

VME-IMOTION

Intelligent Interface for 4 SSI and 3 Encoder Channels

Not recommended for new designs!

SSI Interface

- SSI interface for 4 encoders

Incremental Encoder Interface

- 3 channels with index inputs, suitable for distance measurement

Limit Switch Inputs and Enable Outputs

- 3 limit switch inputs for 24 V
- 5 digital outputs 24 V / 0.3 A

Analog Inputs and Outputs

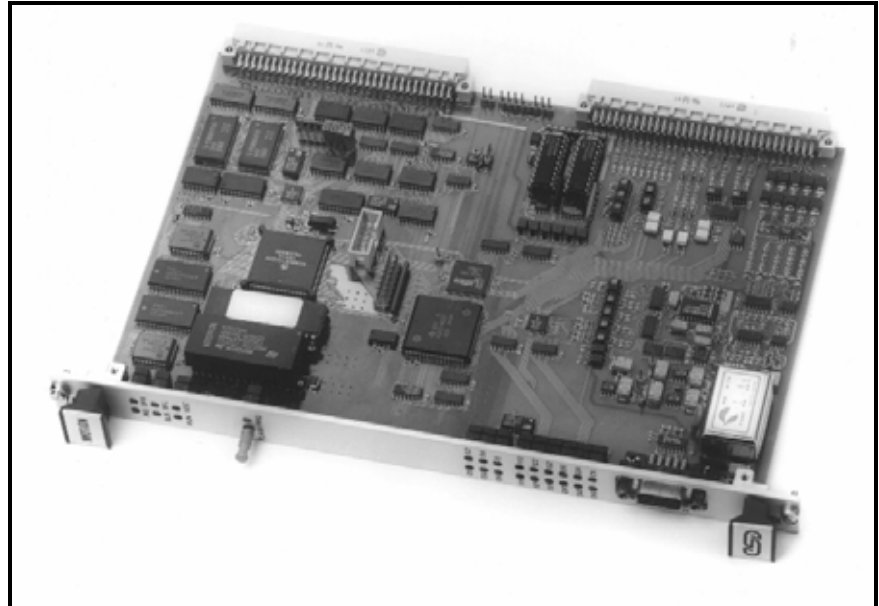
- 5 inputs ± 10 V, 12 bits resolution
- 5 outputs ± 10 V, 12 bits resolution, for servo amplifier interfaces

Local CPU

- CPU 68331 / 20 MHz with SRAM, Flash EPROM and serial interface
- local processor accelerates the controlling and relieves the VMEbus

Applications

- handling systems
- positioning
- measuring systems



Process Computer with 68331/20 MHz

The IMOTION's I/O interfaces are designed for motion control. The IMOTION covers all necessary components on a VMEbus 6U board and needs only 1 slot. The board is equipped with a local 68331 CPU at 20 MHz for processing of complex track controls as well as synchronous movement of all drives.

Incremental Encoder Inputs

The actual positions are acquired by electrically isolated incremental encoder inputs. The inputs are designed for 5 V. Drive of the motors is done by D/A converters using ± 10 V and 12 bits resolution.

Digital Inputs and Outputs

Additionally, 6 digital inputs using 24 volts are designed for use as limit switches, each two per axis. For digital output signals 5 sustained-short-circuit protected output drivers are available (0.3 A at 24 V).

Electrical Isolation

All I/O signals (except the SSI clock outputs) are optoisolated from the VMEbus.

Real Time and Multitasking

The IMOTION works onboard with the real time multitasking operating system RTOS-UH or with OS-9 3.0. The communication to the VMEbus master is done via cells of a dual ported RAM, which is accessible from the VMEbus master and the local CPU.

Mailbox in the Dual Ported RAM

An additional communication level between master board and IMOTION slave board is realized by bi-directional mailbox interrupts via VMEbus.

Displays on the Front Panel

A useful feature is the display of all digital signals on the IMOTION's front panel.

