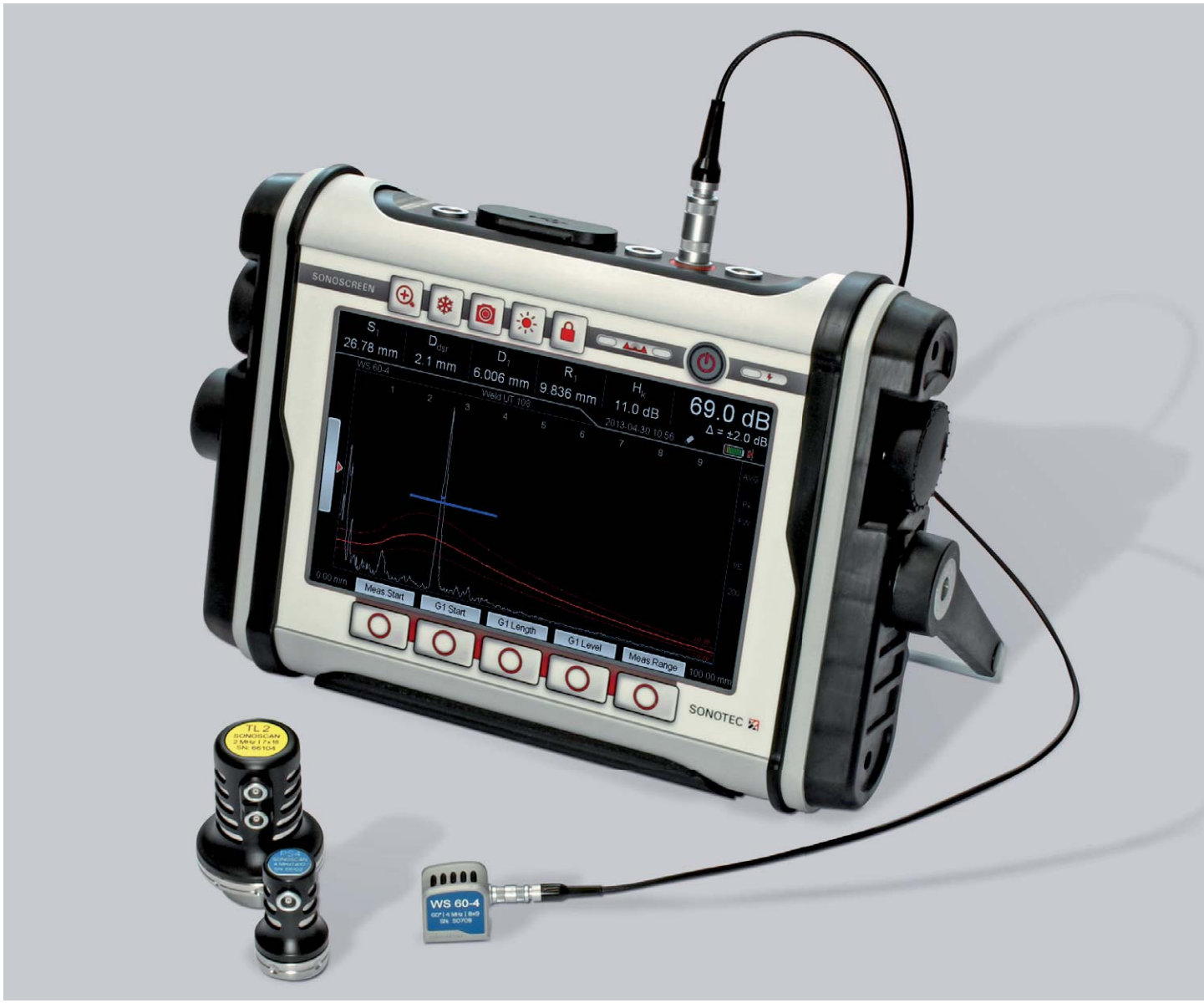


ULTRASONIC FLAW DETECTOR

SONOSCREEN ST10

FOR NONDESTRUCTIVE TESTING

MADE IN GERMANY

SONOTEC

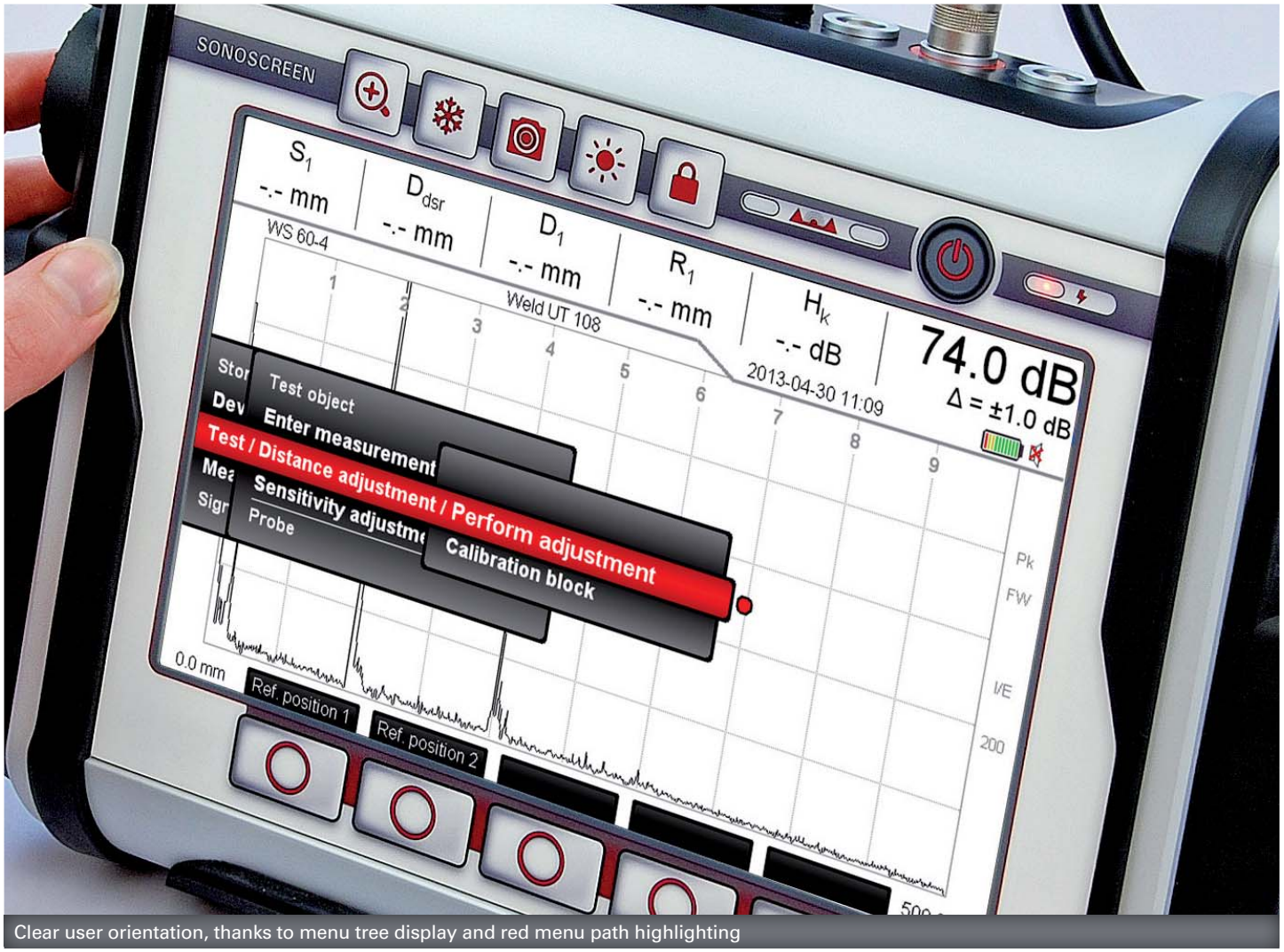
SONOSCREEN ST10

Developed with the help of experienced materials testing experts, the compact ultrasonic flaw detector unites high-spec performance with dedicated usability. A clearly-structured menu quickly guides the tester through all of the steps required for test set-up. Efficiency is also boosted by the full-text menu labels and complete overview of all probe settings.

