Krautkramer USLT 2000

The Ultrasonic Test System in a Notebook for Today and Tomorrow

Specifications

Calibration ranges
min.: 0 - 2.5 mm; 0 - 0.1" (steel)
max.: 0 - 9700 mm; 0 - 381" (steel)

Sound velocity range
500 - 15000 m/s; 0.02 - 0.59 "/ms integrated, editable material table

Pulse shift
-10 - 1500 mm; -0.39 - 50" (steel)

Probe delay
0 - 100 µs

Damping
50 ohms / 500 ohms; 1000 ohms with Dual or Through-Transmission modes

Intensity
220 pF / 1 nF

Frequency range
0.5 - 20 MHz (-3 dB); 4 filter ranges

Pulse repetition frequency
1-1000 Hz, automatically or manually adjustable

Gain
110 dB, adjustable in steps of 0.5 / 1 / 2 / 6 dB

Operating modes
Pulse-Echo, Dual, Through-Transmission

Rectification
full-wave, positive half-wave, negative half-wave, RF display (up to 150 mm/5.9" steel)

Suppression
0 - 90 % linear

DAC/TCG
DAC with up to 16 curve points (reference reflectors), dynamic range 37 dB, maximum slope 6 dB/ms; 3 additional curves at adjustable dB distances, can be changed to TCG (Time-Corrected Gain) mode (horizontal recording threshold); meets national and international test specifications

DGS
recording curves for all valid equivalent reflector sizes and probes with DGS capability; setting as DAC or TCG; evaluation in dB related to curve, ERS or class (JIS); sound attenuation and transfer correction; reference reflectors used: backwall, circular disk reflector and side-drilled hole

Monitor gates
2 independent monitor gates, adjustable over the entire maximum calibration range; evaluation on the basis of A-scan at display refresh rate; gate alarm: off, coincidence, anticoincidence; visual and/or acoustic alarm

Distance measurement
individually selectable for each gate at the echo flank or peak, in the RF mode additionally at the zero transition of the increasing or decreasing echo flank
- initial pulse and measurement point in gate A or B
- measuring points: gate B - gate A (differential measurement)

Measurement resolution
sound path/time of flight: up to 12.6 mm: 0.01 mm; otherwise 0.2 % of display width

Amplitude
0.5 % screen height or 0.2 dB

A-scan digitization
1024 x 1024 pixels

Display freeze
static A-scan freeze, dynamic A-scan freeze (peak value, echo dynamics + real-time signal), average freeze via 2 to 32 ultrasonic pulse cycles

Echo comparison
simultaneous display of the currently active signal and a stored A-scan

Outputs
documentation via standard interfaces of the notebook

Inputs
2 analog inputs, e.g. for probe coordinates, digitization with 10 bits each

Dialog languages
German, English, French, Spanish and Italian

Units
mm, inch, µs

Probes
standard and dialog probes (automatic recognition) can be connected

Data storage
database for storing and managing instrument settings, test jobs and test results, including A-scan, DAC and alphanumeric comments, Export to Microsoft Excel; limited only by the hard disk size

Software
operating system: Windows2000/XP; Client-Server interface OLE 2.0; options: UltraWORKS (design tool), FFT (Frequency analyses) EHT (hardening depth), RTM (resonance thickness measurement with 1 µs resolution), UltraLOG (evaluation program for spot weld testing)

Notebook versions (trademarked units)
standard or industrial version (IP 52)

Mains and battery operation
approx. 5 h, depending on the processor workload

Operating temperature
5 °C - 45 °C; 41 °F - 113 °F (standard)
0 °C - 50 °C; 32 °F - 122 °F (industrial)

Dimensions (H x W x D)
63 mm x 300 mm x 230 mm;
2.5" x 12" x 9" (standard)
64 mm x 302 mm x 273 mm;
2.5" x 11.9" x 10.7" (industrial)
pulser-receiver box: 32 mm x 57 mm x 165 mm; 1.3" x 2.2" x 6.5"

Weight (complete)
3 kg; 6.6 lbs. (standard)
3.6 kg; 7.9.lbs. (industrial)

GE imagination at work

GEInspectionTechnologies.com