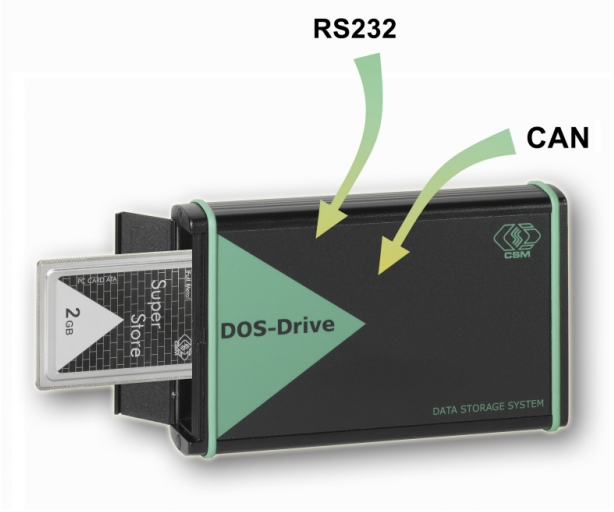
Solutions for Professional Applications

DOS-Drive CAN

- **PC Card Reader-Writer for embedded systems and microcontrollers**
- **Two separate interfaces:**
  - High-Speed CAN bus
  - asynchronous serial interface (RS232)
- **Robust ATA Flash Card as removable storage medium**
- **Easy data exchange with notebooks through DOS FAT file system (MS-DOS 6.x)**
- **Functions to create, read, write and format files and directories**
- **Extended temperature range:**
  -40°C to +85°C



Fields of Applications

Memory Cards are used as universal, flexible and reliable media to exchange data between devices and PCs.

Often there is the need to integrate a Memory Card interface into an existing device. For this purpose CSM offers the **DOS-Drive CAN**, an universal and mature solution for *embedded systems*. This product is based on our **long standing experience** in secure Memory Card applications.

CSM DOS-Drive CAN is used in these fields:

- ▷ **Automotive Systems**
- ▷ **Agricultural Machinery, Construction Equipment**
- ▷ **Automation**

DOS-Drive CAN formats files and directories in **DOS format.** Thereby programs, compositions or machine data are convenient edited and formatted **under Windows**.

Robust Storage Medium

As storage media **ATA Flash Cards** are supported which are perfect for industrial use due to their reliability and robustness.

For use with **DOS-Drive CAN** we recommend **CSM SuperStore ATA Flash Cards** which are available in capacities from 32 MB to 2 GB.

Universal Data Format for PC Cards

The Microsoft DOS FAT File System is widely-used and supported by all computers running Windows.

If an *embedded system* needs to exchange data with a PC, it must be able to manage the data on the Memory Card in DOS format. The design of the required hard- and software is normally associated with high engineering costs.

With **CSM DOS-Drive CAN** a **professional and perfect standard product** can be used directly. Your final system meets the expected functionality without the expense and risk of an individual system development.

Flexible Host Interface

DOS-Drive CAN is equipped with two separate interfaces which can be alternatively used:

- ▷ **High-Speed CAN bus**
- ▷ **RS232 interface**

The set-up is provided by a PC-Tool via RS232 interface.

CAN bus connection

DOS-Drive CAN supports **CAN 2.0B** (active). By default the High-Speed CAN bus (ISO 11898) is available, using only two identifiers for communication.

The **CAN bus parameters** can be configured by the RS232 interface.

- ▷ Bit rate (up to 1 MBit/sec)
- ▷ Standard (11 Bit) or extended (29 Bit) CAN
- ▷ Determination of Identifier

These parameters can be adapted via the tools of the **DOS-Drive CAN SDK** (Software Development Kid) to various applications. These retain stored in the device permanently till the next change.

Connection via RS232 interface

Optionally the **DOS-Drive CAN** can also be connected via a serial interface to a host system. No separate handshake lines are needed.

The **DOS-Drive CAN** detects automatically the baud rate used by the host system. Using full duplex, data transmission up to 115.200 Baud is possible.

