Technical Data Sheet

Fraunhofer

IKTS

PCUS® *pro* Multi

Multi Channel Ultrasound Frontend

General

- USB 2.0 High-Speed with a maximum of 40MB/sec data transfer rate
- Dimensions: 190mm x 150mm x 65mm (L, W, H)
- Near-transducer setup

Transmitters

- Maximum of 16 independent transmitters
- Transmitter pulse voltage: -10 to -300V in 1V increments or switchable between -175V and -260V (option)
- Negative rectangle pulse
- Output damping: 50Ω
- Pulse delay: 0µs to 51µs, adjustable in 6.25ns increments
- Pulse width: 0ns to 500ns, adjustable in 3.125ns increments
- Pulse repetition frequency: up to 2kHz, depending on recording length, pulse width, sampling rate and transmitter voltage

Receivers

- Maximum of 16 independent receivers
- Pulse/Echo or Transmit/Receive mode (1 x P/E or 1 x T/R per channel)
- Frequency range: 500kHz to 30MHz (-3dB)
- Input impedance: 50 Ω
- Receiver filter: two analog band filters per channel (user defined)
- Attenuation/amplification: >100dB, adjustable in 0.1dB increments
- TGC with 80dB dynamic range, adjustable in 0.1dB increments; 256 points, slope ≤40dB/µs
- Receiver delay: 0µs to 819µs, adjustable in 12.5ns increments
- Input sensitivity: 100µVss

<u>Signal Path</u>

- Transducer delay: 0µs to 819µs, in 12.5ns increments
- Maximum recording length: 65,535 samples per channel
- A/D Converter: 14bit, max. 80MS/sec
- One start gate and four measurement gates
- RF-Data or compressed TD-Data recording
- Rectification: positive-, negative-, or full-wave
- Trigger delay per channel: 0µs to 819µs, adjustable in 12.5ns increments

<u>Interface and Connectors</u>

- Transducer connectors: Lemo 00
- USB 2.0 High-Speed: Bulgin Connector PX0443
- Power consumption: 12VDC, max. 48W (30W typical); Bulgin Connector PX0419
- Trigger IN: TTL high or low active, pulse width >100ns, opto-coupled (Lemo 00)
- Trigger OUT: LVTTL high active, pulse width >2.5µs (Lemo 00)
- Mechanical scanner interface: DSUB-25 socket (4 encoders, RS422/485)

<u>Software</u>

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

<u>System Conformity</u>

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

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