SONOTEC ST-10

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
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.

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.

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.

All probe settings at a glance.
### SONOTEC ST-10

**INTERNATIONAL ANALYSIS METHODS INCLUDED**

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

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USER-FRIENDLY – SIMPLE DESIGN – ROBUST

- Simple freezing of A-scan
- Choice of 10 brightness levels – ensuring optimum legibility even when viewed in direct sunlight
- Gate zoom
- Clear, understandable analysis guaranteed, thanks to color-coded gate alarm
- Customizable display of readings – choose from 10 settings for readings taken
- Status line: probe, date and time of day at a glance
- Large, high-resolution A-scan display at 199 x 79 mm
- 5 soft keys – for rapid, streamlined operation
- Probe connections, supply voltage, digital outputs/analogous output
- USB port with protective cap
- Four-point connector for carry belt
- Stable, multi-angle adjustable fold-out stand – also serves as a carry handle
- Rugged protective frame – ideal for tough testing environments

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 ...

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## TECHNICAL DATA SONOSCREN ST10

### GENERAL DATA
- **Dimensions (W x H x D):** 310 x 208 x 77 mm
- **Weight:** 3.290 g
- **Temperature ranges:**
  - **Storage temperature:** -20 °C bis +80 °C
  - **Operating temperature:** -20 °C bis +60 °C
- **Battery operation:** Internal Li-ion battery
  - Operating time: up to 13 hours
- **Main/Charging operation:** Via external power supply with wide range input (100 to 240 V, 107 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, Through-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 600 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. TDI) 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:** 134 x 104 mm
- **Representation:** Adjustment of brightness and color to lighting conditions; 16 levels of brightness

### DISPLAY
- **A-scan dimension:** Size: 185 x 75 mm;
  - Resolution: 720 x 350 pixels
- **A-scan mode:** Comparison cursor or envelopes
- **Measurement values:** Up to 10 fields, adjustable
- **Information/Settings:**
  - Probe measurement context;
  - Data and time;
  - Adjusted gain and increment;
  - Current device setting and measurement status;
  - Registration of USB flash drive;
  - Color-coded charge status display;
  - Main supply

### TRANSMITTER
- **Pulse shape:** Rectangular, unidirectional
- **Polarity:** Negative
- **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 (Road)
- **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)
    - Stair and width adjustable over the full time-base range
    - Response threshold adjustable from 10 to 90% of screen height in steps of 1% (in
    - 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 (sensed 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;
  - Extent: USB flash drive
- **Storage options:** Intern and/or external:
  - Internal and external storage with all parameters, A-scan, measurement context, data and time;
  - Setup with all device and probe settings;
  - Measurement protocol, material database and probe database