

## **IPS USB V2.0 DATA ACQUISITION CARD**

**IPS USB V2.0** is a **high speed** A/D converters card that contains **two** 12-bit A/D converters, eight independent input and output digital lines and serial interface for e.g. interprocessor communication with other parts of final complete device. It is appropriate to **embedded** system designs.

### **Some important features of IPS USB V2.0 type card:**

- Number of measuring channels 1 or 2, software selectable
- Input voltage range 0V to +3V
- Safe input voltage max.  $\pm 10V$
- Signal input connectors SMA type, angled
- Low-pass anti-aliasing filters 3 independent, four pole Butterworth filters with 3dB bandwidths of 2.5MHz, 5MHz and 10MHz ( $\pm 5\%$ ) software selectable for each analog channel separately
- Low-pass FIR filters 12-bits, software selectable for each analog channel
- FIR filter stop band attenuation min. 73dB for Nyquist frequency
- Pass band of FIR filters half of Nyquist frequency ( $\pm 5\%$ )
- DC gain error max.  $\pm 0.1\%$
- ADC resolution 8 or 12-bit, software selectable
- Output data code offset binary
- Permitted sampling frequencies (8-bits converting mode) 6 or 12 millions samples / sec for 2 channels mode, 6, 12 or 24 millions samples / sec for single channel mode
- Permitted sampling frequencies (12-bits converting mode) 3 or 6 millions samples / sec for 2 channels mode, 12 millions samples / sec for single channel mode
- Input impedance about 1k $\Omega$
- Differential nonlinearity max.  $\pm 0.65$  LSB
- Integral nonlinearity max.  $\pm 1.2$  LSB
- Total noise of analog channels max. 0.5 LSB for 12-bit A/D conversions  
0 LSB for 8-bit A/D conversions (typical standard deviations)
- Storage temperature range -20..85°C
- Operating temperature range 0°C do 70°C
- Supply voltage +3.8 do +4.0VDC (+3.8VDC – recommended)
- Power consumption max. 2.5W
- Programming and data transmission via Universal Serial Bus, Revision 2.0 (USB 2.0)
- Data transfer rate max. 24MB / sec in real time (no gaps)
- Digital input / output port 8 Input lines and 8 output lines
- Digital lines levels LVCMOS (3.3V), +5V input signals tolerant
- Serial interface programmable, of type RS232C using LVTTL signal levels
- Load carrying ability of digital outputs 1 LVTTL
- Dimensions 125mm x 65mm
- Drivers, DLL's and test programmes for Windows<sup>®</sup>XP and Windows<sup>®</sup>Vista, built in C++ Builder environment (Delphi, BC++ and VC++ languages compatible)