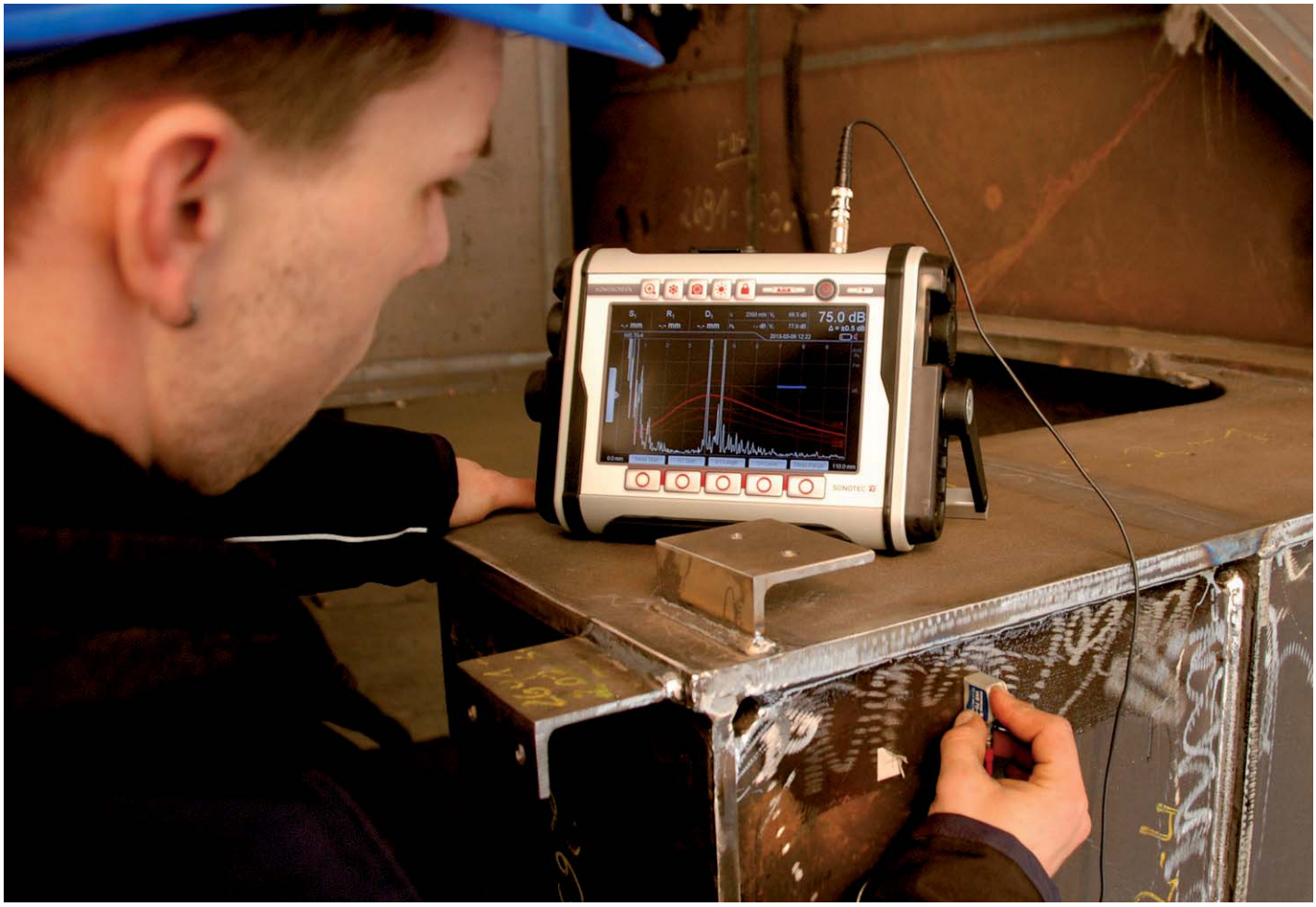
This makes the SONOSCREEN ST10 an ideal tool for all of the standard ultrasound examinations, from weld seam testing, wall thickness measurement and sheet metal testing to the detection of flaws such as invisible cracks, inclusions, cavities and discontinuities in metals, plastics, ceramics and composite materials.

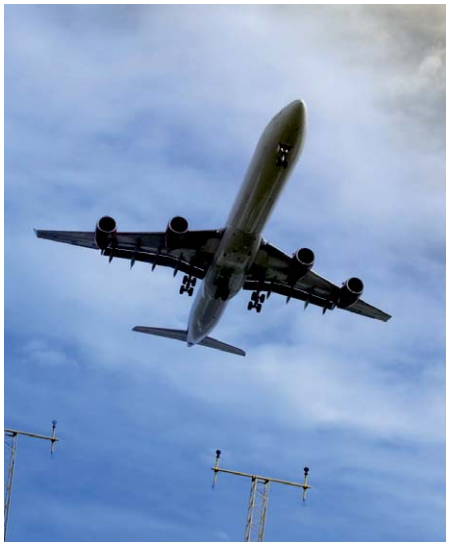
ADVANTAGES AT-A-GLANCE

- Large, high-resolution 8“ graphic display (174 x 104 mm), optimum legibility even when viewed in direct sunlight
- Robust aluminum casing, IP 66
- Clearly-structured menu and intuitive usability
- Configurable display of up to 10 readings
- Display of the entire measurement range (10 m) in an A-scan
- Powerful square wave transmitter
- Integrated, editable database for materials and probes
- 5 ns resolution over the entire measurement range (equivalent to 0.03 mm in 10 m steel)
- 2 GB internal memory for storing up to 60,000 A-scans plus device configuration
- External data storage on USB flash drive



