

# VME-ISER12

## Intelligent Board with 12 Serial Interfaces



### 12 Serial Interfaces

- 8-channel controller SAB82538
- 4 additional interfaces via SCC of the CPU
- RS-232, RS-422, RS-485 or TTY
- 38.4 kBaud / 12 channels simultaneously guaranteed
- channels electrically isolated via optical couplers and DC/DC-converters, no disturbances
- 2x 50-pin post connector for adapter board ESP360
- functions and connections compatible to VME-ISER8

### QUICC-Power CPU

- CPU 68360 / 33 MHz
- 512 kByte standard SRAM
- optionally 2 MByte high speed SRAM in addition
- 1 M x 16 Flash-EPROM
- VMEbus mailbox interrupts

### Operation

- Shared-RAM allows simple parameter setting
- additional RS-232-interface for diagnose/service/programming

### Display

- signal LED and test socket can be switched to each channel
- power LED for electrically isolated power supply of channels

### Serial Controllers

The VMEbus unit VME-ISER12 is an intelligent interface board with 12 serial interfaces for process interfacing, and an additional RS-232 interface for the connection of a terminal for service and programming.

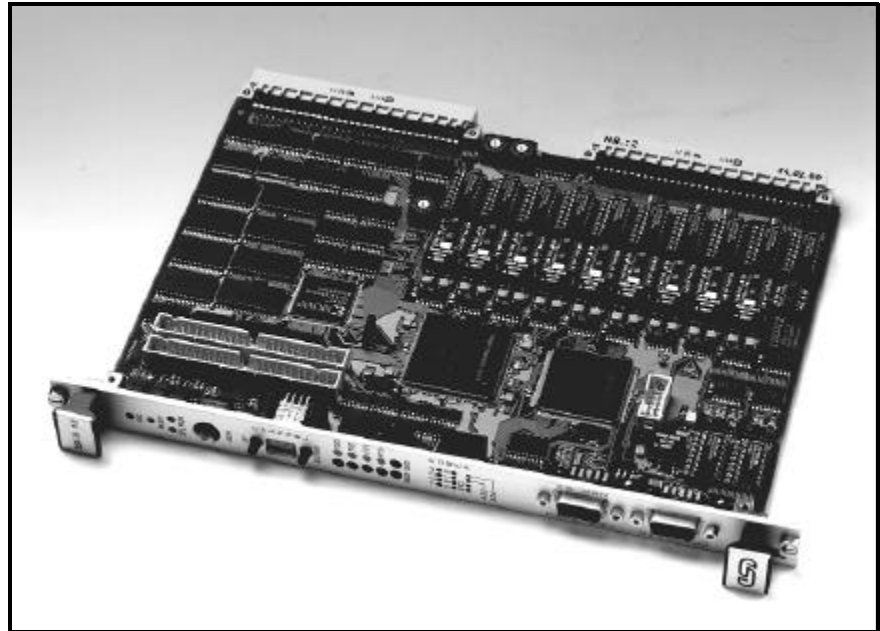
The serial controller SAB 82538 controls 8 serial interfaces. The CPU 68360 controls four further interfaces and the terminal interface via the SCC.

### Physical Interfaces

The interfaces and VMEbus potentials are electrically isolated from each other by optical couplers and DC/DC-converters. Piggybacks realize locally the physical interfaces RS-232, RS-422, RS-485 and TTY-passive. In standard option the board is equipped with RS-232 drivers in sockets. This interface is connected via the VMEbus connector P2.

### Wiring

The board is double Europe format with 4 TE (1 slot) width. 9 serial channels are available via the VMEbus connector P2.



An additional channel can be connected via a 9-pin post connector in the front panel. The second DSUB-connector in the front panel is for the terminal interface (RS-232). The TTL-signals of the serial channels are connected to two 50-pin post connectors.

