

Precise. Rugged. Universal.

AD-/Thermo-Scan SMB/CAN

- ▶ Durable device family for the measurement of analog voltages and temperatures
- ▶ **AD-Scan:**
14 differential inputs: -3,5 V to +16 V
- ▶ **Thermo-Scan:**
14 NiCr-Ni inputs: -100 °C to +1372 °C
- ▶ Data communication via Serial Measuring Bus (SMB) to calibration systems, PCs, ...
- ▶ Cascading of up to 8 devices in SMB mode or up to 100 devices via CAN bus
- ▶ For Calibration and Measuring systems from Bosch, ETAS, IAV, Siemens, dSPACE, etc.
- ▶ High-speed CAN bus connection



AD-Scan and Thermo-Scan belong to the **ScanMess device family**, as well as **Dual-Scan**. They collect measurement data and transmit it to a host (PC/laptop, data logger), running special recording software. The **communication** between AD-Scan and Thermo-Scan devices and the host is either done using the **SMB bus** (Serial Measuring Bus defined by Bosch) or alternatively via a high-speed **CAN bus**.

The currently **measured values** and the **state of operation** are permanently shown on the back-lit **LCD**. The **power supply** of 8 V to 32 V can be passed through from device to device, according to all ScanMess devices.

Because of their easy handling and the good ratio of cost to performance the ScanMess devices are suitable for numerous applications, particularly for **automotive measurement systems**.

Communication via SMB bus

The communication via the **SMB bus** is done **interoperable** and without limitation to all other SMB bus devices of the ScanMess family.

Using selectable device addresses it is possible to cascade up to 8 devices on a standard RS232C interface. Also different types of the ScanMess family can be used in an arbitrary order. The control of the measurement process and data recording is done by standard software like **DIAdem®** or special custom software, e.g. **INCA** from ETAS.

Communication via CAN bus

The measurement data can be transmitted with full resolution and speed via **high-speed CAN bus**.

This enables new applications, e.g. with the **UniCAN** data loggers for **diagnosis** and **data acquisition**. With this device it is possible to record data from AD-Scan and/or Thermo-Scan, with a **direct time relationship** to each other. **Long term recording** as well as data acquisition **with high data rates** are stored on ATA Flash Cards up to 2 GB.

Thermo-Scan

The Thermo-Scan provides **14 inputs** for connection of **NiCr-Ni thermocouples** (type K). Due to digital alignment and linearization with online cold junction compensation, Thermo-Scan achieves a typical measuring accuracy of ± 1 °C throughout the entire measuring range from -100 °C up to +1372 °C.

A broken sensor connection is automatically recognized and shown on the display. Approximately every 100 ms the temperature values are updated.



AD-Scan

The AD-Scan records analog differential voltages from -3,5 V up to +16 V with a resolution of 5 mV. The **14 input channels** are measured cyclically, corrected online and memorized in the device. Approx. every 10 ms all measured values are completely updated in the memory.

Using **High Speed Mode**, **1 channel** can be measured and sent cyclically with **1 ms** via CAN bus, **2 channels** with **2 ms**.

Software interface

The measurement values are available **as physical values**, volt for AD-Scan and degrees Celsius for Thermo-Scan.

Especially via the **CAN bus**, the measured values are transmitted **completely**, with **full resolution** and with a **transmission rate up to 1 Mbit/s**. The CAN bus parameters can be **configured** via the serial RS232 interface.

Both, the SMB protocol and the CAN bus transmission can be integrated very simple and efficiently into specific applications.

The leading manufactures of **Calibration Tools** for automotive engineering offer **interfaces for the ScanMess** devices, e.g. Bosch, ETAS, IAV, ATI, Siemens, dSPACE, Kleinknecht, etc.

Device Driver for DIAdem®

The CSM DIAdem® driver allows in the SMB mode the direct implementation of the ScanMess device family in the powerful and widespread DIAdem® standard software from National Instruments for applications like recording, visualization and documentation of measurement data.

ScanMess devices installed in cars **can now be used for several purposes**. Like usual with e.g. VS100 or INCA for calibration and additional with DIAdem® for general measurement tasks.

The devices are also well suitable for **the use at test stands**. Especially the Thermo-Scan impresses with its excellent cost effectiveness.

Specifications AD-Scan SMB/CAN & Thermo-Scan SMB/CAN

Technical data	AD-Scan	Thermo-Scan
Inputs	14 differential inputs	14 NiCr-Ni inputs
Measurement Range	-3,5 V to +16,0 V	-100 °C to +1372 °C
Resolution (1 LSB)	approx. 5 mV	1 °C
Accuracy (Ta=25 °C)	±8 mV + 1 LSB	typ. ±1 °C
Cycle Time	10 ms (14 channels) 1 ms (1 channel), 2 ms (2 channel)	100 ms (14 channels)
Input Protection	±20 V continuous Pulse 8 kV (ESD)	±20 V continuous Pulse 8 kV (ESD)
Display	LCD illuminated	
Serial Interface Cascadable Software Protocol	RS232C, 38400 Baud max. 8 devices SMB (optional MODAC)	
CAN interface ¹⁾	CAN 2.0B (active) High-speed CAN (ISO11898) 125 kBit/s up to max. 1 MBit/s (configurable)	
Dimensions (W x H x D)	approx. 105 x 88 x 186 mm	approx. 105 x 72 x 186 mm
Weight	approx. 860 g	approx. 700 g
Operating temperature ²⁾	0 °C to +50 °C	
Humidity	max. 80% (non condensing)	
Power Supply / Over Voltage Protection	8 - 32 V DC 32 V continuous	
Current Consumption / Power Consumption	typ. 167 mA at 12 V typ. 2.00 W / max. 2.50 W	typ. 188 mA at 12 V typ. 2.25 / max. 2.75W
Conformity	CE	

1) The CAN interface (instead of SMB) is chosen as soon as the CAN cable is detected.

2) The device can also be delivered as version without display for an operation temperature of -40 °C up to +85 °C.

Part numbers:

ART0202026 AD-Scan SMB/CAN LEMO CAN IN, CAN OUT (AD-Scan with LEMO sockets)

Shipping content: AD-Scan, CSM Config Tool, documentation, Calibration certificate according to DIN EN ISO/IEC 17025, SMB connection cable K38, SMB power supply cable K39

ART0202028 AD-Scan SMB/CAN (AD-Scan with Binder socket)

Shipping content: AD-Scan, CSM Config Tool, documentation, Calibration certificate according to DIN EN ISO/IEC 17025, SMB connection cable K38, SMB power supply cable K39, xx-Scan CAN bus Cable Set K43 & K44

ART0202016 Thermo-Scan SMB/CAN LEMO CAN IN, CAN OUT (Thermo-Scan with LEMO sockets)

Shipping content: Thermo-Scan, CSM Config Tool, documentation, Calibration certificate according to DIN EN ISO/IEC 17025, SMB connection cable K38, SMB power supply cable K39

ART0202018 Thermo-Scan SMB/CAN (Thermo-Scan with Binder socket)

Shipping content: Thermo-Scan, CSM Config Tool, documentation, Calibration certificate according to DIN EN ISO/IEC 17025, SMB connection cable K38, SMB power supply cable K39, xx-Scan CAN bus Cable Set K43 & K44

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