

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 μ s

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, coinci-
dence, anticoincidence; visual and/or acoustic alarm

Distance measurement

individually selectable for each gate at the echo flank
or peak, in the RF mode addition-ally 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, μ s

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 μ s 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)

GE imagination at work

