



H.V. TEST

Specialists in High Voltage
Testing & Diagnostics

HVT-HA3

Acoustic Imaging with Intelligent PD Pattern Recognition, gas leak, mechanical noise. 144-ch, battery, 13MP

Projects

Repairs

Services

Training

Products

The HVT-HA3 is a third-generation acoustic camera, HVT-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.

Optimized 144-channel circular array design paired with beamforming algorithms achieves $\pm 1^\circ$ localization accuracy ($\leq 1\text{cm}$ error @1m distance, 40kHz), enabling 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.



Features:

- Cost-Effectiveness: The partial discharge
- 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

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Telephone: +27 11 782 1010

Email: sales@hvtest.co.za

Website: www.hvtest.co.za

Address: 17 Gaiety Avenue, Robindale, Randburg



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TECHNICAL SPECIFICATIONS

Acoustic

- Microphones 144 Digital MEMS microphones
- 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 100kHz: 45dB SPL 0.3m ~ 200m
- Dynamic Range of multiple targets 0 ~ 18dB
- Frequency Bandwidth 2kHz ~ 130kHz
- Space resolution $\leq 1\text{cm}@1\text{m}$, 40kHz
- Sensor Self Detection Support

General

- Optical Camera 13MP
- Camera FOV $72^\circ \pm 3^\circ$
- 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, tags
- Display 1920*1080P, 5-inch, Touch Screen
- Wi-Fi & Bluetooth IEEE 802.11a/b/g/n/ac 2.4G&5G & BT4.2
- E-compass Support
- Laser Distance Measurement 0.1 - 20m($\pm 1\text{mm}$) (Laser Class II, 620 -690nm, $< 1\text{mw}$)
- Data Transmission USB, Wi-Fi, Bluetooth
- USB Port TYPE-C
- Battery Li-Ion rechargeable battery *2
- Charging Time 2.5 h(from 10% to 90%) & PD Fast Charging
- Protection Level IP54
- Tripod Mount UNC 1/4-20
- Weight Less than 1kg
- Dimension 333mm*152mm*115mm
- Working Temperature Range $-20^\circ\text{C} \sim 55^\circ\text{C}$
- Storage Temperature Range $-40^\circ\text{C} \sim 85^\circ\text{C}$
- Humidity 10% -95% (non-condensing)

Applications

- Work mode Partial Discharge Detection, Leaks Detection, Mechanical Noise Detection
- Analysis Software On-device Analysis, PC software, Cloud software

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