### QUICC-Power On-Board

The CPU 68360 with a phase frequency of 33 MHz controls the local units. The firmware is stored in the Flash-EPROM. The firmware can be updated via a service interface in the front panel.

### VMEbus Interface

In standard option the board offers the data transfer options SADO24 and SD16. Optionally, the board can also be equipped with an A32/D32 interface. When using the local physical interface, however, this option is not recommendable, because the isolation distances become very narrow.

### ESP360-Transition Modules

Via the two 50-pin post connectors two transition modules of ESP360 type can be connected. Each of these transition modules offers the transition of four serial physical channels to the physical interfaces RS-232, RS-422 and RS-485. Two additional channels can be operated as RS-232 and RS-422 interfaces. They are connected via six 15-pin HD-DSUB-connectors in the 6 HE front panel of the modules. With two ESP-modules all 12 serial channels of the VME-ISER12 are accessible as e.g. RS-232-interfaces.

In the ESP360 modules the channels can be selected via software, bridges in the connector or solder bridges, because the interface options for each channel are parallel. One advantage of the ESP360 adapter boards is the large isolation distance of the electrical isolation, which allows voltages of up to 300 VDC/ 250 VAC.

### LED Displays

Via keys and a 7-segment display in the front panel a serial channel can be selected in order to display its signals to LEDs. The selected signals can then be read directly at the front panel at 2 mm test sockets. The power supply of the electrically isolated interfaces is shown for each channel via LEDs.

### Firmware

A channel-oriented RAM interface is available as firmware for the local CPU. The VME-ISER12 communicates with the VMEbus master via the local RAM. Here, the commands and parameters are stored which come from the local CPU. The serial data is buffered in the RAM, too.

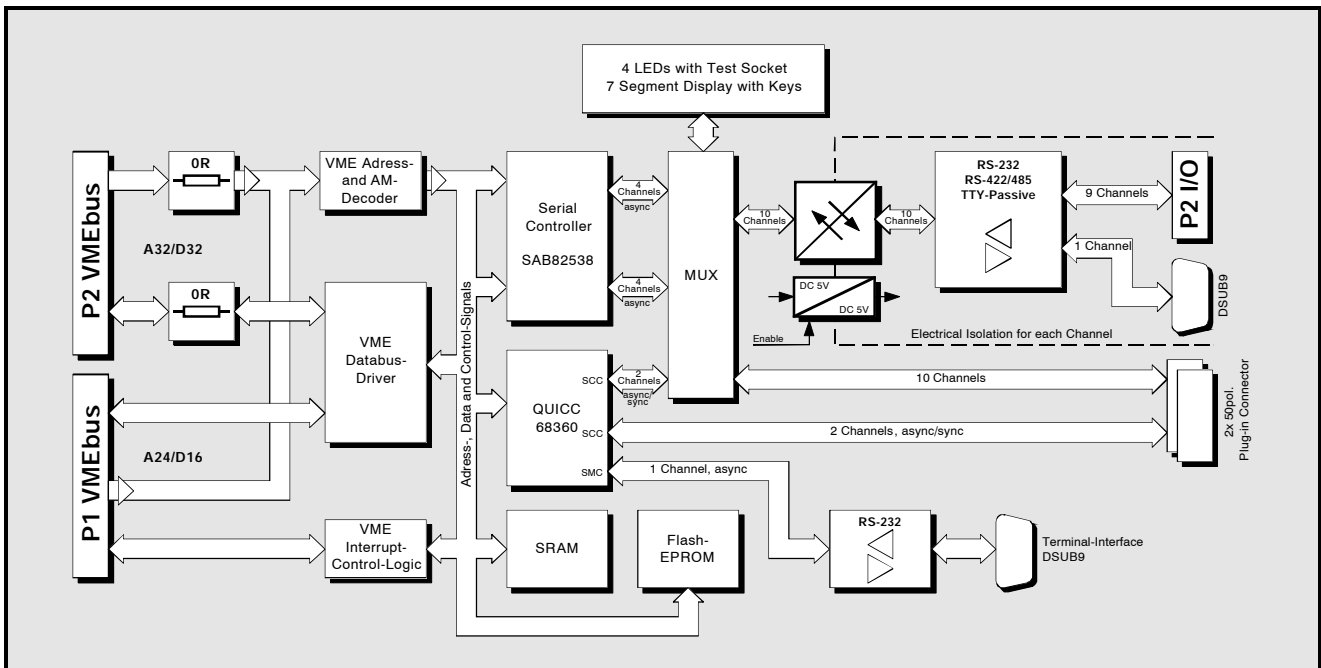
Because of this Shared-RAM interface, the implementation into different master operating systems is easy as well. Drivers for most real-time operating systems, such as OS-9, VxWorks or RTOS-UH are available.

