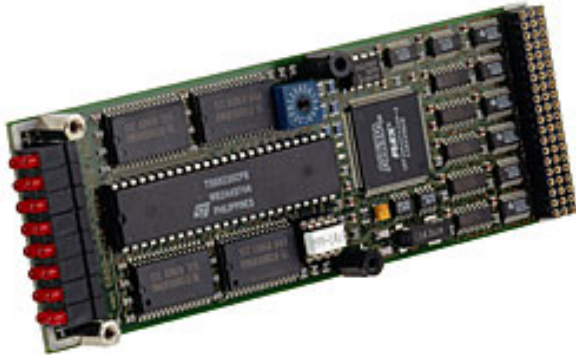


M99 - Carrier Board Test M-Module



- Compliance testing of carrier boards
- All address and data bus sizes
- DMA, interrupts

The M99 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, PXI, 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.

The M99 can be used for functional testing of M-Module carrier boards for two- and three-row M-Modules

according to the M-Module specification. Its functionality relies on the parallel interface and timer component 68230. An on-board SRAM permits testing of data transfer and DMA.

In addition interrupt handling, M-Module identification and trigger lines can be tested. 16 LEDs at the front of the module ease testing, with 8 LEDs being user-configurable.

Technical Data

68230 Parallel Interface Timer

- 68000 bus compatible
- Port modes include:
 - Bit I/O
 - Unidirectional 8-bit and 16-bit
 - Bidirectional 8-bit and 16-bit
- Programmable handshaking options
- 24-bit timer
- Five separate interrupt vectors
- Separate port and timer interrupt service requests

Miscellaneous

- MA-Module
- 8 status LEDs
- 8 user-programmable LEDs
- DMA capability
- QSPI interface
- Up to 512KB SRAM
- Compatible with A4/A4N (QSPI, TPU lines, A16)
- $\pm 12V$ failure detection

M-Module Characteristics

- A08, A24, D08, D16, D32, INTA, INTB, INTC, DMA16, DMA32, TRIGI, TRIGO, IDENT
- Burst access D16, D32

Electrical Specifications

- Supply voltage/power consumption:
 - +5V (4.85V..5.25V), 300mA typ.
 - $\pm 12V$, 1mA typ.
- MTBF: tbd.

Mechanical Specifications

- Dimensions: conforming to M-Module Standard
- Weight: 76g

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/0.33ms, 6g/6ms
- Vibration: 1g/5..2,000Hz

Safety

- PCB manufactured with a flammability rating of 94V-0 by UL recognized manufacturers

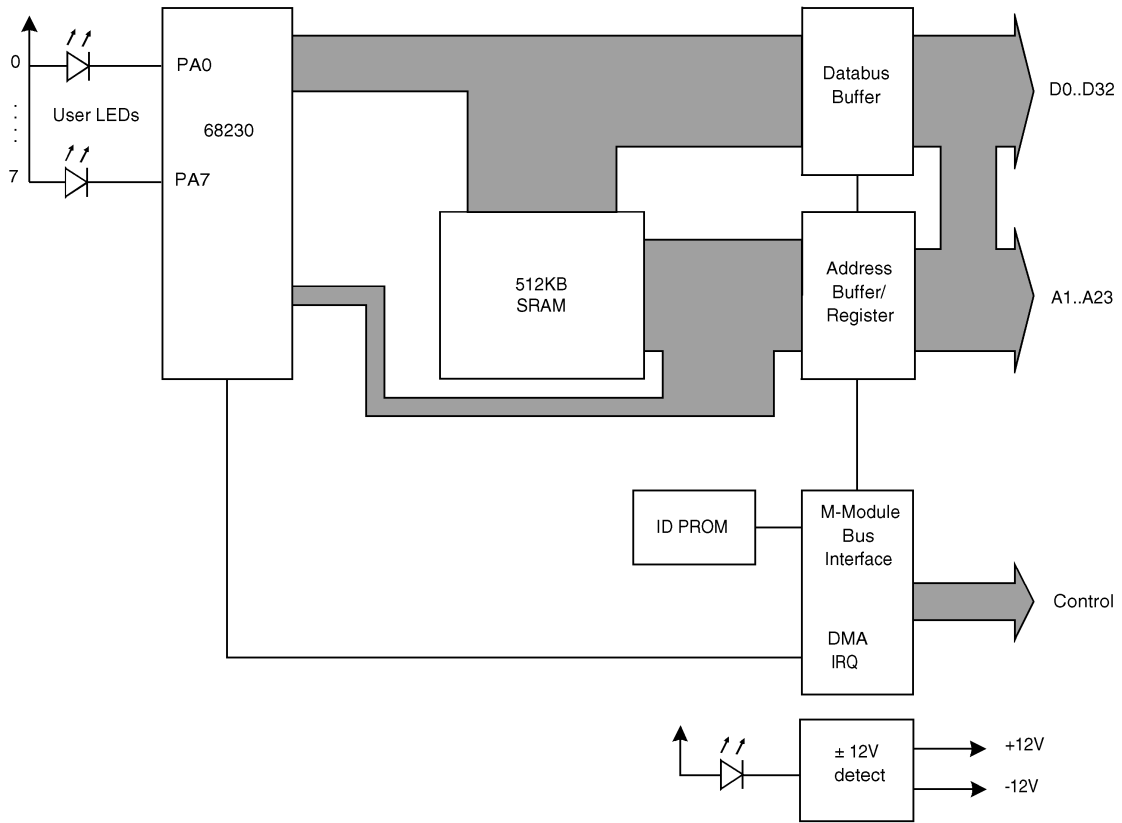
EMC

- Tested according to EN 55022 / 1999-05 (radio disturbance) and EN 55024 / 1999-05 (immunity) with regard to CE conformity

Software Support

- MEN Driver Interface System (MDIS3 for OS-9)

Diagram



Related Products

Standard Hardware

04M099-00	M99, M-Module (MA), test module for carrier boards
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Software

13M099-06	MDIS4/2004 low-level driver sources for M99
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13M099-70	MDIS4/2004 Windows® NT4/W2K driver for M99
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To use MDIS4 low-level drivers, you also need one of the MDIS4 system packages available for Windows®, Linux, VxWorks®, QNX®, RTX or OS-9 (MDIS4 = MEN Driver Interface System).

Documentation

20M000-00	M-Module draft specification, Rev. 3.0
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20M099-00	M99 user manual
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21APPN001	Application Note: MDIS4 under LabWindows®/CVI
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For the most up-to-date ordering information and direct links to other data sheets and downloads, see the M99 online data sheet under www.men.de. --> [Click here!](#)

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