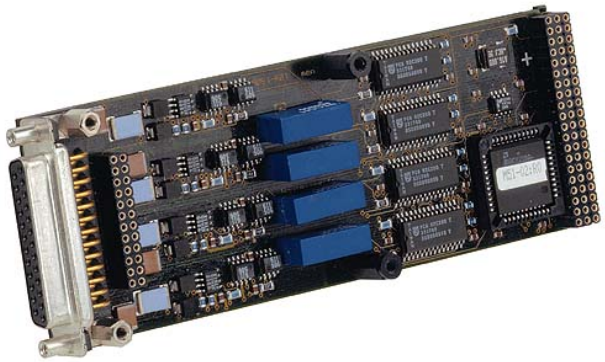
M51 – Quadruple CAN Interface

- **4 SJA1000 CAN controllers**
- **2.0B Basic CAN/Extended CAN**
- **ISO high-speed coupling**
- **Optical isolation**
- **CAN Layer 2 support**
- **-40 to +85°C screened versions**
- **Not conforming to RoHS**



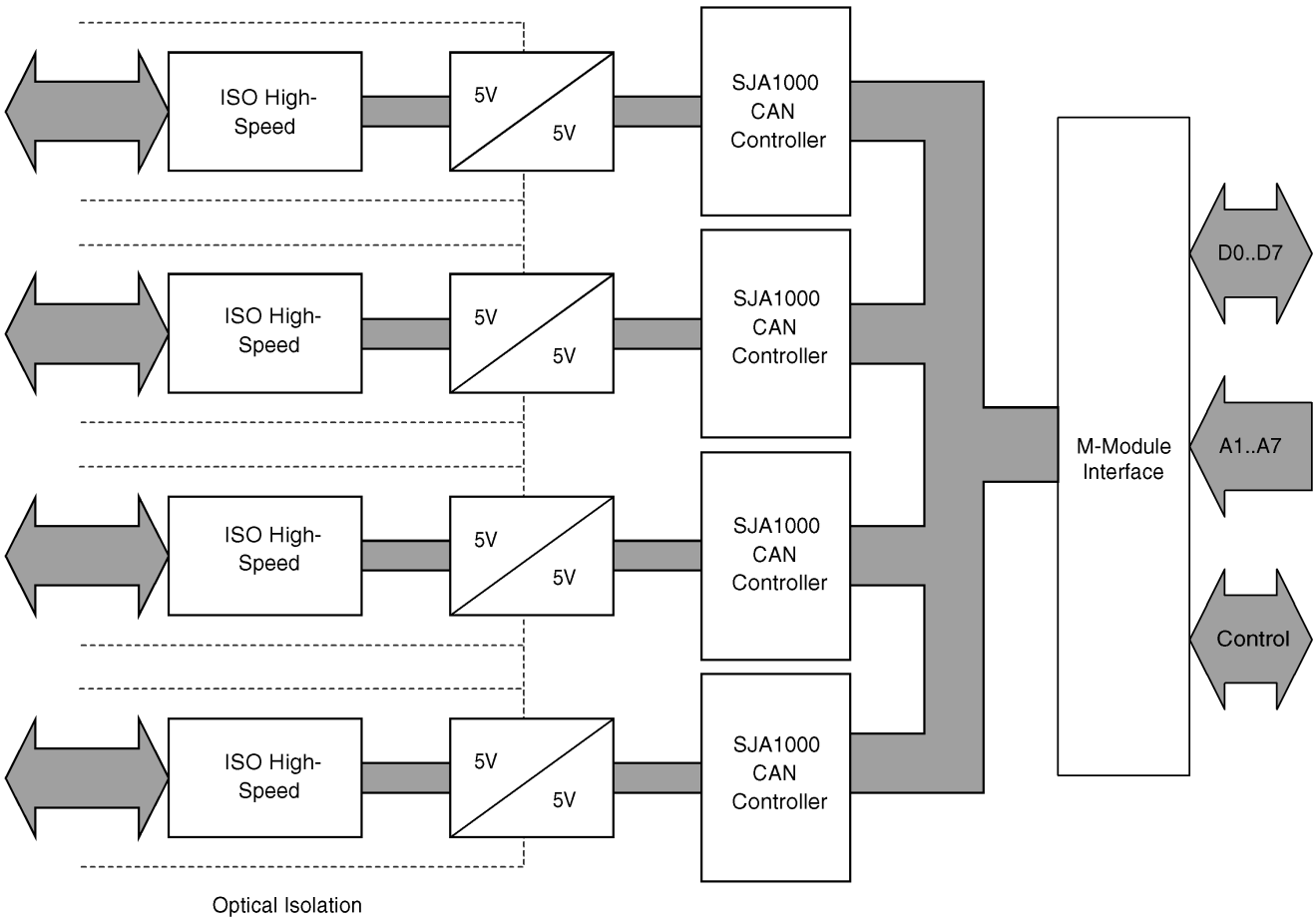
The mezzanine card M51 is a CAN bus interface M-Module based on the SJA1000. It is available with one or four CAN bus controllers. The M-Module is equally suitable in fieldbus applications and for test and diagnosis equipment for the CAN bus or CAN bus devices. All channels are optically isolated from the system and from each other.

