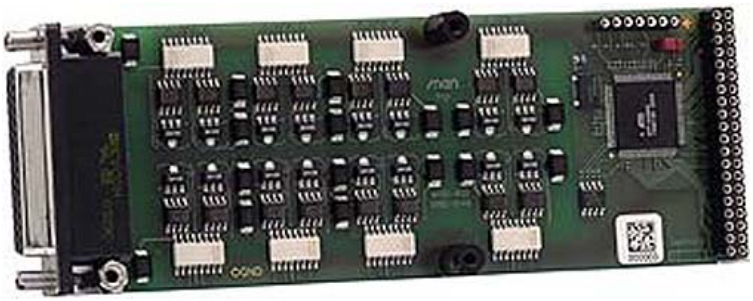
M82 – 16 Binary Inputs

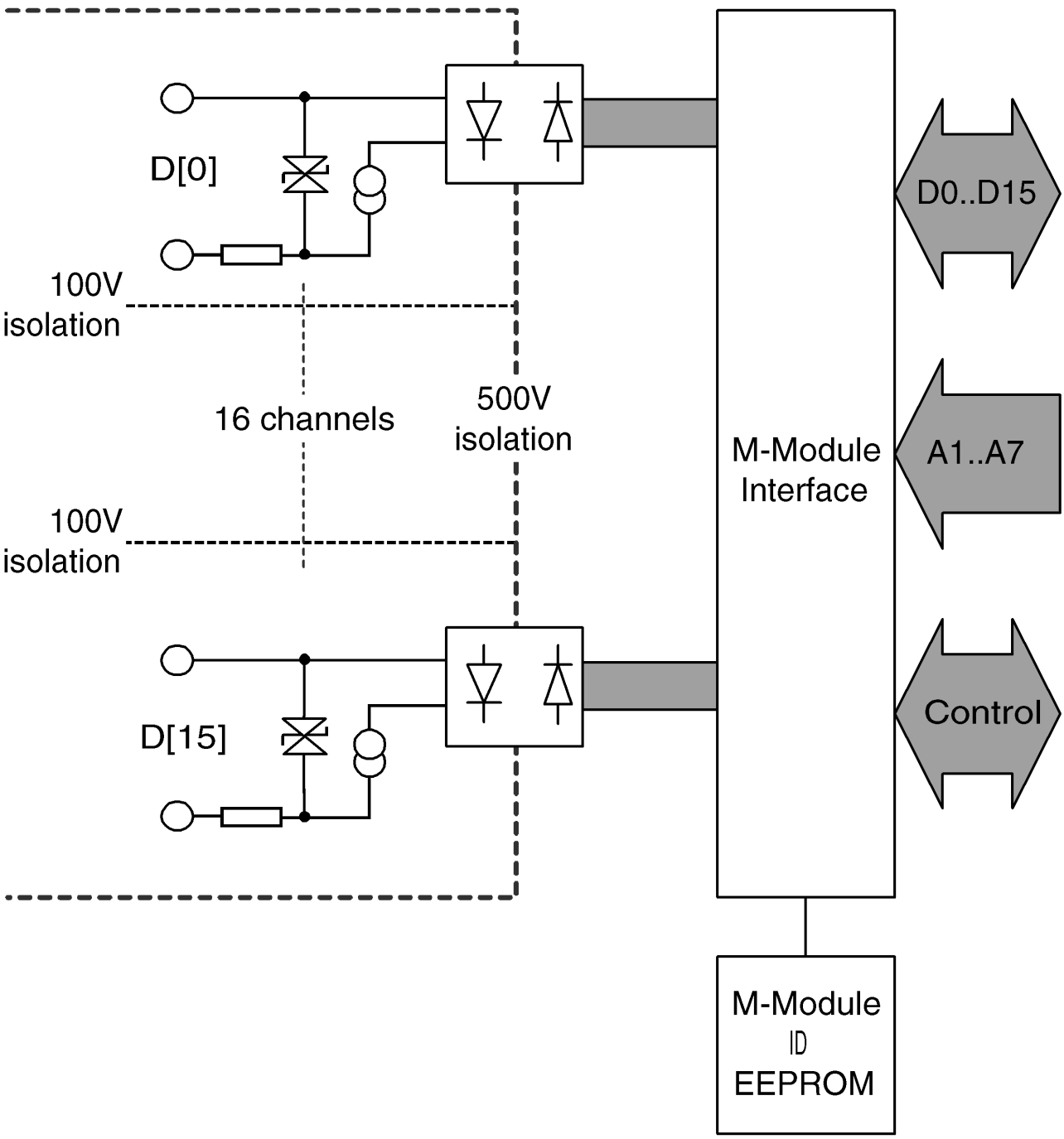
- **16 fast 20-kHz inputs**
- **0..40 V input voltage**
- **Constant current inputs**
- **Hysteresis function**
- **Interrupt generation**
- **500 V DC isolation from the system**
- **100 V DC isolation between the channels**
- **-40 to +85°C with qualified components**



