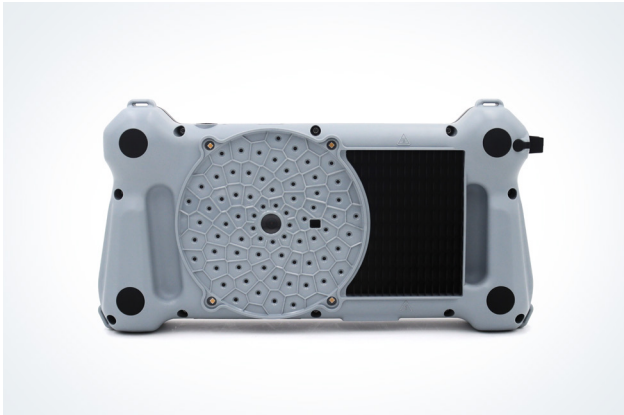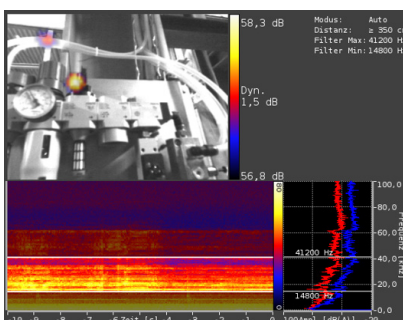# SONASCREEN®
Acoustic Camera

The handheld acoustic camera SONASCREEN generates acoustic images from both the audible and ultrasound frequency range. The device locates sound sources in real time and displays the results immediately on the screen. Furthermore, the camera provides audible feedback through industrial headphones. We make ultrasound audible and visible.
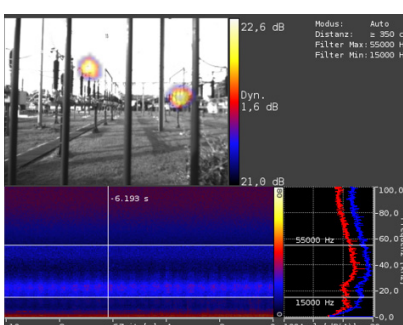
Key Features

→ 72 MEMS microphones

→ 24 bit resolution

→ Real-time acoustic results at 100 fps

→ Sampling rate of 200 kHz

→ Wide frequency range: 10 Hz to 100 kHz

→ Optical camera

→ Integrated data acquisition and analysis software

→ Handheld device with IP54 protection

→ Integrated LED lights

→ 8 configurable buttons for fast control

→ Low weight and small size

Applications

Leak Detection

→ Broadband ultrasound

→ Adjustable bandpass filter to adapt industrial environments with disturbing ultrasound

→ Show multiple leaks in one image

→ Reporting software for complete leak detection audits

→ Provide a gross loss estimation

Partial Discharge

→ Detect partial discharge in the ultrasonic range

→ Recognize typical forms of partial discharge in the spectrogram

→ Show multiple partial discharges in one image

Technical Data

Hardware Features

Dimension	31 × 16 × 5.5 cm (12.2 × 6.3 × 2.2 inch)
Weight	1.5 kg (3.3 lb)
Protection Class	IP54
Operation	Two or one-handed
Battery	Life ~ 3.5 h; fully charged in 1.5 h
Buttons	8 configurable, power on/off
Environment Temperature	-20 °C to 50 °C (-4 °F to 122 °F)
Charging Temperature	0 °C to 45 °C (32 °F to 113 °F)
Storage Temperature	-30 °C to 60 °C (-22 °F to 140 °F)

Display

Size	7 inch / 15.5 cm × 8.6 cm
Resolution	800 px × 480 px
Touch	10 finger capacitive touch

Embedded Controller

Processor	ARM A53 4×1.2 GHz with 1GB RAM
Internal storage	32 GB
OS	Linux for ARM

Interfaces

USB	For data export
Ethernet	LAN (for running software on laptop/PC)
Audio	3.5 mm for headphones

Sensors

Microphones	72 digital MEMS
Frequency Range	From 1 Hz up to 100 kHz
Sample Rate	200 kHz
Sound Pressure	Max. 120 dB
Resolution	24 bit
Detection Range	Up to 150 m

Optical Camera

Type	Digital
Resolution	320 × 240 (50 fps) or 640 × 480 (16 fps)
Lighting	4 LEDs
Aperture Angle	70 ° (FoV horizontal)
Shutter	Global Shutter

Power Supply

Battery	Li-ion rechargeable battery (48 Wh); Work and charge simultaneously
Input	19 V with power adapter

Software Features

Operation System	Linux (camera), Windows (Laptop/PC)
HMI	Touchscreen, headphones, buttons
Protection	Password (unauthorized access protection)
Online Performance	Up to 100 acoustic fps, up to 50 optical fps; Acoustic pictures, optical pictures, FFT and spectrogram; Listen to local sound (broadband or frequency filtered); Place marker while measuring; Buffer recording, trigger recording (SPL or frequency); Long term measurements (average and peak-hold); Time weighting: fast, slow, impulse
Offline Features	View acoustic results frame by frame; Save and reload; Replay in real-time or slow motion; Listen to local sound
Export	Screenshots, video, sound
Intuitive Usability	Distance settings; Frequency filters (narrow band, 1/3-octave and octave) Dynamic filter and low cut-off; 3 scaling modes: off, auto, smart (crest factor)

Applications

→ Leak detection

→ Partial discharge detection

→ Tightness testing

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