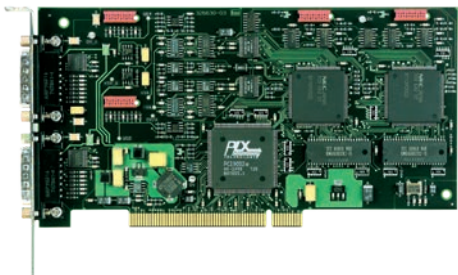


IK 220

Signal converter for computer-aided measured-value acquisition



The IK 220 signal converter is an evaluation unit for two axes. As a PC counter card, the IK 220 can be inserted directly into a free PCI slot on the computer.

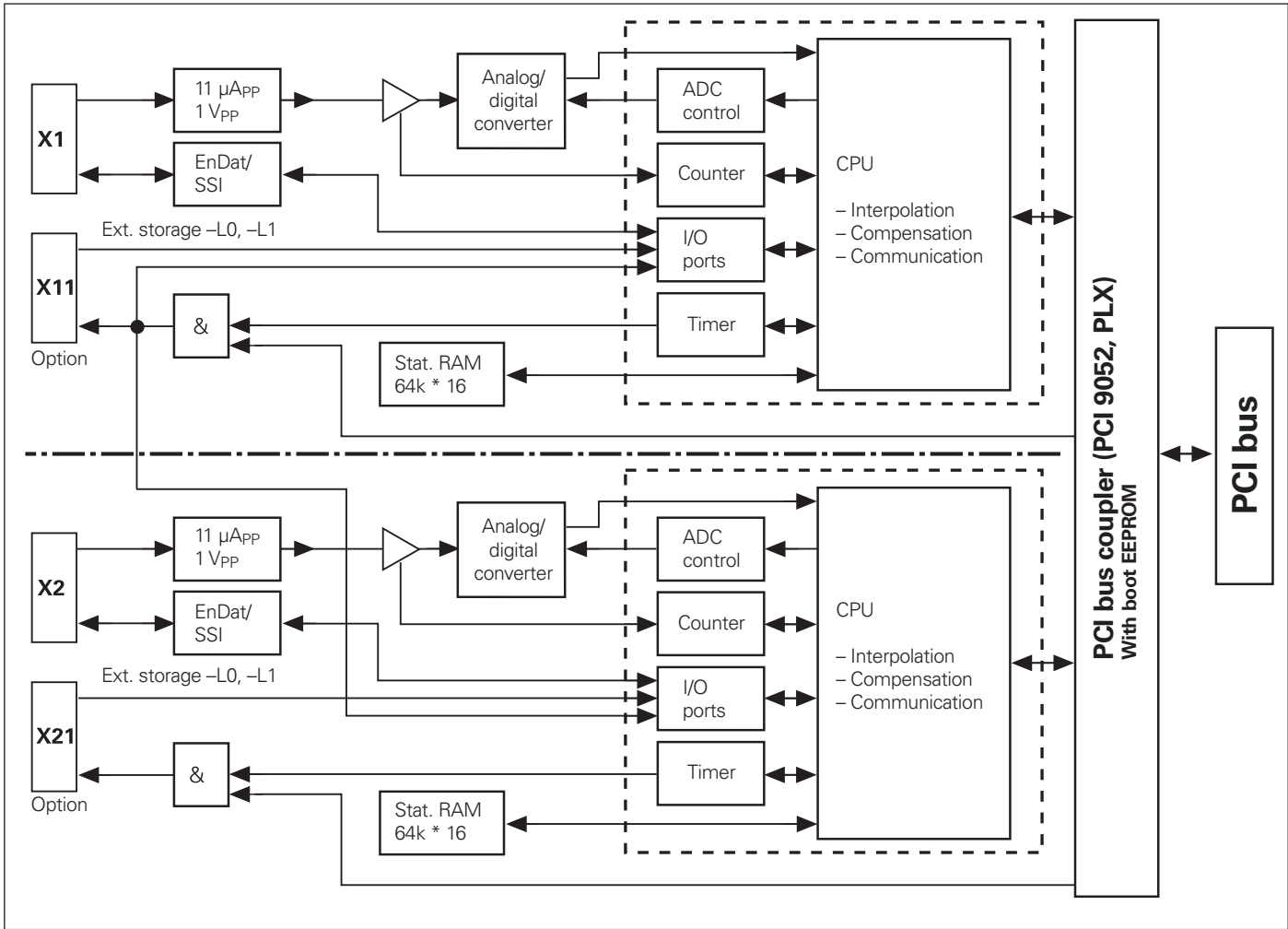
Design
Connectable to the IK 220 are two HEIDENHAIN encoders with sinusoidal current signals ($\sim 11 \mu\text{App}$), sinusoidal voltage signals ($\sim 1 \text{Vpp}$), or an EnDat 2.1 or SSI interface. External latch inputs and the output of encoder signals ($\sim 11 \mu\text{App}$) can be implemented by means of additional slot covers (accessory).

Functions
The IK 220 subdivides the signal periods of the sinusoidal encoder signals up to 4096-fold. The signals are called and stored through either external latch inputs or software.

The IK 220 features an integrated **measured value memory**. A total of up to 8192 measured values can be stored in the buffer memory and can be output as a single block.

Further processing of the measured values in the PC is performed by operator-created programs. To demonstrate the possibilities of the PC counter card, example programs and a software driver are included in delivery.

Basic circuit diagram



	IK 220			
Encoder inputs	15-pin D-sub connections (male, X1 and X2), for two encoders			
Input signals (switchable)	 1 V _{PP}	 11 μA _{PP}	EnDat 2.1	SSI
Input frequency	≤ 500 kHz	≤ 33 kHz	–	
Cable length ¹⁾	≤ 60 m		≤ 10 m	
Adjustment of encoder signals	Adjustment of offset, phase and amplitude by the software			
Signal subdivision	4096-fold			
Data register for measured values	48 bits; of which only 44 bits are used for the measured value			
Internal memory	For 8192 position values			
Measured-value trigger	Through the following (selectable): • External latch signals (over separate IK assembly for external inputs/outputs) • Software command • Timers • Traversing of reference marks			
Access time to measured values	• <i>Without adjustment, without compensation run:</i> ≤ 100 μs • <i>With adjustment, without compensation run:</i> ≤ 110 μs • <i>With adjustment, with compensation run:</i> ≤ 160 μs		Depends on the encoder	
Interface	PCI bus (plug and play) Local Bus Specification Rev. 2.1			
Driver software and demonstration program	For Windows 7 (32-bit and 64-bit) In VISUAL C++, VISUAL BASIC, and BORLAND DELPHI included in delivery Via download: Windows 10 (64-bit)			
Outputs for encoder signals	 11 μA _{PP} Via PCB connector on the IK (10-pin, female) Fitting cable assembly with PC-slot cover optionally available			
Power consumption	≈ 4 W, without encoders			
Dimensions	190 mm x 100 mm			
Operating temperature	0 °C to 55 °C (storage temperature: –30 °C to 70 °C)			

¹⁾ With HEIDENHAIN cable; longer cable lengths upon request