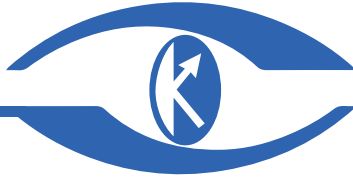


OKO_{ndt} GROUP

www.okondt.com



SONOCON BL



SONOCON B

ULTRASONIC FLAW DETECTOR & THICKNESS GAUGE SONOCON

SONOCON B



SONOCON BL



PURPOSE

“UT BASIC” SOFTWARE VERSION

- Manual ultrasonic testing defects such as discontinuities and inhomogeneities of material of finished items, semifinished products and welded (soldered) joints.
- Measuring the defects depth and coordinates.
- Assessing the sound velocity in different materials.
- Measurement of the equivalent defect sizes.
- Measurement of the ratio of echo signals amplitudes.

“THICKNESS GAUGE+” SOFTWARE VERSION

- Measurement of the products thickness at onesided access to them.
- Saving of thickness measurement results to structured multidimensional files.
- Building of thickness BScans and CScans.
- Measurements on thickness BScans and CScans.

APPLICATION

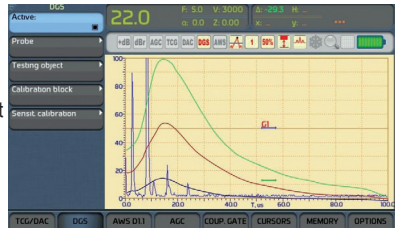
- Testing of a variety of parts and equipment in the Aerospace and Automotive Industries.
- Weld testing in the Power Generation and Petrochemical Industries.
- Precise measurement of thickness in the Automotive Industry.
- Forgings testing.
- Corrosion measurement in the Power Generation and Petrochemical Industries.



MAIN MODES AND OPTIONS

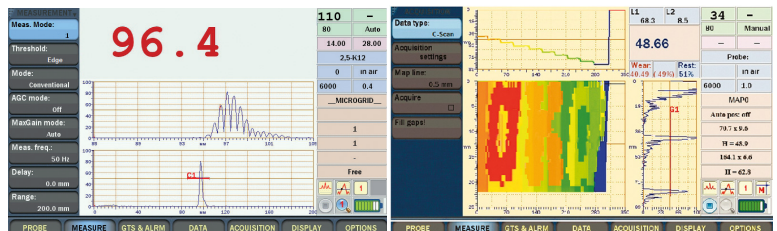
“UT BASIC” SOFTWARE VERSION

- Automatic algorithms of various probes calibration (straightbeam, anglebeam, Rayleighwave).
- Mode of automatic building of DGS diagrams simultaneously for three different equivalent diameters.
- DAC: building DAC curves according to EN1712, EN1713, EN1714, ASTM E164, ASME, ASME III, JIS23060, GB4730, GB11345.
- TCG: 110 dB dynamic range.
- Mode of Automatic Gain Control (AGC).
- Acoustic coupling control.
- Peak hold mode (useful while products testing with bad input conditions).
- Mode of highaccuracy thickness measurement using measurement marker;
- “Legs marking” mode (applied during welded joints testing);
- “Estimate” mode automatic fixation of the “best” signal.
- Two independent measurement gates with three alarm levels.
- Pulsar modes: spike pulser, square wave pulser.
- Different rectification modes radio frequency (RF), positive or negative halfwave, fullwave.
- Fast data transfer to PC via USB using USB Flash.



“THICKNESS GAUGE+” SOFTWARE VERSION

- Automatic algorithms of straight beam probes calibration (single and dual element).
- Mode of probe zero express calibration of straight beam dual element probes “exposed to air”.
- Acoustic coupling control.
- Building the thickness BScans and CScans bound to the scanning coordinate (in case of scanning device usage).
- Alarm zones highlights mode according to the set values of minimum and maximum allowed thickness of the test object.
- Measurement mode by zero crossing of the first negative halfwave of the echosignal.
- Saving the thickness measurement results in multidimensional files on the basis of user defined templates.
- Creation of database of measurement results and used probes.
- Fast data transfer to PC via USB using USB Flash.
- Result display: AScan, BScan, CScan.
- Synchronization: internal (time), Encoder (availability to connect up to 2 encoders).



