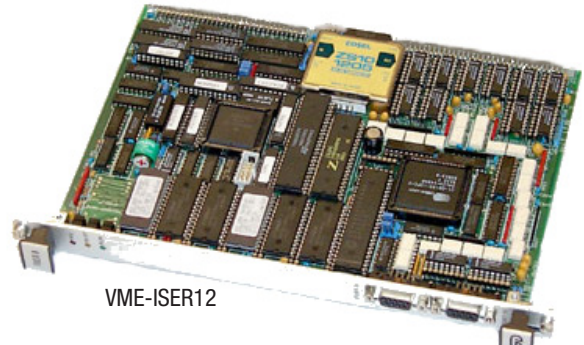




VME-ISER12

Intelligent Board with 12 Serial Interfaces



VME-ISER12

- 10 asynchronous serial interfaces, 2 of them synchronous
- Max. 38.4 kbit/s on all 10 channels simultaneously
- Max. 115 kbit/s on two channels synchronously or asynchronously
- Max. 1 Mbit/s on one channel
- Versatile interfaces RS-232, RS-422, RS-485 or TTY (active / passive)
- Safety of operation by optocouplers
- CPU MC 68000
- Up to 512 kbytes battery-backed SRAM & up to 512 kbytes EPROM
- Shared RAM access for easiest parameter handling
- 2 additional serial ports for diagnostics, service or programming
- Firmware for programming of VMEbus interface and serial interfaces
- VMEbus compatibility: IEEE 1014 rev. C.1
- VMEbus access: SAD032, SD16

Serial Controllers

The VME-ISER12 is an intelligent VMEbus interface w/ 12 serial process interfaces, and an additional RS-232 interface for connecting a terminal for service & programming. The serial controller SAB 82538 controls 8 serial interfaces, and the CPU 68360 controls 4 as well as the terminal interface via the SCC.

Physical Interfaces

Opto-couplers and DC/DC converters electrically isolate the interfaces & VMEbus potentials. Piggybacks locally realize the physical interfaces RS-232, RS-422, RS-485, & TTY-passive. The standard option has RS-232 drivers in sockets connecting via the VMEbus connector P2.

Wiring

The board is double Europe format with 4 TE (1 slot) width. The VMEbus connector P2 has 9 serial channels available. If needed, an additional channel connects via a front panel 9-pin post connector. A second DSUB-connector in the front panel is for the terminal interface (RS-232). The TTL-signals of the serial channels connect to two 50-pin post connectors.

QUICC-Power On-Board

The CPU 68360 has a phase frequency of 33 MHz to control the local units. Firmware is stored in the Flash-EPROM & updates via a service interface in the front panel.

VMEbus Interface

The board's standard option offers the data transfer options SAD024 & SD16. Optionally, the board can also be equipped with an A32/D32 interface. This option is not recommended when using the local physical interface because the isolation distances become very narrow.

ESP360-Transition Modules

Two ESP360 type transition modules connect via two 50-pin post connectors, & each offers the transition of 4 serial physical channels to the physical interfaces RS-232, RS-422, and RS-485. Two additional channels can operate as RS-232 and RS-422 interfaces connecting via six 15-pin HD-DSUB-connectors in the 6 HE front panels. With 2 ESP modules, all 12 serial

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<http://www.esd-electronics-usa.com/VME.html>

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channels of the VMEISER12 are accessible as e.g. RS-232- interfaces. In the ESP360 modules, channel selection is 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

Selecting a serial channel via keys and a 7-segment display allows you to read the selected signals via LEDs directly at the front panel at 2 mm test sockets. The power supply of the electrically isolated interfaces shows for each channel via LEDs.

Firmware

There is a channel-oriented RAM interface available as firmware for the local CPU. The VME-ISER12 communicates w/ the VMEbus master via the local RAM. The RAM stores the commands & parameters that come from the local CPU and buffers the serial data. This Shared-RAM interface allows easy implementation into different master operating systems. There are drivers for most real-time operating systems available.

Technical Specifications:

| 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 |
| 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 |
| 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, w/ 12 serial channels, 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 w/ 6 interfaces RS-232, RS-422 and RS-485 | V.1129.01 |

