HSX Breakout

Modular High-Performance Interface for Vehicle Electronics

The HSX Multibus Interface is a powerful VCI. In the version with integrated lab connectors and three independent communication channels, the VCI is perfect for universal use in Engineering, Development and Test.

Areas of Application
- Universal use in Engineering, Development and Test
- Simulation
- Test/validation
- Fast and reliable flash programming

Advantages
- 2 x CAN and 2 x ISO 9141/LIN
- Can be extended to up to 6 CAN channels
- Option with FlexRay
- Data preprocessing and protocol handling in the interface
- Fast boot time
- Comprehensive status displays
- Galvanic isolation

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. The use of a powerful 32-bit microcontroller enables parallel operation of several communication channels as is required in diagnostics and flash applications on the entire vehicle.

Software Interfaces

The communication protocols UDS (ISO 14229), KWP 2000 (ISO 14230, ISO 15765) as well as SAE J1939 are supported via the standardized D-PDU API (ISO 22900-2). The VCI can also be used as a PassThru device in accordance with SAE J2534. Together with the Diagnostic Tool Set DTS from Softing, a total solution in accordance with the MCD-3D standard ISO 22900-3 and ODX technology can be realized.

Scalability

With the addition of up to two extension boards, the number of communication channels available on the PC system can quickly be adapted to the relevant application. Modules with two additional CAN and FlexRay interfaces each are available.

Flexibility

Software upgrades are also available for HSX ensuring it is always perfectly equipped for future applications. This is also the way to realize customer-specific software solutions. CAN high-speed, CAN low-speed and CAN single-wire are available as bus physics at various pins for one CAN channel. The HSX interface is equipped with digital I/Os, analog inputs as well as an SD Card slot for further applications.

Technical Data

Format	Approx. 143 x 113 x 85 mm
Power supply	7 … 32 V via vehicle diagnostic connector
Current consumption	Approx. 250 mA at 12 V
Microcontroller	32-bit PowerPC microcontroller, 384 MHz
PC interface	USB V2.0 Full Speed, 12 Mbit/s, pluggable USB cable (type B jack) Fast Ethernet 100 Mbit/s via RJ45 jack
Vehicle interface	26-pin MDR jack and lab connectors, all signals galvanically isolated from the PC interface
CAN	2 CAN channels in acc. with ISO 11898 and CAN 2.0B with 11-/29-bit identifier Channel 1: CAN high-speed in acc. with ISO 11898-2, can alternatively be operated with CAN low-speed or CAN single-wire (dep. on the operating software) Channel 2: CAN high-speed in acc. with ISO 11898-2
LIN	LIN master or LIN slave node; operation depends on the operating software and is alternative to ISO 9141-2
ISO 9141-2	2 K-Line channels for 12V and 24V vehicle systems; one K-Line usable as L-Line; Baud rate max. 250 kBaud (depending on the protocol and bus physics)
Digital inputs	E.g. ignition (KL 15), operation depends on the operating software
Temperature range	Operation: -40 … +85 °C, storage: -40 … +85 °C
EMC conformity	Noise emission: EN 55011 Interference immunity: EN 61000-4
Software interface	D-PDU API
System requirements	Operating system: Windows 7, Windows 8

Order Numbers

HSX-Breakout	Diagnostic interface for 2 x CAN and 2 x K-line with USB interface, including USB cable and D-PDU API