SONOCON B ADVANTAGES

ERGONOMICS

- Optimal dimensions and display format of 800 x 480 pixel resolution ensures qualitative data separation and its perception and does not cause excessive eyestrain to NDT inspector.
- Convenient case and small device weight allow to use the flaw detector in enclosed spaces and hard to reach areas.
- All main instruments settings are accessible with keypad shortcuts and "Quick Access Menu".

MULTIFUNCTIONALITY

- Carrying out the flaw detection, thickness gauging, sound velocity assessment in different materials.
- Operation with all probe types.

INDIVIDUAL DELIVERY SET

- By agreement with the Customer the flaw detector can be completed with different probes, calibration blocks and software for operation in different industrial sectors.

PROTECTION LEVEL AND OPERATING CONDITIONS

- Flaw detector is resistant to ionizing radiation impact and is meant for operation in increased humidity conditions.
- Flaw detector case protection level IP65.
- Operation temperature range is from minus 30 to plus 50 °C.

SONOCON SPECIFICATIONS

Characteristics and Features GENERAL and "UT BASIC" VERSION C

DISPLAY

- BL: 94mm x 156mm
- Size BL : 7.2 in. B : 4.5"
- Resolution 800 x 480

CONNECTORS

- Probe connectors 2 x BNC or 2 x LEMO1 or 2 x LEMO00
- Analog output Alarm
- USB 1 Type A
- LAN BL : RJ 45 B : Lemo
- REMOVABLE MICRO CD CARD: BL : + B : -

PULSER

- Types Spike + Square Wave (SWP)
- Voltage (SWP) .50 V, 100 V, 150 V, 200 V, 250 V, 300 V, 400 V
- Energy (SWP) 20 ns to 1000 ns with 10 ns step Manual & Auto modes
- Voltage (Spike) Low: 50 V, High: 300 V
- Damping +
- PRF modes Comfort, Low, Medium, High, Manual
- PRF from 15 to 6000 Hz
- Phantoms control 3 modes

RECEIVER

- Range (at steel longitudinal wave) 314 in (8000 mm)
- Gain 0 to 110 dB, with 0.1 dB step
- Max signal input 20 V pp
- Bandwidth 0.2 MHz 27 MHz
- Filters 0.227 MHz, 0.210 MHz, 2.021.5 MHz, 8.026.5 MHz, 0.54 MHz, 0.21.2 MHz, 1.58.5 MHz, 515 MHz, 0.4 MHz, 0.5 MHz, 1 MHz, 1.25 MHz, 2 MHz, 2.25 MHz, 2.5 MHz, 3.5 MHz, 4 MHz, 5 MHz, 7.5 MHz, 10 MHz, 15 MHz, 20 MHz
- Filters set choice +
- Rectification RF, FW, Pos. HW, Neg. HW
- TCG (TVG) 110 dB; 110 dB/m s slope
- Signal Average OFF / 2x / 4x / 8x / 16x / 32x / 64x
- Reject (cutoff) 0.80% FSH

MEASUREMENT

- Number of gates 2
- Number of cursors 2
- Modes 1, 2, C1, C2, 12, 1C1, 1C2, 2C1, 2C2, C1C2
- TOF Modes Peak, Edge (Flank)
- Amplitude measurement up to 220% FSH
- Units mm / in / us
- Output fields 5

Characteristics and Features GENERAL and "UT BASIC" VERSION C

ALARM

- Number of gates 2
- Number of levels 3

FLAWS EVALUATION

- AWS +
- DGS (AVG) +
- DAC +
- DAC: Number of points 128
- DAC codes ASME & ASME III, EN 1712, EN 1713, EN1714, JIS Z3060, GB11345, GB 4730
- Custom DAC curves up to 6
- DAC 20-80 +
- DAC—TCG +

