



Digital Ultrasonic Testing Device

SONAPHONE®

for Preventive Maintenance

MADE IN GERMANY

SONAPHONE® Digital Maintenance Process



Planning

Route planning and measurement point organization with the modular web app SONAPHONE DataSuite



Inspection

Transfer the routes to the SONAPHONE and carry out the test with the corresponding app: LevelMeter | LeakExpert | SteamExpert



Record Ultrasonic Signal

Recording of the broadband ultrasonic signal in the frequency range from 20 kHz to 100 kHz



Documentation

Add photos, videos, voice memos and text notes to the measurement point



Trend & Analysis

Evaluation of the data with the help of thresholds, alarm levels, status displays and trend analysis in the SONAPHONE DataSuite



Report

Create a PDF report directly on the handheld device or in SONAPHONE DataSuite



Applications and Apps



LevelMeter®

App for all structure-borne and airborne sound applications



Condition Monitoring



→ Detect bearing damage early and optimize bearing lubrication

Electrical Inspection



→ Detect partial discharges early and increase operational safety

Leak Detection and Assessment



LeakExpert®

- Special App for leak detection and assessment
- Patented method for leak classification and evaluation in l / min or CFM as well as in € or \$



Reduction of energy costs for compressed air by up to 30 %

Steam Trap Testing

Special Apps



SteamExpert

- Special app for steam trap testing
- Optimized workflow for fast testing, including steam loss estimation in the web app



Reduce energy costs for generating steam by up to 20 % and increase process stability

SONAPHONE®

Digital Ultrasonic Testing Device for Maintenance



Areas of Application:
Airborne and structure-borne
 Leak detection | Electrical inspection | Condition monitoring | Steam trap test

Intuitive apps
 Special apps that guide you through the entire test process

Bundle important information about the measurement point
 Record the spectrogram and level and add photos, voice memos and text comments to the measurement point

Broadband ultrasound analysis
 Record 20kHz to 100kHz simultaneously

Optional: modular software platform DataSuite
 for Measurement point organization | Route planning | Trend analysis | documentation

Test reports with just a few clicks
 Professional PDF reports created directly on the device

Touchscreen-Technologie
 5-inch display with multi-touch screen

Robust housing in a smart design
 Well suited for harsh industrial environments

Realizing Maintenance 4.0
 Detect problems early and avoid downtimes

Airborne Sensors

BS10



- Range up to 8 m
- Interchangeable attachments
- Integrated laser pointer and LED light

BS30



- Range up to 35 m
- Integrated laser pointer and red dot sight
- Very good directivity and sensitivity

BS20



- Integrated infra-red thermometer for -70 °C to +380 °C object temperature
- Exchangeable waveguides

BS40



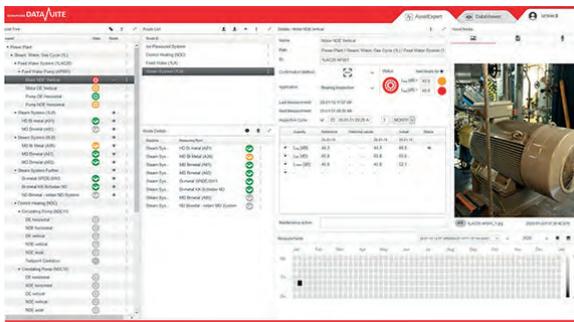
- Magnetic base for smooth and curved surfaces
- Optional: coupling via UNF 1/4" - 28 screw connection

SONAPHONE DataSuite Software

Routenplanung, Trending und Analysis



- Central data hub for the organization, presentation and analysis of ultrasonic tests
- Modern web app technology – available as a desktop, server or cloud application
- Organization of ultrasonic measurement data in measurement points and system trees
- Measurement point information in a modern dashboard view
- Easy creation and management of inspection routes for condition-based planning of maintenance activities
- Integrated DataViewer: display and analysis of ultrasonic test data using various dB levels, audio files, thresholds, status displays and trend analyses
- Integrated reporting tool for creating PDF test reports based on test routes and system status



