Technical Data Sheet

Fraunhofer IKTS

PCUS® *pro* Single

Single Channel Ultrasound Frontend

General

- USB bus powered (no external power supply required)
- USB 2.0 High-Speed with a maximum of 40MB/sec data transfer rate
- Dimensions: 120mm x 100mm x 40mm (L, W, H)
- Near-transducer setup

Transmitter

- Single-channel transmitter
- Transmitter pulse voltage: -50V to -250V, adjustable in 1V increments
- Negative rectangle pulse
- Integrated damping impedance: 50Ω
- Pulse delay: 0 to 40µs, adjustable in 5ns increments
- Pulse width: 0 to 500ns, adjustable in 2.5ns increments
- Pulse repetition frequency: up to 2kHz, depending on recording length, pulse width, sampling rate and transmitter voltage

Receiver

- Single-channel receiver
- Pulse/Echo or Transmit/Receive mode
- Frequency range: 500kHz to 30MHz (-3dB)
- Receiver filter: up to four analog band filters (user selectable frequencies)
- TGC with 80dB dynamic range, adjustable in 0.1dB increments, 256 points, Slope 40dB/µs
- Attenuation/amplification: >100dB adjustable in 0.1dB increments
- Input sensitivity: 100µVss

Signal path

- Probe delay: 0 to 655µs, in 10ns increments
- Maximum recording length: 65,535 samples
- A/D Converter: 14bit, max.100MS/s
- One start gate and four measurement gates
- RF data or compressed data recording
- Rectification: positive-, negative-, or full-wave

Interface and connectors

- Transducer connectors: Lemo 00
- USB 2.0 High-Speed, USB-B connector, power consumption: max. 5V/500mA
- Trigger IN: TTL high or low active, pulse width >100ns, opto-coupled (MCX)
- Trigger OUT: LVTTL high active (MCX)
- Optional: 4-axis encoder interface externally connected

Software

- Digitally signed drivers for Windows® (Windows® XP SP2 or higher), 32bit and 64bit
- Managed Windows® API (based on .NET 4.0 framework)

System conformity

The PCUS® pro Single system meets all relevant requirements of DIN EN 12668, Part 1.

Contact:

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