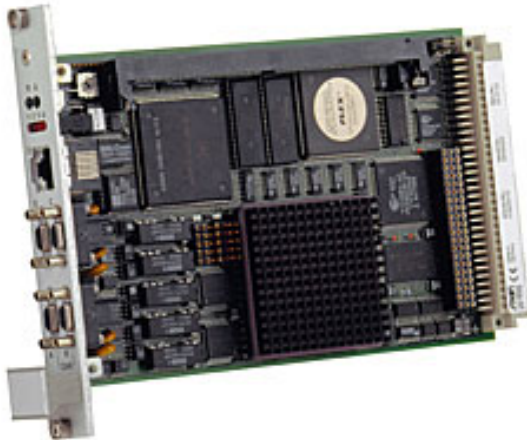


B5 - 3U VMEbus 68k Communication Controller



- MC68360/33MHz and MC68040V/68060
- 1-slot VME master/slave or busless
- 36MB DRAM, 8MB Flash, 1MB SRAM
- 10Mbit Ethernet interface
- 5 serial lines
- 2 full/extended CAN interfaces
- CANopen support
- All interfaces isolated
- 1 M-Module slot

Due to its numerous serial interfaces and the powerful 68040V/68060 CPU, the B5 CPU board is optimized for high-speed communication control. All of the serial lines of the 68360 are available: one Ethernet 10Base-T, three RS232 interfaces, and two RS232, RS422, RS485 or TTY interfaces (or optional second Ethernet). Two full/extended CAN interfaces complete the B5's communication features.

The B5 supports full VMEbus master/slave functionality; it has abundant on-board memory and an

RTC.

Due to its local and global bus, genuine dual-ported DRAM and the shared M-Module slot the B5 is also optimized for slave operation with all VME communication features installed.

The B5 is able to run without VMEbus, being a real single-board computer with an M-Module slot for flexible I/ O extension.

The B5 is an ideal solution for automotive applications, especially for small mobile systems and harsh environmental conditions.

Technical Data

CPU

- MC68040/33MHz (or option: MC68060/50MHz)

Peripheral Controller

- 32-bit CPU MC68360/33MHz

VMEbus

- 3U VMEbus form factor
- VMEbus master/slave interface
- VIC068
- Interrupter/interrupt handler
- A16, A24, D16
- VMEbus slot-1 functionality

Memory

- Up to 512KB boot Flash
- 16-bit data bus
- Dual-ported
- Up to 1MB SRAM
- Battery-backed via VMEbus
- 16-bit data bus
- Dual-ported
- Up to 4MB DRAM on board
- 32-bit data bus
- Burst access
- Up to 32 MB DRAM
- 1 JEDEC SIMM module
- 32-bit data bus
- Burst access
- Up to 8MB Flash
- 32-bit data bus
- Onboard programming
- Burst access

Interfaces

- 2 SMC UARTs
- RS232 interfaces
- Optically isolated
- 9-pin micro D-Sub connector at front panel
- 1 SCC intelligent serial interface
- RS232 interface
- Optically isolated
- 9-pin micro D-Sub connector at front panel
- Ethernet controller
- CPM of the MC68360
- Local DMA
- 10Base-T using RJ45 connector
- 10 Mbits/s data transfer rate
- 2 serial SA adapter interfaces
- Physical interface using adapter (RS232..RS485, optically isolated or not) on 10-pin ribbon-cable connector
- One interface also useable for Ethernet (adapter in preparation)
- CAN bus interfaces

- 2 full CAN controllers i82527 with extended addressing
- ISO 11898-High Speed up to 1Mbit/s, both channels optically isolated using DC/DC converters
- Two 9-pin micro D-Sub connectors at front panel

M-Module Extension

- 1 M-Module slot (requires additional VMEbus slot and front panel)
- Characteristics: A08, A24, D16, INTA, INTC, TRIGA, TRIGB, DMA
- D32, DMA, TRIGA, TRIGB access is supported only for local CPU
- Dual-ported

Miscellaneous

- Battery-backed real-time clock
- Programmable watchdog
- Serial EEPROM (4Kbit) for setup
- Hex switch
- Four programmable LEDs
- Reset button and abort button
- Single 5V supply (12V for M-Modules if installed)