AssetExpert

App for Route Planning with SONAPHONE®

- Special app for data acquisition, on-site evaluation and synchronization to the SONAPHONE DataSuite
- Date acquisition based on routes
- An overview of historical data for each test point
- Identification of measurement points via QR code or ID



Technical Data

General Data	
Device Design	Digital ultrasonic testing device with touchscreen
Display	5"-TFT-Display, Resolution WVGA 800 Pixel x 480 Pixel
Touchscreen	PCT, 5-Point Multi-Touch-Controller
Acoustic Output of Signals	Via loudspeakers or wired headphones
Storage	8 GB Flash System Memory; 16 GB Flash Internal Measurement Storage 2 GB SDRAM
Connection and Interface	Ultrasonic sensors: Lemo; Charging power supply: USB 2.0 Micro-B Jack plug stereo headphones: 3.5mm; Memory for data export: slot for microSD card (up to 32 GB)
Others	5 MP camera on the back of the device; Integrated microphone; Integrated tilt sensor
Dimensions (B x H x T)	90 mm x 174 mm x 25 mm (90 mm x 174 mm x 30 mm with large battery)
Weight	370 g (420 g inkl. großem Akku)
Standard and Guidelines	EMV RL 2014/30/EU; WEEE RL 2012/19/EU; RoHS RL 2011/65/EU; ASTM E1002-2005

Power and Battery	
Battery	Type: Lithium polymer battery; 3,7 V; 4,05 Ah, 15 Wh (large battery: 3,7 V; 7,35 Ah, 27,2 Wh)
Power supply	Charging adapter with micro USB connection (5 V, 2 A)
Operating Time	In practical use: 8 h... 12 h, In continuous operation: 4 h (or 8 h with large battery)
Charging Time	~ 4 h

Environmental conditions	
Operating temperature	-10°C ... +65°C (according to DIN EN 60068-2-2:2007)
Storage temperature	-20°C ... +65°C
Protection Class	IP40

Accessories	
Sensors	Airborne sensors: BS10, BS30; Structure-borne sensors: BS20, BS40
Apps for testing device	LeakExpert for leak location and assessment; SteamExpert for steam trap testing AssetExpert for route planning and measurement point organization
PC Software	SONAPHONE DataSuite

Inspection Software: LevelMeter App

Details	<ul style="list-style-type: none"> • Level Record (in dB, reference p0 = 20 µPa, temporal resolution: 16 ms per level value) • Spectrogram (temporal resolution: 16 ms per frequency spectrum) • Level wheel and level bar (current level) • Level table, with configurable arrangement, number (max. 5) and type of level displayed • The following can be displayed: <ul style="list-style-type: none"> • Sound pressure level and temperature • (T, only active with structure-borne sound sensor BS20) • L – instantaneous level • LF – time-weighted instantaneous level (smoothed) • Lpk – Peak level • Leq – Equivalent continuous sound Level • Lmin – Minimum value of the instantaneous level • Lmax – Maximum value of the instantaneous level • Switch between portrait and landscape format • Measurement time
Functions	<ul style="list-style-type: none"> • Take photos to attach to data sets or measurements • Inserting markers immediately after the photo • Record voice memos for attaching to data sets and measurements • Storage of text comments • Select the current application (leak, bearing, etc.) for the context for measurements • Creation of PDF reports of selected records • Export of selected data records for further analysis on the computer (e.g. in the DataViewer)
Languages	Chinese, English, French, German, Italian, Japanese, Korean, Dutch, Polish, Portuguese, Russian, Spanish, Czech, Turkish, Hungarian

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Contact and Support

SONOTEC GmbH
 Nauendorfer Str. 2
 06112 Halle (Saale)
 Germany

☎ +49 345 133 17-0
 ✉ mysonaphone@sonotec.de
 🌐 www.sonotec.eu
 🏆 Certified according to ISO 9001