Handheld Acoustic & Thermal Camera

HA3T

Key Feature

- **144 Low-noise MEMS Microphones**
- **640*512 Infrared lens**
- **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**

Hertzinno third-generation acoustic & thermal camera. It 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. With a high-resolution infrared sensor, it supports analysis temperature information at the same time.

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

HA3T supports real-time monitoring of audio signals via Bluetooth connection to headphones and online display of frequency spectrum diagrams.

HA3T 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.

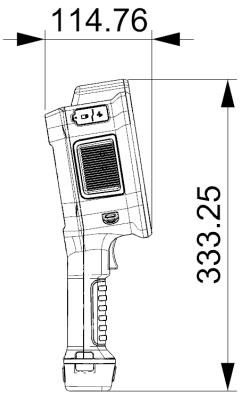
It supports file management and file notes, allowing users to add notes to their photos in a variety of ways, including text, voice, photos, and tags.

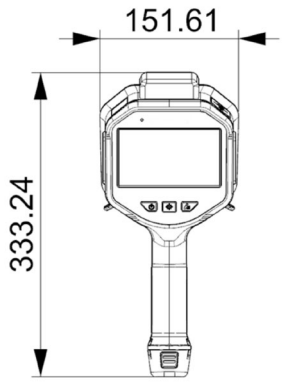
■ Specification

Model	HA3T
Microphones	144 Digital MEMS microphones
Frequency Bandwidth*	2kHz ~ 130kHz
Dynamic Range of Camera	-30dB ~ 120dB
Minimum Imaging Sensitivity*	10kHz： 3dB SPL 20kHz： -15dB SPL 40kHz： -5dB SPL 60kHz： 10dB SPL 80kHz: 35dB SPL 100kHz: 45dB SPL
Operating Distance	0.3m ~ 200m
Dynamic Range of Multiple Targets	0 ~ 18dB
Space Resolution	≤1cm@1m, 40kHz
Microphone Self-check	YES
General	
Optical Camera	13MP
Camera FOV	72°±3°
Lighting	LED lighting
Photo Image Resolution	4K (3840×2160), 1080P
Digital Zoom	1/2/4/8
Video Image Resolution	1920×1080@30fps, 1920×1080P@60fps
Storage	128GB
Annotation	Text, voice, photo and tags
Display	5-inch, Touch Screen, 1920*1080
Wi-Fi & Bluetooth	IEEE 802.11a/b/g/n/ac 2.4G&5G & BT4.2
E-compass	Support
Laser Distance Measurement	0.1 - 20m(±1mm) (Laser Class II, 620 -690nm, ＜1mw)
Data Transmission	USB, Wi-Fi, Bluetooth
USB Port	TYPE-C
Battery	Li-Ion rechargeable battery, up to
Charging Time	2.5 h (from 10% to 90%) & PD Fast Charging
Protection Level	IP54
Tripod Mount	UNC 1/4-20
Weight	Less than 1.2kg
Dimension	333mm*152mm*115mm
Working Temperature Range	-20℃ ~ 55 ℃
Storage Temperature Range	-40℃ ~ 85 ℃
Humidity	10% -95% (non-condensing)
Applications	
Work mode	Partial Discharge, Leaks Detection, Mechanical Noise and Thermal
Analysis Software	On-device Analysis, PC software, Cloud software

Thermal Specifications	
Sensor	640*512 （Uncooled Vanadium Oxide）
Pixel Pitch	12μm
Spectral Range	8 ~ 14μm (LWIR)
NETD	≤ 40mK(@25°C,F#=1.0)
Measurement Range & Accuracy	-20°C~150°C / 100°C~550°C (±2°C or ±2% reading (whichever greater))
IFOV	0.8mrad
FOV	29.3°(H)×23.4°(V), 37.5°(D)
Focal Length	15mm (fixed focus)
Frame Rate	30Hz

■ Dimension





■ Packaging 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 & Disclaimer

Laser Safety Caution

When operating the laser rangefinder, ***NEVER aim the laser beam at human eyes or reflective surfaces.***

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* ***non-compliant 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.