KROPUS
SCIENTIFIC AND PRODUCTION CENTER

UDT-40

Multi-purpose ultrasonic thickness gauge

PHONE/FAX
(495) 229-42-96 **sales@kropus.ru**
(800) 500-62-98 **www.kropus.ru**

- Powerful
- Light and portable
- Ergonomic design
- High reliability
- High measurement accuracy
- Usability

Multi-purpose thickness gauge UDT-40

General information

Highly accurate, which has no analogues in Russia, multi-purpose ultrasonic thickness gauge with high reliability. A-scan make it possible to evade such typical errors in thickness measurement as readings doubling, and the B-scan allows the user to observe the profile of the bottom surface of the product.

This thickness gauge implements various capabilities of thickness inspection - high-precision measurement of the time for passing through the ”zero” (”zero-cross”) or between ”echo-echo” signals, measurement of the thickness under coatings, EMA technique, etc.

Specifications

Measurement range
0,3 - 400 mm
Display range
min.:0 - 4 mm
max.:0 - 400 mm (steel)
Discreteness
0.01
Measurement accuracy
0,01 mm
UT velocity range
1000- 9999 m/s
AGC (Automatic Gain Control)
up to 30 dB
TCG (Time Corrected Gain)
0.1 - 10 dB/us
Display delay
0 - 168 us
Damping
50 Ohm / 1000 Ohm (up to 25 Ohm with single element probe)

Display
TFT with adjustable brightness
115 x 85 mm; 320 x 240 pixels
three customized color sets
Memory
100 transducer settings
250 testing results with *A*-scan;
250 testing results with *B*-scan;
100 measurement files up to 50x50 values
Transducer connectors
2 x Lemo 00
Power supply
built-in battery, 11 V, 5A/h
Operation temperature range
from -25 to +55 °C
Dimensions (H x W x L)
205 mm x 160 mm x 43 mm
Weight
0,87 kg

Delivery set

UDT-20 main unit with built-in Li-Pol battery

PC Software

Transport bag

Protective bag with blind and belts

USB cable

Power supply 5 V / 220 V

1 x 2Lemo00 — 2Lemo00 cable

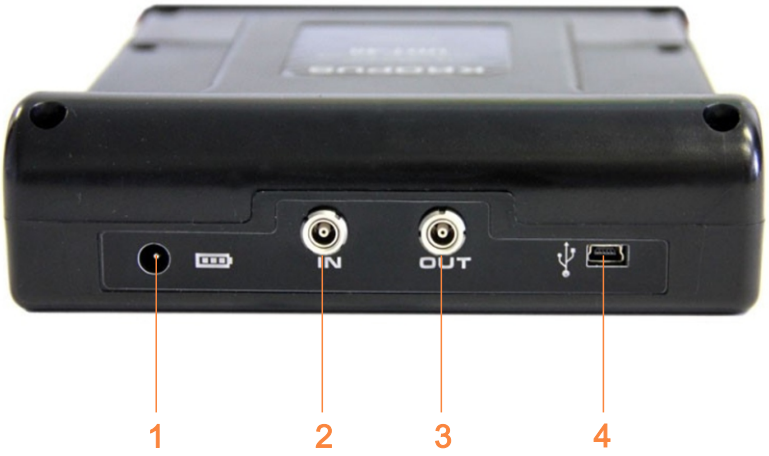
2 x transducers

UDT-40 menu structure

1. Move through the menu items;
2. Select a parameter;
3. Change the step of value adjustment / return to settings;
4. Adjust the parameter value;
5. Save the result;
6. “Screen-freeze”;
7. Record the values / view the selected file;
8. B-scan mode;
9. Full-screen mode;
10. On/Off.

Connectores

1. + 15 V
2. Receiver
3. Pulser
4. USB port



Ease of operation and reliability

This thickness gauge combines the latest achievements in analog and digital electronics, usability, ergonomic design and high reliability.

