

VME-ISCAN Intelligent A/D Converter

Analog Inputs

- 16 differential analog inputs
- Scanning of all 16 channels synchronously with a maximum sample rate of 26 kHz
- Max. sample rate 110 kHz (for 4 channels)
- 12 bits resolution

Analog Outputs

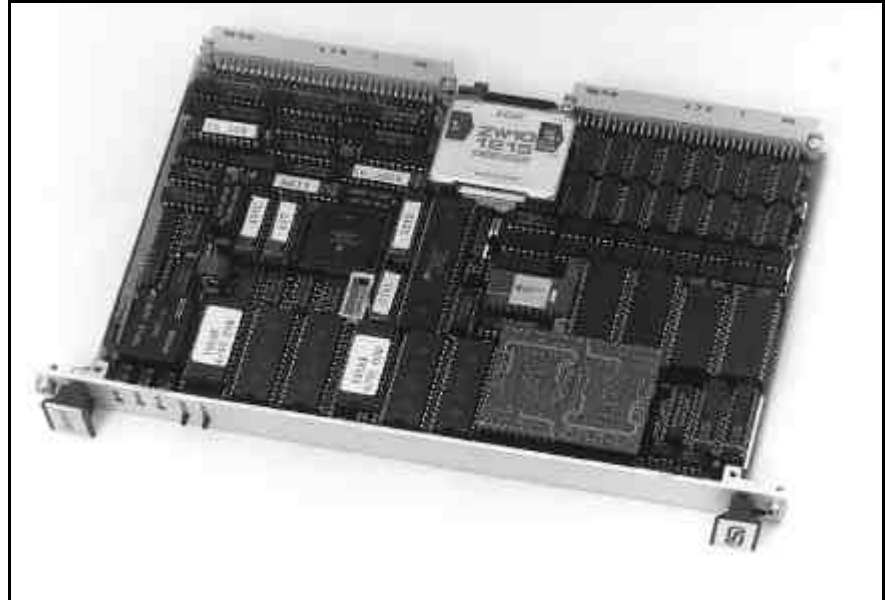
- 4 analog outputs ± 10 V/ 12 bits

Software Interface

- Easy operation by means of a shared RAM interface

Industrial Standard

- Safety of operation by electrical isolation via optocouplers



Intelligent VMEbus Board

VME-ISCAN is an intelligent VMEbus board equipped with 16 analog differential inputs and is excellently suitable for fast and flexible signal acquisition. It includes all necessary components on a VMEbus 6U board and needs only 1 slot.

The ISCAN contains a local MC 68000 CPU at 12 MHz and up to 2 MB shared SRAM for the execution of complex data acquisition algorithms.

Analog Inputs

A total of 16 synchronously scanable analog differential inputs with 12 bits resolution are available on the ISCAN. The input voltage range can be expanded by programming an offset shift. The maximum sample rate at synchronous scanning of all 16 channels is 26 kHz. With a limit of 8 synchronous channels the maximum sample rate increases to 54 kHz and at synchronous scanning of 4 channels it increases to 110 kHz.

Trigger Conditions

3 trigger conditions are available to the user: programmable analog trigger threshold to selectable edge, via an external digital signal or via software. Synchronization of several VME-ISCAN boards for simultaneous scanning at the same trigger condition is possible.

Analog Outputs

In addition to the 16 analog A/D converter inputs the ISCAN board contains 4 bipolar ± 10 V D/A converter outputs. These D/A converters allow on board adjustment of the trigger threshold, the calibration and the offset of the input amplifiers.

Of course the user can also take these D/A converter outputs directly as process outputs.

