



## Open up the world of **ULTRASONIC VISION**

Rapid detection of leaks in pressurized gas pipelines, containers, valves, etc.; Detects defects such as partial discharges and mechanical vibrations in electrical equipment.

**FOTRIC TD3 series**

Handheld Acoustic Imaging Cameras





The FOTRIC TD3 series are a simple and practical acoustic imagers, primarily utilized for detecting gas leaks under pressure in factories, partial discharges from electrical equipment, and mechanical vibrations from industrial equipment among other anomalies.

This product is lightweight, and its handheld design adheres to ergonomic standards, making operation straightforward and user-friendly, requiring no training! It's an invaluable tool for engineers to swiftly pinpoint gas leak sources.

The FOTRIC TD3 cameras are equipped with 96 built-in MEMS digital microphones, capable of visually displaying ultrasonic information with precision, even within noisy industrial environments, generating accurate acoustic images. The acoustic image overlays in real time onto a visible digital image, enabling users to accurately identify the source of defects. This ensures a consistent supply of pressurized gas, reduces unnecessary gas loss, enhances product quality and operational efficiency, all while ensuring safety in production.



**Increase Efficiency**

**Lower Energy Consumption**

**Easy to Use**

**Improve Safety**

**96**

MEMS Digital  
Microphone Channel

**192KHz**

Sampling rate

**2kHz-96kHz**

Maximum bandwidth range

**5 Inches**

Touchscreen display

**All-in-one  
Portable**

All-in-one design for  
easy portability

**Display  
Mode**

Mono, Multi,  
Holographic modes

**Robust  
Sustainability**

Powered by 3 replaceable  
batteries

**Remote  
Detection**

Detection distance  
0.3m-130m

## | Gas Leak Detection

Gas leaks represent a common challenge faced by various factories, including leaks of compressed gas, flammable gas, toxic gas, corrosive gas, and inert gas among others. Leaks of compressed gas can lead to substantial energy waste and may even cause equipment downtime, increasing factory production costs and risks. Leaks of flammable or toxic gases can create safety hazards, potentially leading to fires and posing threats to personal health, while also causing negative environmental impacts.

FOTRIC's acoustic imagers can assist users in efficiently, intuitively, and accurately locating leak sources, alerting users to take timely measures to prevent further losses.



## | Electrical Partial Discharge Detection

FOTRIC's acoustic imagers identify and locate discharge sources by detecting sound wave signals produced by partial discharges from high-voltage equipment, power cables, insulators, and other devices. This assists maintenance personnel in promptly discovering and handling potential electrical faults, thereby ensuring the consistent and safe operation of power equipment.



# Simulation Experiment

To see the product in action

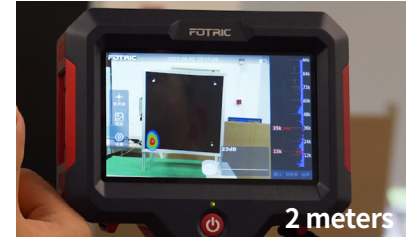
## Gas Leakage Simulation Experiment

Detection conditions:

- Leakage aperture: 0.1mm
- Leakage flow: 175ml/min
- Testing distance: 1m, 2m, 4m, 6m
- Test environment:

25°C ambient temperature at a product packaging area

The experiment verified the detection effectiveness of the FOTRIC acoustic camera at different distances by simulating a small aperture gas leak in a bustle environment.



**FOTRIC acoustic cameras prove to be capable of quickly locating small gas leaks, helping users to minimize wasted energy and save production costs.**

## Acoustic Frequency Verification

In order to verify the detectability of FOTRIC acoustic cameras under different acoustic frequencies, we have done a series of verification and comparison experiments with the help of a professional acoustic laboratory.

Note: The acoustic generator used in this experiment supports a maximum frequency of 50kHz.



