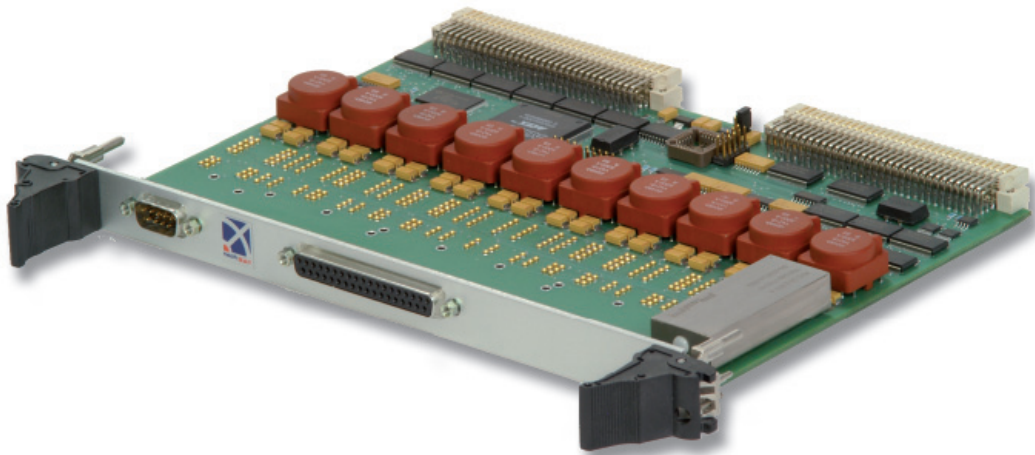




# VME64FEC

## VME 64 Extended Front End Carrier



- ME64 carrier board for high-precision front end modules
- State-of-the-art VME64(x) interface
- Galvanically isolated module interface
- On-board isolated sine-generated power supply for reduced ground noise
- Up to ten ADC/DAC front ends (DIL 40) and up to 4 double-size Sine modules (2 x DIL 40)



## VME64 VME 64 Extended Front End Carrier

### Application Scope

The VME 64 Front End Carrier board serves as a VME 64(x) interface for various types of custom-made high-performance, high-precision analog circuit front ends designed for the use in automated test system environments. The carrier is able to accommodate:

- > Up to ten 16 (24) bit Analog-to-Digital Converter sub-modules with a full 2 kHz (up to 20 kHz degraded) measurement rate and an independent master clock for each ADC chip for generating specific filter characteristics
- > Up to ten 16-bit Digital-to-Analog Converter sub-modules with a 20 kHz output rate
- > Up to four 16-bit Sine Wave Generator sub-modules with a 20 kHz output rate and independently programmable frequency, gain, and offset
- > Up to ten 16-bit ultra-fast Frequency Detector sub-modules with a 12 ( $\pm 5$ ) kHz rate

Other custom-made front ends can be provided upon request.

### Feature Highlights

The carrier board features the following components and properties:

- > State-of-the-art ABTE bus components supporting VME64x (extended) applications
- > Two on-board flash memory chips, each 2 MBytes in size, used to store configuration parameters and serving as a look-up table for measurement values for calibration and error compensation
- > Digital control of front ends logic implemented in ALTERA FPGA 1k family
- > VME communication via dual-ported RAM (contained in FPGA)
- > Clock controlled via external PLL circuitry, init via I2C control
- > Galvanically isolated 25 kHz external sine power supply with enhanced noise suppression through 10 on-board toroid transformers used for galvanic separation
- > Various hardware and firmware configurations matching with the type of mounted sub-modules
- > All sub-modules are provided with an I2C interface to the temperature sensors, programmable system clocks, and a 2 KByte EEPROM for configuration data storage

### Operation Modes

Each module can be operated in two modes, Calibration mode and Normal Operation mode. In Calibration mode the data written to the data buffers is transferred directly to the module. In Normal Operation mode the data is corrected using information stored in the FLASH memory before being transferred to the module.

### Technical Data

#### Electrical (VME Interface)

##### Supply Voltage

- +5 V: -2,5% +5%
- +3,3 V: -2,5% +5%
- +12 V: -2,5% +10%

##### Maximum Power Consumption

- +5 V at <tbid> A
- +3,3 V at <tbid> A

#### Mechanical Data

- VME 6U Standard
- Length: 233,35 mm
- Width: 160 mm
- Height without cover: 12 mm
- Height including cover: approx. 12,5 mm
- Weight: approx. 900g (including 10 x ADC|DAC)

#### Environmental Data

- Operating Temperature: 0° C - 70° C
- Storage Temperature: -25° C - +85° C
- Humidity: 0 - 90% non-condensing

#### Ordering Information

Typ	Order Number
Plain carrier	700124-0
Carrier/ADC	700124-1
Carrier/DAC	700124-2
Carrier/SINE	700124-3
Carrier/FreqDet	700124-4

### VME64 Frontend Carrier Block Diagram