Electrical Specifications

- Optical isolation: 1kV DC
- Isolation voltage for Ethernet/CAN bus: 500V DC
- Supply voltage/power consumption: +5V (4.85V..5.25V), 1.5A typ.
- MTBF: 45,000h @ 50°C

Mechanical Specifications

- Dimensions: standard single Eurocard, 100mm x 160mm
- Weight: 260g

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

Safety

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

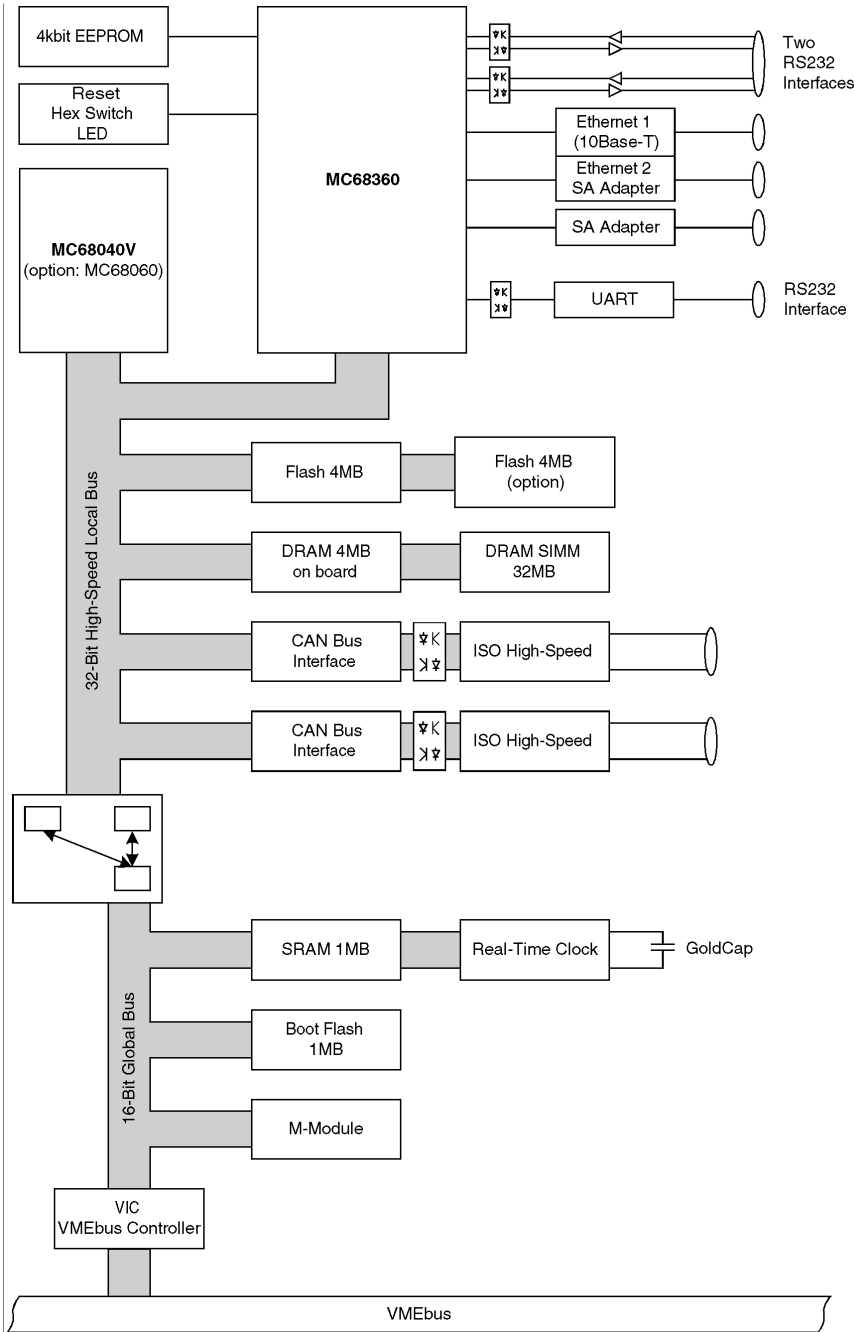
EMC

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

Technical Data

- Software Support
- MENMON
 - OS-9

Diagram



Related Products

Standard Hardware

01B005-00	B5, VMEbus 3U, single-board computer, CPU 68360/33MHz + 68040V/33MHz, 4MB DRAM, 1MB SRAM, 4MB Flash, 0.5MB boot Flash, 3xRS232, 2x Extended CAN, Ethernet (Twisted Pair), 1-slot solution
01B005-03	B5, VMEbus 3U, single-board computer, CPU 68360/25MHz + 68060/50MHz, 4MB DRAM, 4MB Flash, 1MB SRAM, 512KB Boot Flash, 2x CAN, 3x RS232, 1x Ethernet via twisted pair, VIC 64 VMEbus interface
01B005-04	B5, VMEbus 3U, single-board computer, temperature range -40..+85°C, CPU 68360/33MHz + 68040V/33MHz, 4MB DRAM, 1MB SRAM, 4MB Flash, 0.5MB boot Flash, 3xRS232, 2x Extended CAN, Ethernet (Twisted Pair), 1-slot solution
01B005-05	B5, VMEbus 3U, Single Board Computer, temperature range -40..85°C, CPU 68360/25MHz + 68060/50MHz, 4MB DRAM, 4MB flash, 1MB SRAM, 512KB Boot flash, 2x CAN, 2x RS232, 1xISO, 1x Ethernet via twisted pair, VIC 64 VMEbus interface

Please refer to our 3U VMEbus compare chart for a selection of further single-board computers with different processors and on-board functionality.

Systems & Card Cages

Disk drives for basic systems are delivered as requested. Different rack sizes, power supplies and backplanes on request.

0700-0009	CE-conformal housing for VMEbus 3U: closed 19" rack, 4U, 9 slots, J1 backplane, power supply 230V, fan
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Accessories

05B000-01	Interface cable: 9-pin micro D-Sub to 9-pin D-Sub (2m)
05B005-00	Accessory kit for B5: 1-slot front panel, M-Module mounting kit, cover plates for M-Module and SA adapter