**FOTRIC stands out from other products in its class. At the same frequency FOTRIC can detect sound waves generated by smaller voltages, indicating its superior performance.**

## Specifications

| FOTRIC TD3-LD                  |   |
|--------------------------------|---|
| <b>Acoustic parameters</b>     |   |
| Microphone channels            | 96 MEMS digital microphones   |
| Acoustic image field of view   | 45°   |
| Positioning frequency range    | 2kHz ~ 96kHz  |
| Sound pressure sensitivity     | >0.03 L/min (0.3 MPa, 3m),<br>>0.05 L/min (0.3 MPa, 10 m)   |
| Measured sound pressure range  | 6 dB SPL to 120 dB SPL ±1 dB SPL 5 kHz,<br>-10 dB SPL to 120 dB SPL ±2 dB SPL 20 kHz,<br>-5 dB SPL to 120 dB SPL ±1 dB SPL 35 kHz,<br>5 dB SPL to 120 dB SPL ±3 dB SPL 50 kHz,<br>20 dB SPL to 120 dB SPL ±1 dB SPL 65 kHz,<br>25 dB SPL to 120 dB SPL ±1 dB SPL 80 kHz |
| Operating Modes                | Single, Multi, Hologram   |
| Auto enhancement               | Highlight source intensity and location   |
| Threshold adjustment           | Filtering background noise  |
| Frequency range selection      | Touch screen selection  |
| Sound Pressure Display         | Show maximum sound pressure on screen   |
| Sound Sampling Rate            | 192kHz  |
| Acoustic Refresh Rate          | 25FPS   |
| Working distance               | 0.3m ~ 130m   |
| Detection Mode                 | Leakage Mode + Partial Discharge Mode<br>(PRPD graph is available in partial discharge mode)  |
| <b>Analysis and Reporting</b>  |   |
| Analysis Software              | SonicLab  |
| <b>Image Display</b>           |   |
| Display                        | size 5", 800*480, LCD capacitive touch screen   |
| Display Brightness             | 500nits   |
| <b>Capture Functions</b>       |   |
| Visible light camera           | 5 megapixels  |
| <b>Data Storage</b>            |   |
| Storage Capacity               | 32GB  |
| Image Format                   | JPG   |
| Video Format                   | MP4   |
| Video Duration                 | 7 minutes   |
| <b>Data Connection</b>         |   |
| WiFi connection                | Support   |
| USB port                       | Support   |
| <b>Accessibility</b>           |   |
| Software and firmware upgrades | Support free upgrade  |
| Headphones                     | 3.5mm 3-part headphone jack (monitor audible sound only supported)  |

## Specifications

| Power System                  |   |
|-------------------------------|---|
| Battery type                  | 7.4V, 3500mAh lithium battery, field replaceable, rechargeable  |
| Battery operating time        | single battery continuous operating time $\geq$ 2.5 hours<br>(actual use time depends on the environment and use at the time)                                   |
| Charging method               | Charging dock   |
| Charging time                 | 2.5 hours to 90% of the battery power   |
| Reliability and Certification |   |
| Safety Standard               | SELV (Safety Extra Low Voltage Circuit) (GB 4943.1-2011/IEC60950-1:2005)  |
| Electromagnetic compatibility | GB/T17626.2/IEC 61000-4-2   |
| Explosion-proof grade         | None  |
| Protection class              | IP51  |
| Physical parameters           |   |
| Operating temperature         | -20° C to 50° C   |
| Storage temperature           | -40° C to 70° C without battery   |
| Operating Humidity            | <95%RH  |
| Dimension                     | 276*150*59mm(H*W*L)   |
| Weight                        | 1.2kg   |
| Housing material              | Hard rubber: PC+ABS, Soft rubber: TPE, Aluminum alloy   |
| Warranty                      | 2 years   |
| Language                      | English, Chinese  |
| Standard Configurations       | Main unit, charging dock, power adapter, Li-ion battery*3, portable hard case, wrist strap, user manual, packing list, USB flash drive, TypeC-USB adapter cable |

# Innovation Excellence Integrity

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