Electrical Isolation

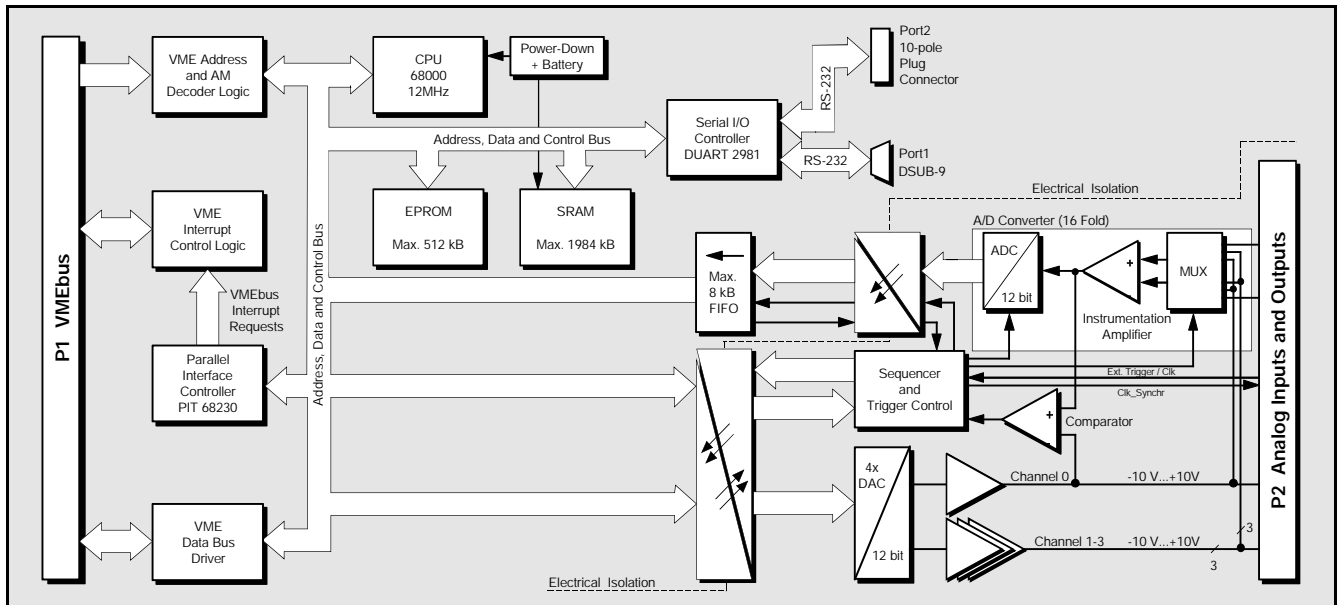
Full electrical isolation of all analog inputs and outputs, proper wiring to the backplane via P2, an integrated power supply with a DC to DC converter and LED displays on the front panel make the VME-ISCAN ideally suitable for industrial use.

Software Support

A complete operation package containing also diagnostic and test routines is supplied as firmware for the local CPU, as well as a shared RAM interface and complete parameter settings for sample rate, trigger condition etc.

The shared RAM interface makes the implementation of different operating systems, e.g. VxWorks, OS-9, PSOS, UNIX or RTOS-UH easy to realize.

VME-ISCAN Intelligent A/D Converter



Technical Specifications:

Process section:

Inputs: 16 differential analog inputs
uni- or bipolar 0.1 V, 1 V, 5 V, 10 V

Outputs: 4 analog outputs bipolar ± 10 V

Resolution: 12 bits

Maximum sample rate: 16 channels synchronously: 26 kHz
8 channels synchronously: 54 kHz
4 channels synchronously: 110 kHz

Electrical isolation: by fast optocouplers

Controller section:

CPU: MC 68000, 12 MHz

Memory: up to 2 Mbytes battery-backed SRAM with CRC check and 512 kbytes EPROM

VMEbus section:

Base address: selectable by jumpers over the whole address range of 4 Gbytes/16 Mbytes. The board covers 1 Mbyte.

Address modifier (AM): full AM decoding additionally with don't care mode for 'supervisory'/'nonprivileged' mode

VMEbus revision compatibility: IEEE 1014 rev. C.1

Data transfer options: SADO32, SD16

General:

Ambient temperature: 0...50 °C

Humidity: max. 90%, non-condensing

Connector types: P1: DIN 41612 - C96
P2: DIN 41612 - C96

Board size: 160 mm x 233 mm
VME dimensions: 6 U height, 1 slot width

Weight: 650 g

Power supply: DC to DC converter for all analog supply voltages (± 15 V) on-board

Power consumption: P1: 2.5 A at +5 VDC $\pm 5\%$
0.8 A at +12 VDC $\pm 5\%$
0.1 A at -12 VDC $\pm 5\%$

Order information:

Designation		Order no.
VME-ISCAN	intelligent A/D converter board with 16 analog inputs, 256 kbytes SRAM	V.1704.02
ISCAN-RAM 1536	Memory extension: 1536 kbytes of SRAM	V.1704.04
ISCAN-RAM 1984	Memory extension: 1984 kbytes of SRAM	V.1704.06
VME-ISCAN-OS9I	C driver for OS-9 as source code with interrupt handling	P.1704.54
VME-ISCAN-VxWI	C driver for VxWorks as source code with interrupt handling	P.1704.58