Handheld Acoustic Camera HA3X

Key Features

- 144 Low-noise MEMS Microphones
- Partial discharge detection
- Gas leakage detection
- Mechanical fault detection
- Partial discharge type intelligent analysis
- Multiple sound sources detection
- Real-time sound source localization
- Laser rangefinder
- ATEX-proofed



HA3X

Overview

Hertzinno's third-generation acoustic camera, HA3 series, integrates a cutting-edge 144-channel MEMS microphone array with multi-mode positioning and upgraded AI algorithms, delivering a lighter, faster, and smarter solution for partial discharge detection, gas leakage detection, and mechanical fault diagnosis.



Designed for precision and efficiency, the camera empowers industrial professionals to capture and quantify complex acoustic sources in real-world scenarios.



An optimized 144-channel circular array design, paired with beamforming algorithms, achieves ±1° localization accuracy (≤1cm error at 1 m distance, 40kHz), enabling the clear differentiation of dense acoustic sources.

The camera supports real-time monitoring of audio signals via Bluetooth connection to headphones. It also supports the online display of frequency spectrum diagrams. The camera supports one-click analysis and one-click forwarding functions on the device. After taking a photo, users can analyze the file using the one-click analysis function on the device. It also supports the real-time generation of analysis reports. After completing the report analysis, users can export the file via Wi-Fi, Bluetooth, or a USB interface. And the camera supports offline analysis on a PC and online analysis in the cloud.

The camera supports file management and file notes, allowing users to add notes to their photos in a variety of ways, including text, voice, photos, and tags.

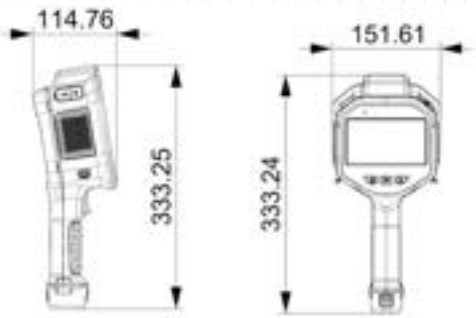
Specification

Model	HA3X
Acoustic	
Microphones	144 Digital MEMS Microphones
Frequency Bandwidth	2 k~150 kHz
Dynamic Range	-30 dB~120 dB
Minimum Imaging Sensitivity	10 kHz: 3 dB SPL 20 kHz: -15 dB SPL 40 kHz: -5 dB SPL 60 kHz: 10 dB SPL 80 kHz: 35 dB SPL 100 kHz: 45 dB SPL
Operating Distance	0.3 m ~ 210 m
Dynamic Range of Multiple Targets	0 dB~18 dB
Space Resolution	≤1 cm @1 m, 40 kHz
Microphone Self-Check	Support
General	
Optical Camera	13 MP
Camera FOV	72°±3°
Fill Light	LED Light
Image Resolution	4K (3840 × 2160), 1080P
Digital Zoom	1/2/4/8
Video Image Resolution	1920 × 1080 @ 30 fps, 1920 × 1080 @ 60 fps
Storage	128 GB micro-SD Card
Annotation	Text, Voice, Photo, Tags
E-Compass	Support
Display	5-inch, Capacitive Touch Screen, 1920*1080
Wi-Fi & Bluetooth	IEEE 802.11a/b/g/n/ac 2.4G/5G & BT4.2
Weight	Less than 1.2 kg
Dimension	333 mm*152 mm*115 mm
Working Temperature Range	-20℃ ~ 55 ℃
Storage Temperature Range	-40℃ ~ 85 ℃
Humidity	10%~95% (non-condensing)
Laser Distance Measurement	0.1 – 30 m(±1 mm) (Laser Class II, 620 -690 nm, ＜1 mw)
Data Transmission	USB, Wi-Fi, Bluetooth
USB Port	Type-C
Battery	Li-Ion Rechargeable Battery
Charging Time	2.5 h (from 10% to 90%) & PD Fast Charging
Protection Level	IP54
ATEX	Ex ib IIC T4 Gb & Ex ib IIIC T80℃ Db
Tripod Mount	UNC 1 /4-20

Specification

Application	
Application Scenarios	Partial Discharge Detection Leak Detection Mechanical Noise
Partial Discharge Type Recognition	Noise (Particle)/Corona/Surface/Floating
Gas Leakage Detection	>0.0032 L/min from 2.5 m
Analysis Software	On-Device, PC Software, Cloud Software

Dimension



Package List

1. Acoustic Imaging Camera
2. USB Charger
3. Charging Docker
4. Spare battery *1
5. Carrying Case
6. User Manual
7. Factory test report
8. Accessory kit

Safety Notice

Laser Safety Caution

When operating the laser rangefinder, NEVER aim the laser beam at human eyes.

LED Light Caution

Avoid prolonged direct viewing of LED light sources (may cause temporary visual discomfort).
HERTZINNO shall not be held liable for any equipment damage or personal injury resulting from noncompliant operation (including but not limited to failure to read manuals, laser misuse, etc.).
Users assume all risks and legal consequences arising from failure to follow safety instructions.

Notes

Please note that parameters are subject to change, and we encourage you to refer to Hertzinno's official announcements for the most up-to-date information.
Hertzinno reserves the right to provide final explanations for any changes that may occur.