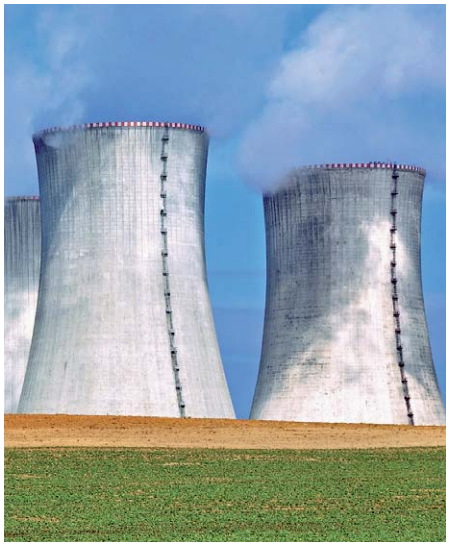
Clear user orientation, thanks to menu tree display and red menu path highlighting





Key application scenarios

- Weld seam testing
- Cast and forged part testing
- Sheet metal testing
- Shaft and axle testing
- Plastics testing
- Wall thickness measurement



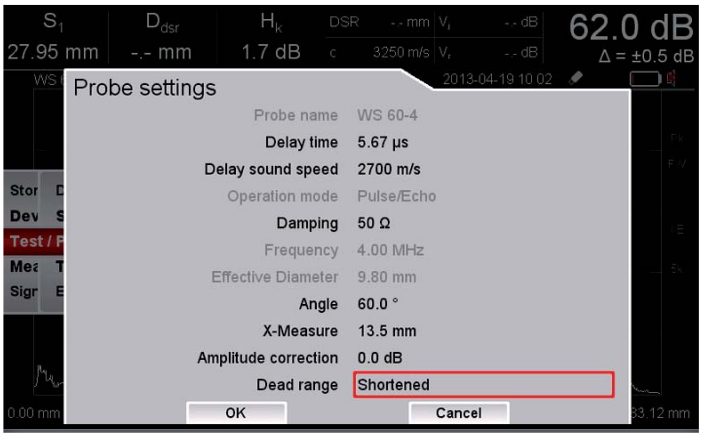
INTUITIVE OPERATION

The SONOSCREEN ST10 offers a clearly-structured menu system optimized to support the testing process plus intuitive device operation. This helps to increase testing reliability and to conserve valuable testing time. By turning and pressing the rotary buttons, you can page quickly and securely through the menu. The menu tree is displayed in full and the selected menu path is highlighted in red.

Turn and press the buttons to page through the menu

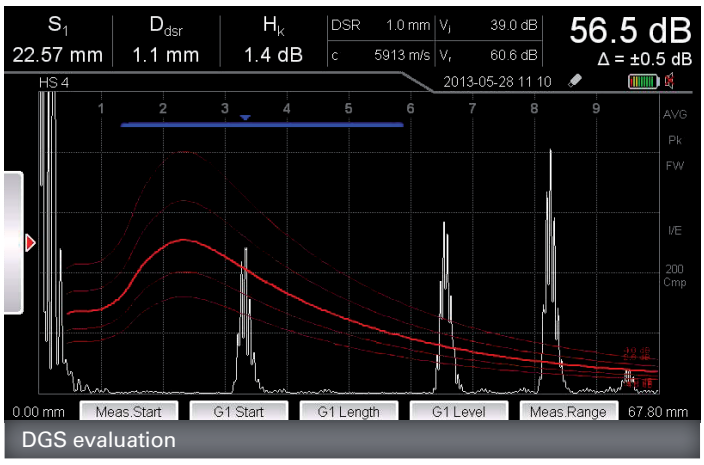
The SONOSCREEN ST10 guides you step-by-step through all of the test set-up steps. All parameters needing configuration are arranged logically one after the other. This ensures that all relevant parameters are set before testing commences.