Watchdog

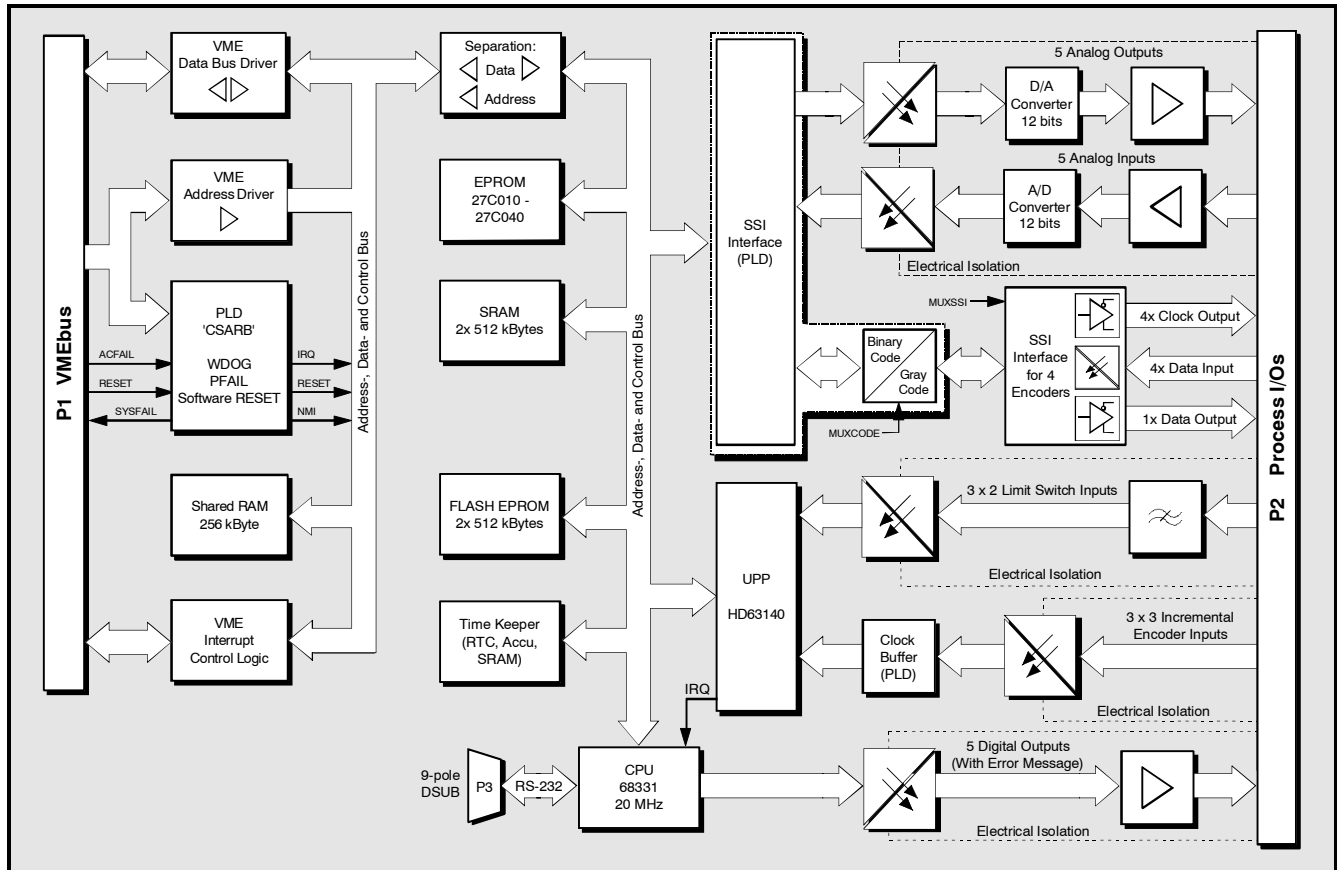
For security control of hardware and software a watchdog function is integrated, which generates a local or optionally a VME-RESET on error conditions.

VME Interface

The IMOTION as a VME slave board is equipped with an A24/D16 interface. Interrupts can be generated at software-programmed interrupt levels.

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Technical Specifications:

Process section:	
CPU:	68331 / 20 MHz
Memory:	1 Mbytes SRAM, 1 Mbytes Flash EPROM, 512 kbytes EPROM, 256 kbytes Dual Ported RAM (software interface to VMEbus)
Puls Processor:	HD63140, 16 bits ALU, 24 registers à 16 bits, 9 inputs used for incremental encoder and 6 inputs used for limit switches
Interrupts:	interrupts on the VMEbus with programmable level, interrupt handler for mailbox interrupts
Analog outputs:	5 outputs for DC- and servo motors, ± 10 V / 12 bits, electrical isolation
Analog inputs:	5 inputs, ± 10 V oder 0-10 V, 12 bits, electrical isolation
Digital outputs:	5 enable outputs 24 V/ 0.3 A, short-circuit-proof, electrical isolation
Digital inputs:	6 limit switch inputs 24 V, 3 incremental encoder inputs with 1 index input each using 24 V, all inputs electrically isolated
SSI interface:	4 channels with one clock output and one data output each, VCC = 5 V
LED displays:	LEDs for VMEbus interrupt, -SYSFAIL, -access, local SYSFAIL, CPU halt, analog power supply, status of the digital outputs, the limit switch inputs and the SSI signals

VMEbus section:	
Base address:	SD16 - slave with A24/D16-access, the board covers 256 kbytes
Address modifier:	all 'standard' access types are possible
VMEbus revision:	IEEE 1014 Rev. C.1
compatibility:	
General:	
Temperature:	0...50 °C
Humidity:	max. 90%, non-condensing
Connector types:	P1: DIN 41612-C96 P2: DIN 41612-C64 P3: DSUB9 female
Board size:	160 mm x 233 mm
VME dimensions:	6 U height, 1 slot width
Power supply:	+5 VDC ±5%, ±12 VDC ±5%, 24V for digital outputs via P2
Order information:	
Designation	Order no.
VME-IMOTION	Interface for 4x SSI und 3x Encoder, incl. Firmware V.1811.01
VME-IMOTION-OS9	Operating system OS-9 3.0 P.1811.11
VME-IMOTION-RTOS	Operating system RTOS-UH P.1811.12