The mezzanine card M82 is a 16-channel fully isolated input M-Module with latching and comparator capabilities for industrial applications. A current limit for each input guarantees an input voltage range of 0 to 40 V. Each input signal edge generates a maskable interrupt for each channel. The voltage-sensitive inputs have a hysteresis function.

Typical I/O applications include automated test equipment, simulators and PLC-like applications with different voltage requirements.
The M82 is software-compatible with the M31.
The M82 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


D[0]
100V
isolation
16 channels
500V
isolation
100V
isolation
D[15]
M-Module
Interface
D0..D15
A1..A7
Control
M-Module
ID
EEPROM

Technical Data

Binary Inputs	■ FET constant current source inputs □ 5.6mA typ. ■ Input voltages and currents: □ 0..40V max. □ 5.5V, ±0.5V (switching voltage 0) @ 3mA min., 3.3mA typ., 4mA max. □ 9.5V, ±0.5V (switching voltage 1) @ 4mA min., 5.6mA typ., 10mA max. □ 15.2V, ±0.5V (switching voltage 2) @ 4mA min., 5.6mA typ., 10mA max. ■ Switching Times □ Rise time: 4.2µs typ. □ Fall time: 32µs typ.
Miscellaneous	■ Hysteresis function ■ Interrupt generation with maskable interrupt
Peripheral Connections	■ Via front panel on a shielded 44-pin HD-Sub receptacle connector
M-Module Characteristics	■ A08, D16, INTA, INTB, IDENT
Electrical Specifications	■ Isolation voltage: □ 500V DC between isolated side and digital side □ All channels are optically isolated (100V between the channels) ■ Supply voltage/power consumption: +5V (4.85V..5.25V), 220mA typ. ■ MTBF: 370,000h @ 40°C (derived from MIL-HDBK-217F)
Mechanical Specifications	■ Dimensions: conforming to M-Module Standard ■ Weight: 72g
Environmental Specifications	■ Temperature range (operation): □ 0..+60°C or -40..+85°C □ 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	■ MEN Driver Interface System (MDIS for Windows®, Linux, VxWorks®, QNX®, OS-9®) ■ For more information on supported operating system versions and drivers see Downloads.

Ordering Information

Standard M82 Models	**04M082-00**	16 binary inputs, fully isolated, -40..+85°C with qualified components
Miscellaneous Accessories	**05M000-14**	M-Module cable, 2.5m, with 44-pin HD-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.	
	13M031-06	MDIS5 low-level driver sources (MEN) for M31, M32 and M82
Software: Windows®	This product is designed to work under Windows®. See below for potentially available separate software packages from MEN.	
	13M031-70	MDIS4/2004 / MDIS5 Windows® driver (MEN) for M31, M32 and M82
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.	
	13M031-06	MDIS5 low-level driver sources (MEN) for M31, M32 and M82
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.	
	13M031-06	MDIS5 low-level driver sources (MEN) for M31, M32 and M82
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.	
	13M031-06	MDIS5 low-level driver sources (MEN) for M31, M32 and M82

For operating systems not mentioned here contact MEN sales.

Documentation	Compare Chart binary I/O M-Modules » Download	
	20M000-00	M-Module Draft Specification, Rev. 3.0
	20M082-00	M82 User Manual

Contact Information

Germany

MEN Mikro Elektronik GmbH
Neuwieder Straße 3-7
90411 Nuremberg
Phone +49-911-99 33 5-0
Fax +49-911-99 33 5-901

info@men.de
www.men.de

France

MEN Mikro Elektronik SAS
18, rue René Cassin
ZA de la Châtelaine
74240 Gaillard
Phone +33 (0) 450-955-312
Fax +33 (0) 450-955-211

info@men-france.fr
www.men-france.fr

USA

MEN Micro Inc.
860 Penllyn Blue Bell Pike
Blue Bell, PA 19422
Phone (215) 542-9575
Fax (215) 542-9577

sales@menmicro.com
www.menmicro.com