISO 15765), UDS (ISO 14229-1), KWP 2000 (ISO 14230), TP 2.0, CAN as well as many OEM-specific protocols, are available for operating EDICnet. Customized software solutions can be realized on request.

### Environment

The sturdy housing and the galvanic insulation of PC and vehicle interfaces enable trouble-free operation even in harsh manufacturing environments.

#### An Overview of Features

- Powerful 2-processor system
- WLAN interface to the PC
- 3 independent channels: 2 x CAN and 1 x ISO 9141
- Optionally with MOST or SAE J1850 interface
- Data preprocessing and protocol handling in the interface
- 4 analog inputs and 2 digital inputs/outputs each
- Galvanic insulation and sturdy housing

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**Data Sheet****EDICnet: Intelligent Vehicle Interface  
with LAN and WLAN Interface****Technical Data**

Format	Approx. 245 x 112 x 45 mm, weight approx. 800 g; housing made of aluminum extruded profile
Power supply	8 ... 36 V via vehicle onboard network or a separate power pack
Current consumption	300 - 600 mA at 12 V
Mikrocontroller	Hitachi SH4 (162 MHz) with Windows CE and Infineon C167 (40 MHz)
PC interface	<ul style="list-style-type: none"> <li>Ethernet 10 Mbit/s; RJ45 jack</li> <li>Wireless LAN with PC Card in acc. IEEE 802.11b (11 Mbit/s)</li> </ul>
PC Card interfaces	2 x in acc. PCMCIA V2.1
Vehicle interfaces	D-Sub 25-pin, all signals galvanically insulated from the PC interface
CAN	<ul style="list-style-type: none"> <li>2 CAN channels in acc. with ISO 11898 and CAN 2.0B with 11-/29-bit identifier</li> <li>Can be switched via software per channel CAN high-speed (1Mbit/s) and CAN low-speed (Transceiver TJA1054, 125 kbit/s); optional bus physics (e.g. Single Wire CAN) via piggyback</li> </ul>
ISO 9141-2	K- and L-line for 12 V and 24 V vehicle systems; max. 256 kBaud (dep. on the protocol)
SAE J1850	Optional SAE J1850 PWM and VPW via extension slot
MOST	Optional via extension slot
Analog inputs	4 (for KL30, KL15, 2 x freely available), measurement range 0 ... 36 V
Digital inputs	2
Digital outputs	2 (max. switching current: 200 mA)
Temperature range	Operation: 0 ... +50 °C, Storage: -25 ... +80 °C
Vehicle interfering pulses	In acc. with ISO 7637; pulses 1 -5
EMC conformity	<ul style="list-style-type: none"> <li>EN55022: 2006 class A (Industry)</li> <li>EN55011: 2007 group 1 class A</li> <li>EN61000-6-2: 2005 (Industry)</li> </ul>

**Delivery Scope**

- EDICnet
- Ethernet cross cable
- Serial null modem cable
- Manual on CD

**System Requirements**

- Operating system: Windows™ 2000, XP
- Ethernet 10 Mbit/s

**Software (optional)**

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

**Product Variants**

- **EDICnet:** Version w/o display
- **EDICnet-A:** Device with additional display, 4 keys and 8 additional galvanically insulated digital inputs/outputs
- **EDICnet-BMW-01:** BMW-specific set with EDICnet, WLAN-PCMCIA card, IP54 protective caps, software
- **EDICnet-A-BMW-01:** BMW-specific set with EDICnet-A, WLAN-PCMCIA card, IP54 protective caps, software
- **EDICnet-MOST:** EDICnet with MOST extension board, vehicle cable, software

**Accessories**

- **EDICnet/HM:** Top-hat rail assembly for EDICnet
- **EDICnet/IP54:** Soft protective caps for IP54 protection
- **EDICnet/WLAN:** WLAN-PCMCIA card for EDICnet
- **EDICnet/LANSW:** (on request)  
Additional switch for LAN adaptation
- **Cable:** For connection to vehicle and PC

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