Specifics

- high-contrast and easy-to-read at any angle frost-resistant TFT display;

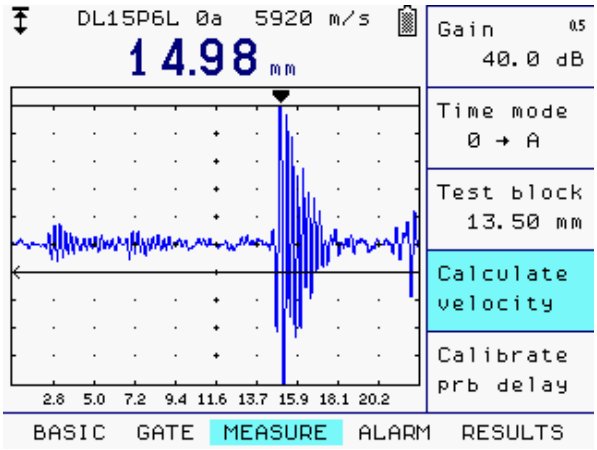
- powerful Li-Pol battery with up to 12 hours battery life;

- protective bag for field operation;

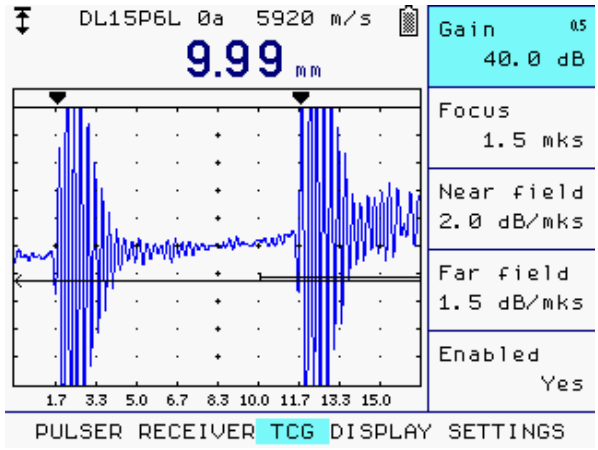
- transducer database that allows user to load all the necessary settings with a single button;

- built-in V-path correction;

- large memory of settings and testing reports.



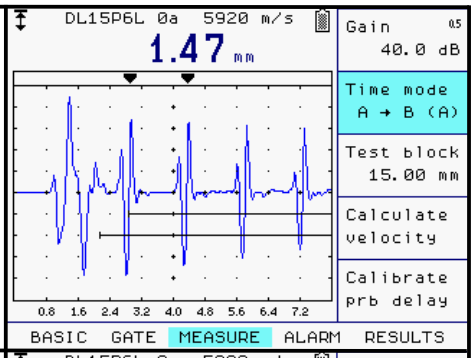
Sound velocity measurement



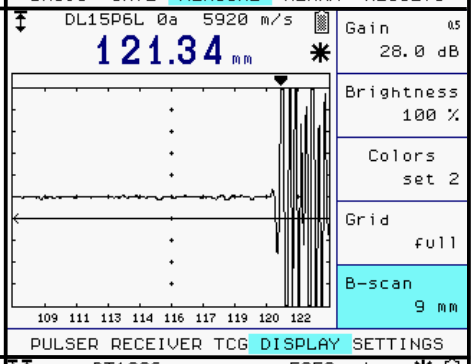
TCG

UDT-40 specifics

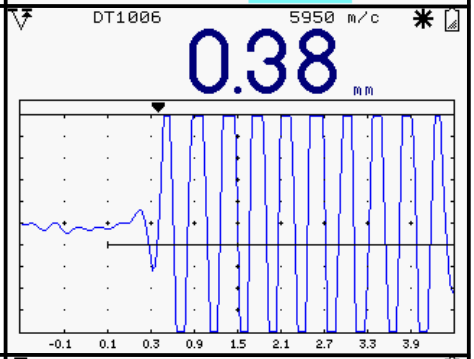
Highly accurate “zero-cross” measurement, two independent gates and the latest low-noise receiver enable precision measurements with combined transducers in “echo-echo” mode, including under various coatings.