Professional communication protocol

For communication between host system and **CSM DOS-Drive CAN,** a **simple and safe protocol** is available, which is implemented for CAN and RS232 interface. Hereby the complete functionality of the DOS FAT file system can easily be communicated.

Hence, **CSM DOS-Drive CAN** is widely independent of the individual architecture of the host system and requires only **minimal resources**.

Special Measures allow a safe handling, also in case of power failure. After recovering of the power supply the file system is checked. Maybe in cache stored data is written on the card. All (before the failure) open files are automatically closed.

DOS-File functions

DOS-Drive CAN supports the usage of DOS-file functions extensively:

- ▷ **File System full compatible with MS-DOS 6.x**
  support of 12-bit and 16-bit FAT
  file names in 8.3-format
  opening of up to 16 files simultaneously
- ▷ **Extensive File Functions:**
  create, open, close,
  read, write, position,
  rename, delete,
  read/define date and attribute
- ▷ **Support of Subdirectories:**
  change, create, delete, show
- ▷ **Formatting of PC Cards**
  in MS-DOS compatible format

Additional options

DOS-Drive CAN offers following additional options, which can be also used via transmission protocol.

- ▷ **Request of Status Information**
  PC Card inserted/changed,
  information about PC Card (type, size, format)
- ▷ **Sector Access**
  format-independent access to all sectors of the ATA Card (read and write)

Support for Design-In

Usually **DOS-Drive CAN** will be integrated into an own system as an OEM component. The integration into a target system is a one-time process. Therefore, the **documentation and application samples** are offered as a separate product which has to be purchased only once:

- ▷ **DOS-Drive CAN SDK**
  (Software Development Kit):
  complete device description,
  detailed documentation of the
  communication protocol,
  test and demo application

For testing and as an example, a **32 Bit Windows application**[1)] is delivered which supports the standard COM interfaces of PCs. The available functions correspond to those of a DOS command interpreter (COMMAND.COM):

FORMAT, DIR, COPY, TYPE, DEL, REN, CD, MD, RD and others.

[1)] **System requirements:**
Win Vista, XP, 2000, NT 4.0 or 9x/Me

Specification DOS-Drive CAN

Item	DOS-Drive CAN in external box with front cover [1]
Dimensions (WxHxD)	109 x 35 x 176 mm
Weight	approx. 400 g
Power Supply	**8-32 V DC** via 3-pole low voltage connector [2]
Power Consumption	PowerDown (PowerControl OFF) approx. 2 mA at 12 V approx. 1300 mW (with ATA Flash Card, no access) approx. 1600 mW (with ATA Flash Card, access)
CAN Interface [3]	**CAN 2.0B (active)** High-Speed CAN (ISO 11898) max. 1 MBit/s (500 k, 250 k, 125 k, 83.3 k, 62.5 k,…)
Connector	D-SUB 9-pin male
RS232 Interface	eight data bits, one stop bit, no parity automatic baud rate detection max. 115,200 Baud (115.2 k, 57.6 k, 38,4 k, 19,2 k, 9,6 kBaud)
Connector	D-SUB 9-pin female
PC Card Slot	one slot for **PC Card type II** at front
PC Card Types	ATA Flash Card Type II, ATA CompactFlash Card (with adapter)
LED Indicators	4 LEDs: POWER (green) / BUSY (red) / STATUS (green) / ACTIVE (red)
Environment	**-40 °C to + 85 °C** (operation and storage) humidity max. 90% (non-condensing)
Conformity	CE

[1] **please ask:** DOS-Drive as 3½" or PCB-version
[2] **please ask:** power supply via wall power supply (alternative 5 V DC)
[3] **please ask:** other bit rates on request

Shipping Contents:

- ***DOS-Drive CAN*** device in external box with installation hints
- ***Power Supply Cable*** (end open)

Additional Products:

- ***DOS-Drive CAN SDK***
- ***OmniDrive USB2 Professional***
  universal PC Card Reader for USB 2.0 interface for data exchange with PCs
- ***SuperStore Industrial Memory Cards***

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