Useful databases also help shorten the preparation time: the database already contains all of the SONOSCAN probes and other probes are easy to add. The probe settings overview provided also enables quick verification of the data entered. The calibration blocks K1 and K2 are also already stored to enable rapid, manual distance calibration. All device setup, probe and materials databases can be stored on a USB stick and transferred to other SONOSCREEN units.

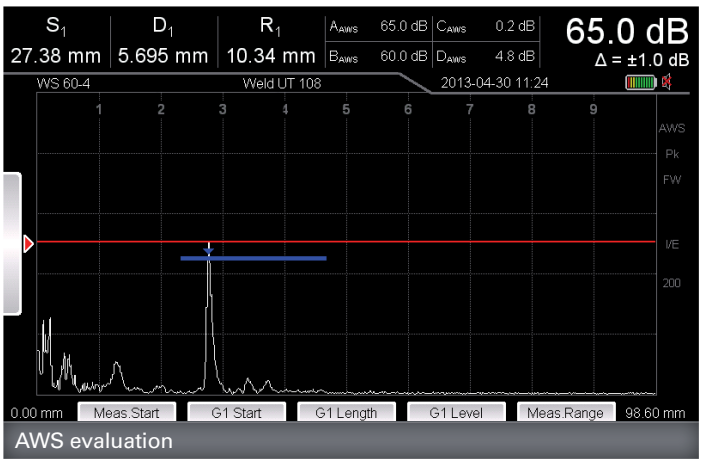


All probe settings at a glance

INTERNATIONAL ANALYSIS METHODS INCLUDED



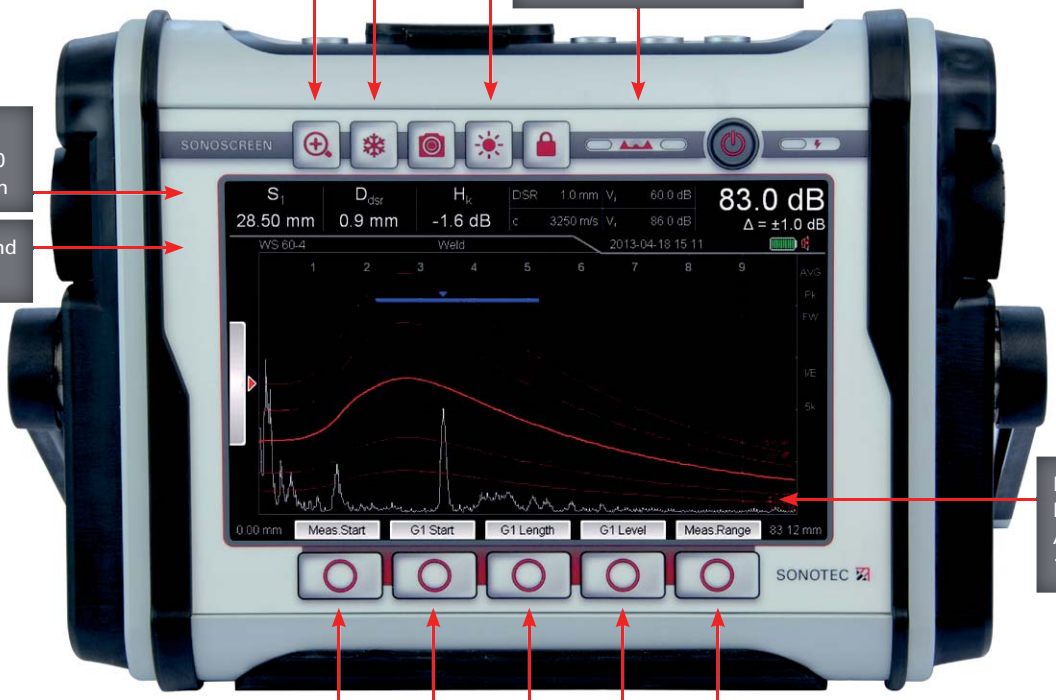
DGS evaluation



AWS evaluation

- DGS curves for single-element probes and sender/receiver probes
- DAC analysis with TCG
- Individual correction of all DAC curve measuring points
- Up to 4 other freely-positionable curves can be overlaid for DGS and DAC (in 0.5 dB steps)
- Amplitude evaluation according to AWS D1.1
- Reference signal and envelope to aid in signal analysis

USER-FRIENDLY – SIMPLE DESIGN – ROBUST



THE FULL PACKAGE

ULTRASONIC FLAW DETECTOR
+ DGS evaluation …
+ DAC evaluation …
+ TCG function …
+ AWS evaluation …
+ Transport case …
+ Carrying strap …
+ Charger …
+ USB stick …
+ Couplant …
+ Operating manual and calibration certificate …

SONOSCAN ULTRASONIC PROBES

We offer an extensive range of SONOSCAN probes. Simply choose the probe that matches your application from our product range.