05M000-15	Front-panel cover for M-Module cut-outs at front panels, snap-in, 10 pcs
0752-0140	32MB DRAM 0..+60°C for 01B005-03
0752-0186	32MB DRAM -40..+85°C for 01B005-05
08SA01-00	Serial interface adapter, RS232, not optically isolated, 0..+60°C
08SA02-00	Serial interface adapter, RS422/485, half duplex, optically isolated, 0..+60°C
08SA02-01	Serial interface adapter, RS422/485, full duplex, optically isolated, 0..+60°C

Related Products

08SA02-07	Serial interface adapter, RS422/485, full duplex, optically isolated, temperature range: -40..+85°C
08SA03-00	Serial interface adapter, RS232, optically isolated, 0..+60°C
08SA03-01	Serial interface adapter, RS232, optically isolated, -40..+85°C
08SA04-00	Serial interface adapter, TTY, optically isolated, 0..+60°C
08SA07-00	Serial interface adapter, Ethernet 10Base-T, 9-pin D-Sub connector, electrically isolated, 0..+60°C
08SA10-00	Serial interface adapter, fiber optic Ethernet 10Base-FL, serial UART full duplex, 0..+60°C

For more functions realized with SA adapters, see the listing on MEN's website. You can also view our SA adapter compare chart for a quick overview of different functions. Please contact sales to make sure that these SA adapters can be used in the board configuration you are looking for.

Software

10ABMX-07	OS-9 V.3.0: OS-9/68k + NET license
10B005-01	OS-9 V.3.0.3: BSP for B5 (object code, floppy disks, MEN)

For OS-9 BSP and driver support provided by MEN please refer to the ordering numbers below.

MEN has vast experience with CANopen-based implementations on standard and custom boards and systems. The CANopen protocol stack on MEN solutions runs under Windows®, Linux, VxWorks®, QNX®, OS-9 and other software environments. You will find more information about CANopen under www.can-cia.org/canopen.

Documentation

20B005-00	B5 user manual
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For the most up-to-date ordering information and direct links to other data sheets and downloads, see the B5 online data sheet under www.men.de. --> [Click here!](#)

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