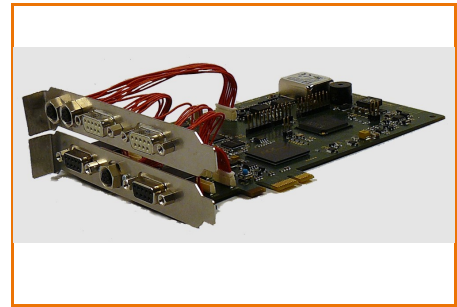


Interpolation and Counter Card MVSPCLe

Features:

- PCI-Express card for measured value acquisition and interpolation
- Connection of 4 analogue and 4 digital incremental encoder signals
- Connection of up to 11 additional external digital signals
- 1 ADC 16 Bit
- Interpolationrate of up to 2048 (integrated IC GC-IP2000)
- Patented gain and offset regulation
- Maximum input frequency of 260 kHz for all resolutions
- Absolute measurement accuracy due to continuous data acquisition in realtime (< 4 μ s)



Interpolation and Counter Card MVSPCLe

The MVSPCLe interpolation and counter board from GEMAC provides fast, synchronous and equidistant acquisition and evaluation of four analog and four digital incremental encoder signals. As a space-saving and cost-effective alternative to an external electronic system, the MVSPCLe offers maximum application possibilities for highly dynamic processes. To this end, the user can choose from numerous functions and delivery scopes of the board. Furthermore, GEMAC provides support in the form of individual consulting and factory-set board configuration, if necessary.

The signals from the analog encoder are corrected automatically in amplitude and zero position by way of the patented GEMAC control algorithm. Subsequently, the integrated electronic interpolation unit divides the signal period of the encoder into max. 2,048 increments. Due to the automatic closed-loop control, an absolute measuring accuracy (typ. ± 0.7 increments) is achieved in realtime of less than four microseconds. In addition to the signals from the incremental sensors, the MVSPCLe also acquires another analog signal and up to 11 further digital signals simultaneously. Acquisition of the measured values is triggered by a programmable timer or externally connected components, e.g. a trigger sensor or camera.

For the evaluation of distance-coded reference marks, it is also possible to start a measurement via the reference signal from one or several sensors.

Applications:

- Machines used for quality surveillance (coordinate measuring machines, special measuring machines)
- Automation and control solutions (components for industrial PCs)
- Fast and synchronous detection of position values and other physical values simultaneously
- Detection of position values and position differences depending on trigger occurrences

Technical Data*:

Input signals	
Analog sensors	4 channels for sine shaped incremental signals (voltage or current signals) nominal gain configurable Maximum input frequency 260 kHz for all resolutions
Digital sensors	4 channels for incremental signals RS422 Minimal edge distance 30 ns
ADC	1 channel 0 – 5 V
Digital inputs	3 trigger inputs 5 V (configurable to a max of 10 V), threshold value configurable 4 inputs 5 V galvanically isolated 4 inputs LVTTTL
Output signals	
Digital outputs	4 outputs 5 V galvanically isolated, 5 V push/pull or open drain up to 250 mA 4 outputs LVTTTL
Interpolation	
Functions	Fast hardware interpolation Interpolation rate decimal/binary 100 ... 2048 Sensor monitoring
Signal correction	Patented digital regulation of gain and offset Digital potentiometer for phase correction
Signal processing	
Measured value trigger sources	3 trigger probe connectors with configurable threshold values 8 digital signals, 4 are galvanically separated 8 reference signals of sensors (Evaluation of distance-coded reference marks) Timer (3.84 µs ... 20 s)
Software link	Measured value-FIFO with 1024 data sets Automatic equidistant and synchronous measurement API for simple linking to other software PCIe – Driver for Windows 2000/XP/Vista/7 Driver for LabView
Additional functions	Timestamp register for every trigger that occurred 3 configurable PWM-signals
Additional data	
Form sector	PCI-express plug-in card with 1 fixed and several additional slot brackets Encoder connector Sub-D 9-pole
Temperature range	0 ... 70 °C

* A complete description of technical data can be found in the relevant data sheet at www.gemac-chemnitz.de

Order information:

Product name	Description	Product number
MVSPCie-Standard	Interpolation and counter card MCS2PCie fully assembled slot bracket 4 channel	PR-43340-00 BG-03015 (included)
MVSPCie-2 channel	2 channel Interpolation and counter card MVSPCie without galvanic isolation	PR-43360-00
Configuration MVSPCie	Configuration and customization of the card to specific customer requirements	According to our acknowledgment of order

This card is suitable for numerous applications: For specific configurations kindly send an email with the exact description of the measurement requirements to: interpolation@gemac-chemnitz.de