

HA3TX_ATEX



Industrial Acoustic & Thermal Imaging Camera for Partial Discharge Detection, Pressurized Leak Detection and Mechanical Fault Detection

Key Features

- Acoustic and Thermal Dual Imaging
- 144 Low-noise MEMS Microphones
- 640 × 512 Infrared Thermal Sensor
- Partial Discharge Intelligent Analysis
- Gas Leak Detection
- Mechanical Fault Detection
- Real-time Sound Source Localization
- ATEX & IP54
- On-device Analysis and Report Generation
- Flexible Data Transfer and Documentation

Ex ib IIC T4 Gb

Ex ib IIIC T130°C Db



Main Applications

Electrical and Leak Inspection

Used for partial discharge detection in high-voltage electrical assets and ultrasonic leak localization in compressed air or pressurized gas systems. Acoustic imaging helps locate discharge or leak sources, while thermal imaging provides additional temperature information for faster condition assessment.

Industrial Predictive Maintenance

Supports inspection of rotating equipment such as motors, bearings, pumps, fans, rollers, and conveyors. By combining acoustic, thermal, visual, distance, and annotation data, HA3T helps maintenance teams identify abnormal noise, overheating, wear, poor lubrication, and other early signs of equipment failure.

Specifications

HA3T Acoustic & Thermal Camera	
Acoustic sensors	144 low-noise MEMS microphones, real-time sound visualization
Detection bandwidth	2 ~ 150kHz
Minimum imaging sensitivity(1 m)	10kHz: 2dB SPL 40kHz: -10dB SPL 60kHz: -5dB SPL 80kHz: 15dB SPL 100kHz: 25dB SPL
Threshold	-30dB ~ 120dB
Scan resolution	From 1° up to 0.125°
Spatial resolution	≤1cm@1m, 40kHz
Operation distance	From 0.3m (1.0 ft) up to 210m (689ft)
Dynamic range	18dB (Multiple Targets)
Partial discharge type recognition	Corona discharge, Surface discharge, Floating discharge and Particle discharge
Leak localization and detection	Automatic leak (vacuum leak) recognition including estimated leak rate, annual cost and CO ₂ emission calculation on camera
Leak rate detection sensitivity	0.032 l/min from 2.5m, 0.004 l/min from 6m, 0.3 l/min from 11.5m @ 120 kPa

Optical & Screen	
Optical camera	13MP
FOV of camera	72°±3°
Lighting	LED Lighting
Resolutions	4K (3840 × 2160), 1080P
Digital Zoom	1 / 2 / 4 / 8
Video image resolution	1920 × 1080 @ 60 fps
HMI	1920 × 1080, Size: 5 in. LCD
Distance measure	Laser rangefinder
Distance	0.1 m ~ 35 m (Max.)
Thermal Sensor	
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)
IFOV	0.8mrad
FOV	29.3°(H)×23.4°(V), 37.5°(D)
Focal Length	15mm (fixed focus)

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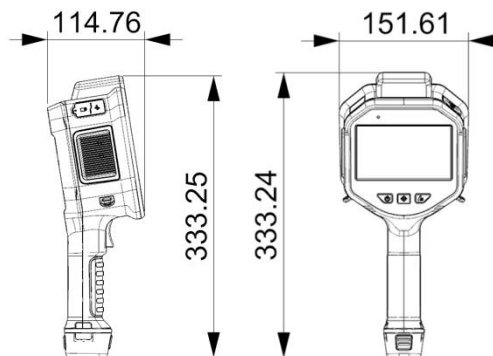
Industrial Acoustic & Thermal Imaging Camera for Partial Discharge Detection,
Pressurized Leak Detection and Mechanical Fault Detection



Specifications

Functions	
Annotation	Text, Voice, Photo, Tags, GPS Info, Directions, Distance
Analysis	On-device analysis with PDF report PC-based analysis with multiple file Cloud based analysis optional
File management	On device file management system
Data transfer	Wi-Fi 2.4 GHz and 5 GHz IEEE 802.11 b/g/n/ac wireless, USB memory disk, Bluetooth 4.2,
Internal storage	128 GB (Up to 2TB)
External storage	Supports to 2 TB
Cloud storage	Optional
File format	.jpg, .mp4, .lfxs
Power Supply	
Camera input power	Standard Type C, PD 2.0
Battery	Nominal input voltage: 7.2 VDC Rated capacity: 4.7 Ah Max. input 8.4 VDC
Operation time	Up to 3.5 h standard mode with 1 battery Up to 7 h standby mode with 1 battery
Charging time	Approx. 2.5 h & PD Fast Charging
Battery charger dock	Input Max. 27 W, output Max. 22.5 W
Charger adaptor	Input 100 ~ 240 V (50/60 Hz) Output 9.0 V, 3.0 A USB-C Standard
Other Data	
Protection level	IP54
Tripod mount	UNC 1/4-20
Camera weight	980g (within battery)
Dimension	333mm × 152mm × 115mm
Working temperature	-20°C ~ 55 °C
Storage temperature	-40°C ~ 85 °C (Without battery)
Relative Humidity	10% -95% (Non-condensing)
Safety	IEC 62368-1
Shipping Information	
Packaging, type	Air transport containers
Packaging contents	Camera Battery (2) Battery charger (USB-C) Battery charger dock Power cable (USB-C) Wrist strap Hard transport case USB memory stick Memory card slot reader Quick Start Guide Test report Warranty card

Dimension draw



Thermal Camera Safety Caution

Do not point the camera directly at the sun or objects above 1000°C, as this may affect measurement accuracy or cause permanent damage to the infrared detector.

Safety Notice & Disclaimer

Laser Safety Warning

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

LED Light Warning

*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.

For technical or sales support, please visit:
www.hertzinno.com

Please note that parameters are subject to change, and we encourage you to refer to Hertzinnno's official announcements for the most up-to-date information.

Hertzinnno reserves the right to provide final explanations for any changes that may occur.