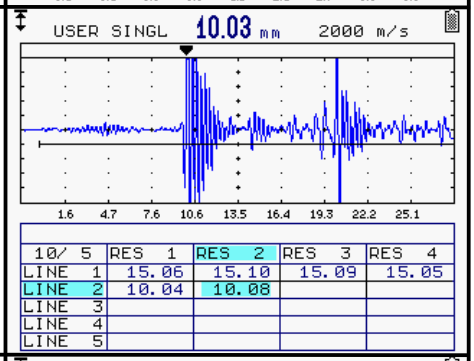
The unique construction of the device allows the operator to use any custom transducers from any other thickness gauges, which saves the user from binding to a limited set of transducers from one manufacturer.



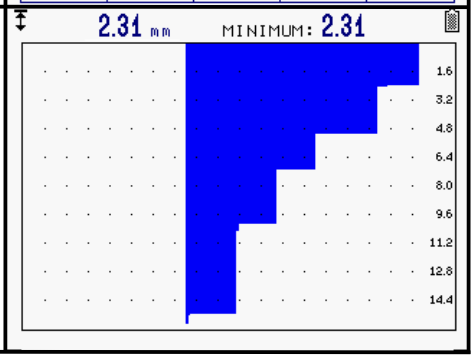
Full screen A-scan mode removes unnecessary information from the screen, turning a technically advanced device into an easy-to-use control tool.



In the "TABLE" mode, the user can create any tabular matrix for the inspection of large-sized standard products by layout control points.



The B-scan protocol displays the real profile of the product with the locking of the minimum signal for the entire time of high power.. This feature allows the user to quickly scan large areas, paying attention only to the alarm readings.



General technical specifications

Measurement range
0,3 - 400 mm
Calibration range
min.: 0-4 mm
max.: 0-400 mm (steel)
Discreteness
0.01
Measurement accuracy
0,01 mm
UT speed range
1000 ... 9999 m/s
AGC (Automatic Gain Control)
up to 30 dB
TCG (Time Corrected Gain)
0.1 - 10 dB/us
Max. distortion of the transducer
no more than 25 degrees (ET4030)
Amount of measurement accumulations during operation
16
Delay
0 - 168 us
Max. number of measurements per sec.
400
Damping
50 Ohm / 1000 Ohm (up to 25 Ohm in combined mode)
Visualization
A-scan, *B*-scan, digital values
Frequency range
0.5 - 20 MHz (-6 dB)
Gain
110 dB, in increments 0.5, 1, 2, 6 dB
Rectification
radio-frequency signal
Monitor gates
two independent gates, start and width
change in all calibration range
Probe calibration
by any sample specified by the operator
Sound velocity calibration
by thickness specified by the operator
Alarm System
luminous and sonorous
Display lights auto-off
no
Auto-off
no
Date/time setting
included
Time interval measurement
0 - echo;
echo - echo

Display
TFT with adjustable brightness
115 x 85 mm; 320 x 240 pixels,
three customized color sets
Color sets
customized + three standard color sets
(standard color, luminescent, monochrome
(for working in bright sunlight))
Memory
100 sensor settings
250 testing results with *A*-scan;
250 testing results with *B*-scan;
100 measurement files up to 50x50 values
Built-in probe matching
any probe in the operating frequency range
Non-original transducers usage
any ultrasonic transducers can be used
if their parameters were previously saved by PC software
Measurement at an unknown sound velocity
calibration according to several samples (2 - 10)
Interface
USB
Transducers
single element transducer (P111);
dual element probe/transducer (P112)
EMAP
Brightness
0 - 100%, in increments 5%
Transducer cpnnectors
2 x Lemo 00
Power supply
built-in battery, 11 V, 5А/ч
Battery life
no less than 12 hours
External power supply
220 V AC / 15 V DC
Operation temperature range
from -25 to +55 °C
Language
Russian, English
Dimensions (H x W x L)
205 mm x 160 mm x 43 mm
Weight
0,87 **kg**