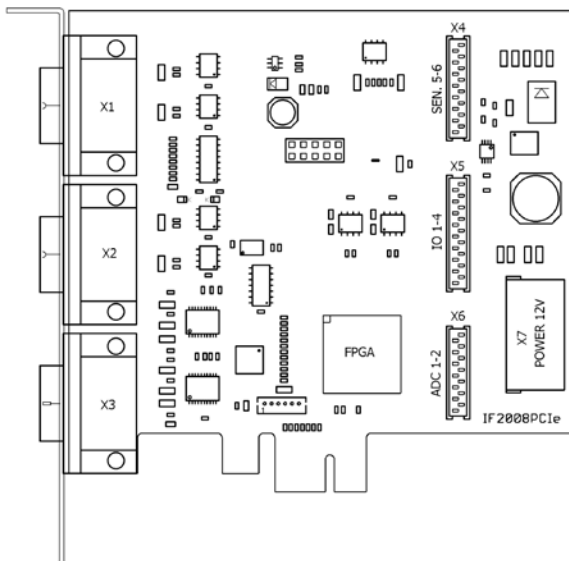# IF2008PCIe Interface Card

The IF2008 interface card is designed for installation in PCs with PCI Express slots and enables the synchronous capture of four digital sensor signals and two encoders. The absolutely synchronous data acquisition plays an important role particularly for planarity and thickness measurements. The data are stored in a FIFO memory in order to enable resource-saving processing in blocks in the PC.
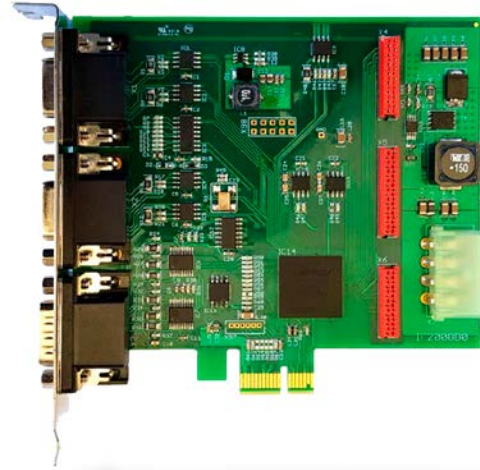
Special advantages

- 4x digital signals and 2x encoders with basic printed circuit board
- 6x digital signals, 2x encoders, 2x analog signals and 8x I/O signals together with IF2008E
- FIFO data memory
- Synchronous data acquisition

IF2008PCIe Basic printed circuit board

Mechanics and environment

- Dimensions (PCB) approx. 110 x 105 mm, width: 1 slot
- Max. permitted ambient temperature +40 °C
- 2x D-SUB female connectors HD 15-pin for sensor connections
- 1x D-SUB male connector HD 15-pin for encoder signals
- 1x Tyco/AMP Commercial MATE-N-LOK connector (IDE hard-drive connector) for supply of DC/DC converter
- 3x Tyco/AMP MicroMatch female connectors for connection to option board

PCI-Express bus

- PCI-Express x1 interface
- Target interface (slave) according to specification Revision 1.0)
- Current consumption at +3.3 V approx. 0.5 A, without sensors and encoders
- Power supply of encoders with +5 V from the PCI power
- Power supply of the sensors with +24 V from the PC power supply

Sensor interface (X1 / X2)

- 4x RS422 drivers (2x TxD and 2x trigger out) and 2x RS422 receivers per connector (input/output frequency max. 5 MHz)
- Power supply of sensors with 24 V

Encoder interface (X3)

- Interface for two encoders with 1Vss, RS422 (difference) or TTL (single-ended) signals
- Power supply of the encoders with +5 V from PCI power supply without galvanic isolation (current consumption dependent on the connected encoders)
- Interpolation programmable from 1 to 64 times for encoders with 1Vss signals (input frequency max. = [3.2 MHz / interpolation] $\leq$ 800 kHz)
- Evaluation programmable from 1 to 4 times for encoders with:
  - RS422-/difference signals (input frequency max. = 800 kHz)
  - TTL-/single-ended signals (input frequency max. = 400 kHz)

IF2008 PCIe supports the following sensors and measuring systems

optoNCDT 1420	optoNCDT ILR 118x/ILR 1191
optoNCDT 1750	optoCONTROL 2500
optoNCDT 1710	optoCONTROL 2520
optoNCDT 2300	optoCONTROL 2600
optoNCDT 2310	