esd electronic system design gmbH  
Vahrenwalder Str. 207  
D-30165 Hannover / Germany

Phone: +49-511-37298-0  
Fax: +49-511-37298-68  
E-Mail: [info@esd-electronics.com](mailto:info@esd-electronics.com)

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## Intelligent Board with 12 Serial Interfaces



### Technical Specification:

#### Serial interfaces:

Interfaces:	10 async., 2 async./sync., 1 service
Serial controller:	SAB82538
Physical layers:	RS-232, RS-422, RS-485, TTY passive
Baud rate:	38.4 Kbaud (full duplex) when using all 12 channels guaranteed
Electrical isolation:	via optical couplers from VMEbus potential and channels from each other
Power supply:	DC/DC-converters
Connections:	9 channels: via P2 (VG96), 1 channel: via DSUB9 in front panel or 12 channels via 2x adapter board ESP360 (each 6x HD-DSUB 15-pin socket contacts)

LED-displays:	10 LEDs for power supply of the isolated channels, 4 LEDs for serial signals, channel selection via keys and 7-segment display, displayed signals at 2mm test sockets
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ESP360-transition modules:	transition to 4x RS-232, RS-422 and RS-485 plus 2x RS-232 and RS422, 15-pin HD-DSUB sockets, reference potential of electrical isolation: acc. to VDE 0110b§8, isolation group C and installation into cubicle: 300 VDC / 250 VAC
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#### Controller:

CPU:	QUICC 68360, 33 MHz
Memory:	1 M x 16 Flash-EPROM, 512 kByte standard SRAM, optional +2 MByte high speed SRAM
Terminal interface:	RS-232, baud rate programmable

#### VMEbus:

Basic address:	programmable via coding switches, board uses 1 MByte
Address modifier:	complete AM-decoding with additional Don't-Care setting for 'Supervisory'/'Non-privileged' mode
VME-compatibility:	IEEE 1014 Rev. C.1
Data transfer options:	standard: SADO24, SD16 optional: SADO32, SD32

#### General:

Ambient temperature:	0...70 °C
Humidity:	max. 90%, non-condensing
Connectors:	P1, P2: DIN 41612 design C96 P3, P4: 9-pin DSUB (female) P5, P6: 50-pin post connector (male)
Board dimensions:	160 x 233 mm, 6 HE height, 4 TE width
Power supply:	P1: +5 V ±5%

#### Order information:

Designation		Order No.
VME-ISER12	intelligent interface board, with 12 serial channels on-board, 10 RS-232 interfaces	V.1414.01
VME-ISER12-ADAPT	P2 to 9x DSUB9-adapter	V.1414.10
VME-ISER12-32	A32/D32-VMEbus interface	V.1414.11
RS422-Adapter	RS-422 piggyback	V.1930.02
RS485-Adapter	RS-485 piggyback	V.1930.04
TTY-passive-Adapter	TTY-20mA passive piggyback	V.1930.06
ESP360	adapter board with 6 interfaces RS-232, RS-422 and RS-485	V.1129.01

Technical details subject to change.