ANGLE BEAM PROBES – in a range of sizes, angles and frequencies

STRAIGHT BEAM PROBES – pulse-echo and spin-echo probes detect even the smallest flaws

TECHNICAL DATA SONOSCREEN ST10

GENERAL DATA

Dimensions (W x H x D)	310 x 206 x 77 mm
Weight	3.200 g
Temperature ranges	**Storage temperature:**: –20 °C bis +60 °C **Operating temperature:** –20 °C bis +60 °C
Battery operation	Internal Li-Ion battery Operating time: up to 13 hours
Mains/ Charging operation	Via external power supply with wide range input (100 to 240 V, 1.07 A)
Connectors	**2 probe connectors:** LEMO 1S **Switching output / Analog output:** LEMO 1S **Power supply:** LEMO 1S 2 USB connectors
Protection type	IP66
Menu languages	English, German (others upon request)
Operating mode	Pulse-Echo, Transmit-Receive, Trough-transmission
Measurement unit	Inch (in) or Millimeter (mm)
Measurement range	10 ... 10 000 mm (up to 20 000 mm with pulse shift of max. 10 000 mm)
Sound speed	Adjustable from 500 to 10 000 m/s, in steps of 1 m/s or fixed preset values
Measurement resolution	0.001 mm within the measurement range up to 10 000 mm depending on sound velocity)
Amplitude evaluation	DGS, DAC (incl. TCG) or AWS D1.1
Standards	DIN EN 12668-1

SCREEN

Screen type	8“ color display in 16:9 format; WVGA 800 x 480 pixels
Dimensions	174 x 104 mm
Representation	Adjustment of brightness and color to lighting conditions; 10 levels of brightness

DISPLAY

A-scan dimension	Size: 156 x 76 mm; Resolution: 720 x 350 pixels
A-scan mode	Comparison curve or envelope
Measurement values	Up to 10 fields, adjustable
Information/Settings	Probe; Measurement context; Date and time; Adjusted gain and increment; Current device settings and measurement status; Registration of USB flash drive; Color-coded charge status display, Mains supply

TRANSMITTER

Pulse shape	Rectangular, unidirectional
Polarity	Negativ
Voltage	50 V to 400 V, adjustable in steps of 10 V
Pulse width	25 to 1250 ns, in steps of 5 ns
Pulse repetition frequency	Automatic or fixed preset values (100 Hz; 200 Hz; 500 Hz; 1 kHz; 2 kHz; 5 kHz; 10 kHz)

RECEIVER

Amplifier	Dynamic range: 0 to 110 dB Increment: 0; 0.5; 1; 2; 6; 12 dB
Rectification	Full-wave; positive/negative half-wave; HF
Reject	0 to 80 % of screen height
Amplitude measurement	0 to 125 % of screen height

ADJUSTMENT

Time base range	0.5 mm to 10 000 mm (Steel)
Adjusting aid	2-point adjustment: calculation of sound speed and probe delay by means of two adjustment echoes

GATES

Measuring gates	2 independent gates; Color bars (gate 1: blue, gate 2: green); Start and width adjustable over the full time-base range; Response Threshold adjustable from 10 to 90 % of screen height in steps of 1 %
Functionality	Alarm in case signal exceeds or falls below the threshold value; acoustic and visual signal (LED; color of signal corresponds to the color of gate); 2 switching outputs (1 output per gate); 1 analog output (sound path in % inside the gate or amplitude in % of screen height)
Zoom	Magnification of gate area over the full scan width

DATA STORAGE

Storage capacity	**Intern:** 2 GB, for up to 60 000 A-scans incl. device setup; **Extern:** USB flash drive
Storage options	**Intern and/or extern**: Screen shot incl. all parameters, A-scan, Measurement context, Date and time; Setup: with all device and probe settings; Measurement protocol, Material database and Probe database

SONOTEC preserves the right to change technical specifications without further notice. (Rev. 1 / 2013-05-28)

FAST SERVICE & PROFESSIONAL SUPPORT

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