simbus

simulation communication

The decentralized
solution for
simulation I/O.

A simulation solution by

simsystems
GmbH

Decentralised Topology

Modular Construction

Automotive CAN bus

Minimized Wiring

Quick Installation

Hot Swapping

Flexible Protocol Support

Wide Range of Peripherals

Hardware Watchdog

The decentralized system topology of the simbus CAN system reduces wiring complexity, maintenance efforts and allows for lighter system designs.

Heart of the simbus CAN system are small all-purpose LRUs (line replaceable units). These small I/O devices provide facilities to control and monitor a various set of peripherals over the CAN Bus. Integrated hardware watchdogs can monitor each LRU and recover the system automatically from upsets.

Their small form factor enables direct integration at the peripherals itself. Instead of laying down several meters of distinct wires for each peripheral, only a single cable carrying power and communication must be installed.

This not only provide ease in design and production, but also reduces weight, cost and maintenance efforts.

Using modular construction techniques, devices can be hot swapped in no-time and be serviced and repaired off-site. This keeps downtimes due to maintenance and failures minimal. Firmware updates do not require disassembly thanks to the in-system update procedure. Ideal for systems with high availability and serviceability requirements.

Backbone of the simbus system is an automotive CAN bus conform to CAN2.0B Active Specification. Several protocols can be supported, including CANaerospace, CANopen and User Specified Protocols.

Stand-alone operation of the simbus CAN system is achieved with the simbus CAN gateway. Using UDP or TCP/IP communication, it makes all control and monitor functionality available over Ethernet.

For customer projects and integration, we offer a firmware and integration programming service.
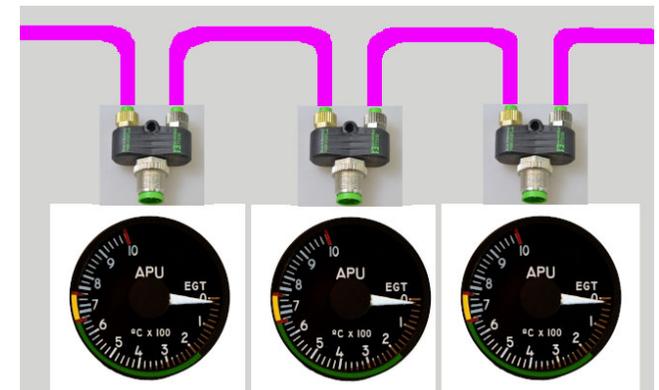
Standard Peripherals

A single LRU is capable of monitoring and controlling up to 27 general purpose I/Os, allowing to process even full-blown keyboards.

Up to 24 dedicated PWM controlled constant-current sinks allow for direct dimming control without requiring external hardware.

Direct control of automotive stepper motors for gauges and instrument cluster is featured in a variety of LRUs and extension modules.

The High Load Driver extension module allows full control over power-hungry peripherals such as solenoids and filament bulbs.

For visual display of information, the simbus CAN system supports not only 7 and 14 Segment Displays, but also Full Colour Displays.

Further extension of the system's functionality can be achieved using the SPI, I2C™ and UART interfaces facilitated by each LRU.

Technical System Specifications

Power Supply	5-24V
Gateway Interfaces	UDP, TCP, CAN
Connector	• M12A 5 Pin • D-SUB 9P
EMC	Tested according to DINEN55011: 2017-03
Operation temperature	-10°C...+55°C
Storage temperature	-10°C...+85°C

simbus CAN system portfolio

Name	Part No.	Dimensions*	GPIOs	Additional Peripherals	Interfaces
LRU mini	SYS-LRU0000		27		CAN, SPI, I2C™, UART
LRU basic	SYS-LRU5000	50x110x36.3	27	24x PWM Constant-Current Sink	CAN, SPI, I2C™, UART
LRU square	SYS-LRU6000		27		CAN, I2C™, UART
LRU G49		Dia. 49mm	0/2	(Dual) Stepper Motor	CAN
LRU G60		Dia. 60mm	0/2	(Dual) Stepper Motor	CAN
LRU G78		Dia. 78mm	0/2	(Dual) Stepper Motor	CAN
LRU G80		Dia. 80mm	0/2	(Dual) Stepper Motor	CAN
High Load Driver	SYS-CAN-POW		0/1	Load Switch (max. 2.5A) Voltage Regulator	PWM
Stepper Motor Driver	SYS-CAN-STEP		0/2	(Dual) Stepper Motor	I2C™
SPI Full Colour Displays			-	TFT Full Colour Display	SPI
7/14-Segment Display			-	6 digit 7/14 Segment Display	I2C™
Gateway			-	24V input	CAN, Dual Ethernet

*WxLxH, in mm

Interested?

Our systems are built with customers and their clients in mind.

Providers of simulators require low-maintenance and extremely reliable systems, that give great enjoyment to their customers.

simsystems GmbH

Wilhelm-Enßle-Straße 62
73630 Remshalden

Tel.:   +49 7151 / 205 748-0
Fax: +49 7151 / 205 748-9
Mail: info@simsystems.de
Web: simbus.simsystems.de

Technical Specifications are subject to change without notice. System features may be limited based on type of installation, software and interfacing equipment.