The four-channel version has been designed for example for use of SLIO CAN devices (serial linked I/O) to increase the I/O capabilities of your system in a very cost-effective way.

The M51 also supports network configurations that require high speed with short distances and low speed over long distances.

The M51 is based on the M-Module ANSI mezzanine standard. It can be used as an I/O extension in any type of bus system, i.e. CPCI, VME or on any type of stand-alone SBC. Appropriate M-Module carrier cards in 3U, 6U and other formats are available from MEN or other manufacturers.

Diagram


ISO High-Speed
5V
5V
SJA1000 CAN Controller
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5V
5V
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5V
5V
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5V
5V
SJA1000 CAN Controller
M-Module Interface
D0..D7
A1..A7
Control
Optical Isolation

Technical Data

Four SJA1000 CAN Controllers	■ CAN 2.0B functionality, Extended CAN ■ Serial multi-master network with unlimited number of nodes ■ Bus access priorities ■ 29-bit message identifier ■ Powerful error handling capabilities ■ Programmable transfer rates up to 1Mbit/s ■ Bus length up to 40m at 1Mbit/s (ISO high speed) ■ Guaranteed latency for highest-priority objects ■ 0..8 bytes data block length
Physical Interface	■ ISO high speed coupling (optically isolated)
Peripheral Connections	■ Via front panel on a shielded 25-pin D-Sub receptacle connector ■ Via carrier board (rear I/O)
M-Module Characteristics	■ A08, D08, INTA, IDENT
Electrical Specifications	■ Isolation voltage: 500V DC ■ Supply voltage/power consumption: +5V (4.85V..5.25V), 900mA typ. (with four CAN controllers) ■ MTBF: 45,000h @ 50°C (derived from MIL-HDBK-217F)
Mechanical Specifications	■ Dimensions: conforming to M-Module Standard ■ Weight: 90g
Environmental Specifications	■ Temperature range (operation): □ 0..+60°C □ Industrial temperature range on request □ Airflow: min. 10m³/h ■ Temperature range (storage): -40..+85°C ■ Relative humidity range (operation): max. 95% non-condensing ■ Relative humidity range (storage): max. 95% non-condensing ■ Altitude: -300m to + 3,000m ■ Shock: 15g/11ms ■ Bump: 10g/16ms ■ Vibration (sinusoidal): 2g/10..150Hz ■ Conformal coating on request
Safety	■ PCB manufactured with a flammability rating of 94V-0 by UL recognized manufacturers
EMC	■ Tested according to EN 55022 (radio disturbance), IEC1000-4-2 (ESD) and IEC1000-4-4 (burst)
Software Support	■ CAN Layer 2 (MDIS for Windows®, Linux, VxWorks®, QNX®, OS-9®) ■ For more information on supported operating system versions and drivers see Downloads.

Configuration & Options

Standard Configurations

Article No.	Channels	Operation Temperature
04M051-00	1	0..+60°C
04M051-01	4	0..+60°C
04M051-07	4	-40..+85°C

Options

Channels	■ 1 or 4
Operation Temperature	■ 0..+60°C ■ -40..+85°C

Ordering Information

Standard M51 Models	**04M051-01**	4-channel CAN bus interface, 0..+60°C, no RoHS
Miscellaneous Accessories	**05M000-00**	M-Module cable, 2m, with 25-pin D-Sub plug/housing to pig tail
	05M000-17	25 mounting screw sets to fix M-Modules on carrier boards
Software: Linux	This product is designed to work under Linux. See below for potentially available separate software packages from MEN.	
	13Z005-06	MDIS4/2004 low-level driver sources (MEN) for M51 and M74
Software: Windows®	This product is designed to work under Windows®. See below for potentially available separate software packages from MEN.	
	13Z005-70	MDIS4/2004 Windows® driver (MEN) for M51 and M74
Software: VxWorks®	This product is designed to work under VxWorks®. For details regarding supported/unsupported board functions please refer to the corresponding software data sheets.	
	13Z005-06	MDIS4/2004 low-level driver sources (MEN) for M51 and M74
Software: QNX®	This product is designed to work under QNX®. For details regarding supported/unsupported board functions please refer to the corresponding software data sheets.	
	13Z005-06	MDIS4/2004 low-level driver sources (MEN) for M51 and M74
Software: OS-9®	This product is designed to work under OS-9®. For details regarding supported/unsupported board functions please refer to the corresponding software data sheets.	
	13Z005-06	MDIS4/2004 low-level driver sources (MEN) for M51 and M74

For operating systems not mentioned here contact MEN sales.

Documentation	Compare Chart fieldbus M-Modules » Download	
	20M000-00	M-Module Draft Specification, Rev. 3.0
	20M051-00	M51 User Manual

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