MEMORY

- Setups +
- Datasets (with AScans) +
- Capacity 2 GB (up to 64 GB)

PC SOFTWARE OTHER FEATURES

OTHER FEATURES

- Coupling control +
- AGC Independent for both gates
- Quick calibration +
- Quick estimate (Best signal catch) +
- Auto XX% (50% or 80%) +
- Reference gain +
- Peak hold (collect, peak memory) +
- Signals compare +
- Smart zoom +
- Choice of menu systems Full, Simple 1, Simple 2
- Keyboard backlight +
- Smart (Context) keyboard backlight +
- Number of keyboard shortcuts? 41

PHYSICAL

- Dimensions BL : 10.1 X 6.1 X 3.2 IN (256X156X80 mm)
B : 9.5X4.4X5.3 IN (241 x 112 x 134 mm)
- Weight incl. battery BL : 5.30 lb (2.3 kg) B : 2.09 lb (0.95 kg)
- Operating temp. range - 30 °C to 50 °C (-22 °F to 122 °F)
- Dust & water protection IP65
- Battery life 8 h
- Replaceable battery +

SONOCON SPECIFICATIONS

Characteristics and Features GENERAL and "UT BASIC" VERSION C

PULSER

- Type..... Square Wave (SWP)
- Autofit of the pulser parameters to the chosen probe..... Voltage, Energy, Damping
- Measurement frequency (readings refresh rate)..... 1 to 100 Hz
- PRF mode..... Auto (Calculated from set readings refresh rate, accounting for averaging rate)

RECEIVER

- Range (at steel longitudinal wave)..... 314 in (8000 mm)
- AGC..... Individual to reach at 2 gates
- AGC Modes..... OFF / Edge / Peak
- AGC Max Gain Modes..... High, Medium, Low, Manual, Off
- Auto filters choice (according to the probe type)..... +

MEASUREMENT

- Sound velocities range..... .01 to .629 in/ μ s (250 to 16000 m/s)
- Measurement range..... .016 to 629 in (0.4 to 16000 m/m)
- Readings resolution..... .001 / .01 / .1 in (0.01 / 0.1 / 1 mm)
- Number of gates..... 2
- Modes..... 1, 12
- TOF Modes..... Edge, Edge Zero Crossing
- Units..... mm/in
- Min & Max capture mode..... +
- Differential mode..... +
- % of wear mode..... +
- Temperature compensation..... +
- Acquisition of a:
 - Thickness BScan..... +
 - Thickness CScan..... +
- Measurements on the previously acquired:
 - Thickness BScan..... +
 - Thickness CScan..... +

Characteristics and Features GENERAL and "UT BASIC" VERSION C

ALARM & DISPLAY

- Alarm types..... Min, Max, Min&Max
- Coupling loss alarm..... +
- Last reading (in coupling loss)..... +
- AScan..... +
- Cursor (Detect Line)..... +
- Thickness BScan..... +
- Thickness CScan..... +
- Multidimensional files: Browsing..... +
- Multidimensional files: File Statistics..... +
- Multidimensional files Meas. Site Statistics..... +

CALIBRATION

- 1point..... +
- 2points..... +
- Zeroing in the air..... +
- Zeroing on a built-in block..... +

MEMORY

- Setups..... +
- Multidimensional structured files..... 13 dim
- Number of readings per file..... Up to 100 000
- Number of files format..... 6
- Data attachments..... Comments, AScans, Thickness BScans, Thickness CScans, Microgrids
- Capacity..... 2 GB (up to 64 GB)

PC SOFTWARE

OTHER FEATURES

- Keyboard backlight..... BL : -..... B : +
- Smart (Context) keyboard backlight..... BL : -..... B : +
- Smart zoom..... +
- Number of keyboard shortcuts²..... 29

¹ USB Type A (aka Host or Master) allows to connect external devices (FlashStick, Mouse, etc).

² Number of instrument functions one can access with a couple of button presses.

INSTRUMENTS ARE AVAILABLE WITH AMERICAN AND EUROPEAN KEYBOARD VERSIONS:

