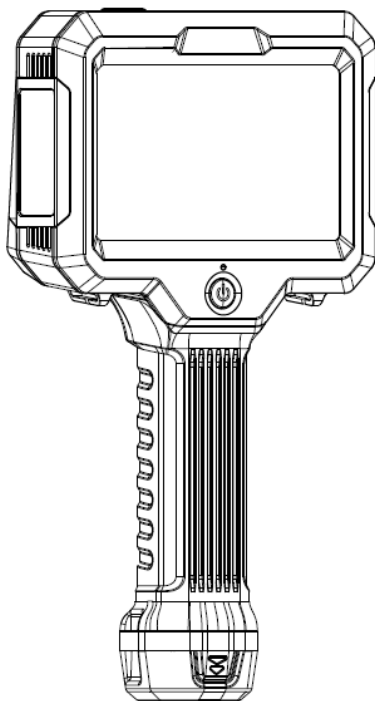


# FOTRIC TD3 Series

## Quick Start Manual





**FOTRIC**

CONNECTING THE DIGITAL FUTURE

# Symbols

For the symbols that appear in the documentation, the descriptions are listed below.

 <b>Warning</b>	 <b>Caution</b>
Potential death or serious injury inducing hazards	Potential danger of injury or property damage.

## Safety information

The purpose of this section is to ensure that the user uses the product properly to avoid danger or property damage.

Before using this product, please read this instruction manual carefully and keep it in a safe place for future reference.

### **Warning**

- Do not disassemble or modify the camera battery. The battery is equipped with safety and protection devices, which, if tampered with, may cause the battery to overheat.
- If the battery leaks and gets into your eyes, do not rub, wash with water and get immediate medical attention.
- Do not disassemble or modify the equipment in any way (unauthorized modifications or repairs will cause problems at

your own risk).

 **Caution**

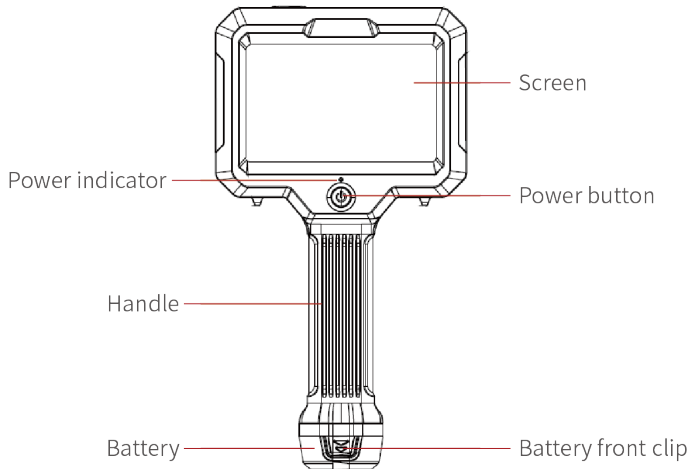
- Protect the acoustic sensor array from stains, dust, and liquids that could affect the performance of the acoustic imaging camera or even cause permanent damage.
- Avoid using the product in humid, dusty, extremely hot, or cold environments. For humidity requirements see the product parameters table.
- It is strongly recommended to use the original power adapter. The power adapter requirements are listed in the product specification sheet.
- To prevent the potential risk of data loss, always copy (backup) data to the computer.
- When storing the acoustic camera, it is strongly recommended to use the original box and store it in a cool, dry, well-ventilated environment free from strong electromagnetic fields.
- When shipping the camera, it is strongly recommended that it be shipped in the factory packaging for protection.

# Contents

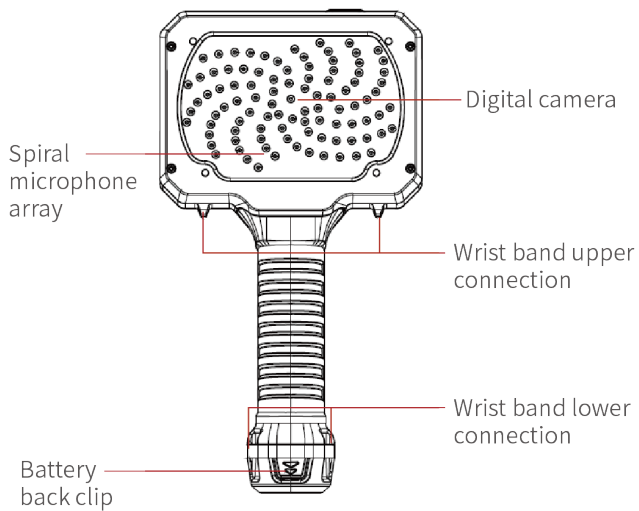
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# Acoustic Imaging Camera

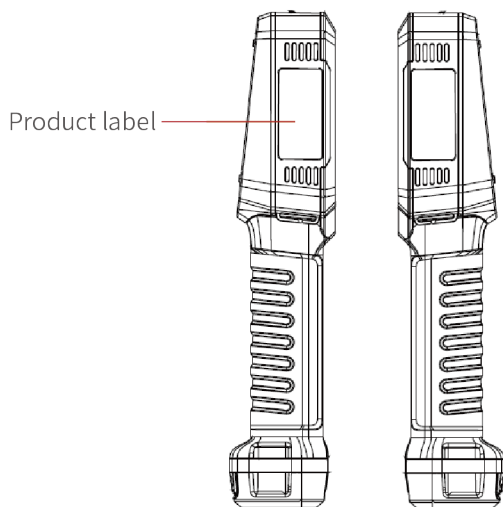
## Front view



## Rear view

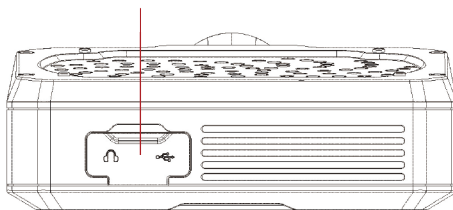


## Side view



## Top view

Headphone connection interface、Type-C interface





# Interface Introduction

## Main interface



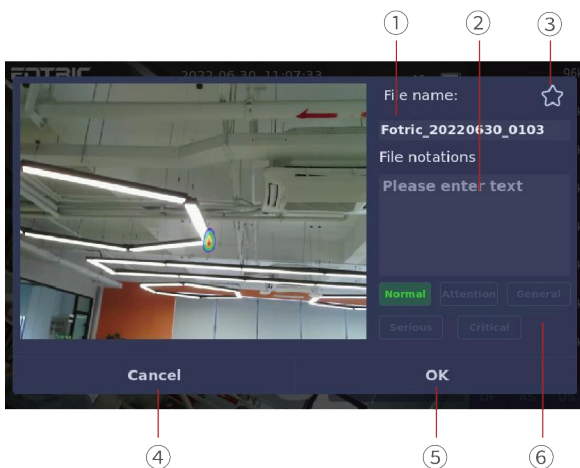
- ① Menu bar: Capture mode, signal filter mode, gallery, display mode, Settings.
- ② Status bar: Display time, recording status, Wi-Fi, hotspot, power, etc.
- ③ PRPD graph: Displays PRPD chart to help diagnose the type of local play. (Only applicable under partial discharge mode)
- ④ Frequency display: Fast Fourier Transformation graph (sound frequency spectrum) and enable users to select sound frequency range.

⑤ Sound and video displays area: Displays visible light screen and sound with palette-color overlay.

⑥ Photo/Video button: Switching between photo or video recording function according to the capture mode.

⑦ Sound intensity trend graph: Displays the current maximum sound intensity and sound intensity trend.

## Save interface

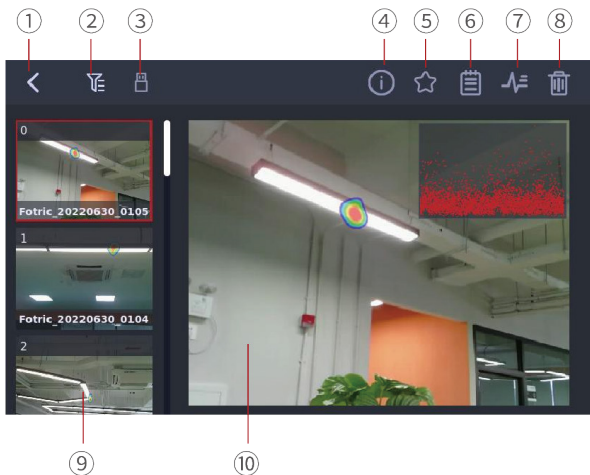


① File name: Displays the file name, and you can modify the file naming manually.

② Text annotation: Users can insert text annotation here.

- ③ Favorite: Apply ‘favorite’ to help filter important images
- ④ Cancel: Do not save the changes made on the file
- ⑤ OK: Confirm to save the changes
- ⑥ Defect diagnosis: Select among defect severity level, also used in filtering images.

## Gallery

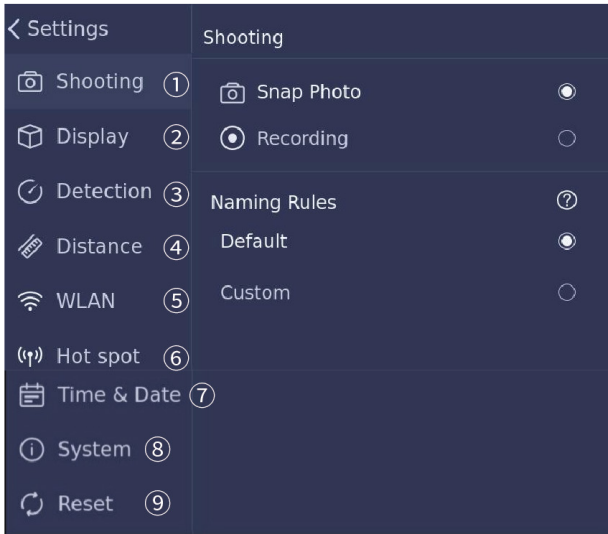


- ① Return: Return to the main interface;
- ② Filter: Filter the list file according to the favorite status or severity level diagnosis;
- ③ Data export: The icon lights up after the device is connected to

an external hard drive. It enables user to export all data;

- ④ Image information: Display sound pressure level, test distance, frequency range, defect level;
- ⑤ Favorite: Add and cancel 'favorite' status;
- ⑥ Text annotation: Add or edit text annotation;
- ⑦ Spectrum: Display the frequency spectrum;
- ⑧ Delete: Delete the selected file;
- ⑨ Image list: Display the list of files, users can long press to delete multiple selections;
- ⑩ Image display area: display the current selected file screen, graphs and other information.

## Settings




- ① Shooting mode: snap photo, recording, naming rules - default, custom;
- ② Display: Brightness, sound, dynamic range;
- ③ Detection mode: Partial discharge mode and leakage mode;
- ④ Distance: Select the distance between 0.1~130 m
- ⑤ WLAN: Connect to a Wi-Fi;
- ⑥ Hot spot: On/off, hot spot' s name and password;
- ⑦ Time & Date: Set up the time for the system

- ⑧ System: Model, language, serial number, version information, IP, power remaining, capacity remaining;
- ⑨ Reset: Reset parameters to factory default settings, delete all saved files.

# Quick Start

Follow these steps:

1. Place the battery in the battery compartment of the sound camera.
2. Charge the battery to full capacity before starting the camera for the first time.
3. Press the power button to turn on the camera.
4. Select the detection mode according to user's need. (for more details, see the next section)
5. Aim the camera at the target object.
6. Press the Photo button once to freeze the image. In this state, users can modify the file name, add text notes, bookmark, or select the diagnostic label.
7. Click the OK button, and the modified file will be saved automatically.
8. Image or video files can be viewed by clicking on the gallery.
9. Insert a U disk in the Type-C port of the sound camera.
10. Click the  in gallery interface to export the files
11. Install the SonicLab software on your PC.

12. Start the SonicLab professional analysis software.
13. Copy the exported data to the PC using a USB flash drive.
14. Bind the copied folder by SonicLab.
15. See the exported files in SonicLab. Double-click the selected files to open them for analysis.
16. Select the file you want to export the report from the list and click 'Generate Report' to export the Word report.



# Operational Tips

## Frequency filtering

The Fast Fourier Transformation (FFT) graph on the right presents the frequency and amplitude of current sound signals. Users can refine the analysis by adjusting the red box on the graph, isolating the target signal and minimizing interference from other noise.



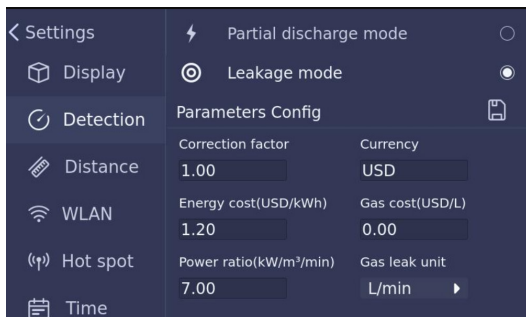
## Gas leakage evaluation

To initiate leakage detection mode, navigate to Settings -> Detection and select 'Leakage Mode.'

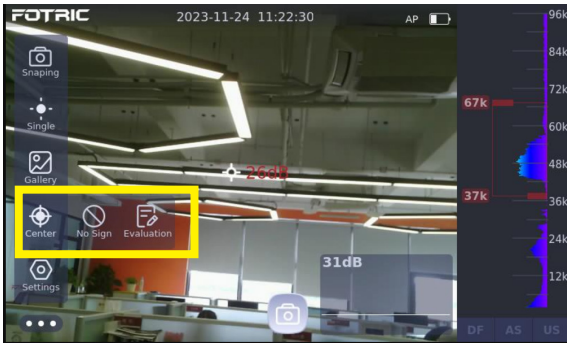
For precise leakage assessment, accurately complete the 'Parameters Config' table with the relevant details.

The correction factor is used to reconcile any differences between the calculated and the actual measured leakage rates, which may arise from variables such as leakage shape, ambient humidity, and background noise.

The power ratio reflects the energy required to compress a unit volume of the specified gas, which is essential for a comprehensive evaluation.



The 'Evaluation' option within the display mode is accessible only after selecting 'Leakage Mode.'



Within the ‘Evaluation’ interface, the camera provides an estimate of the annual cost associated with the detected leakage.



## Partial discharge detection

To engage the partial discharge detection mode, navigate to Settings -> Detection and choose 'Partial Discharge Mode.'

In this mode, the Phase Resolved Partial Discharge (PRPD) graph is displayed in the top right corner of the screen. Click on the graph for an expanded view. When partial discharges are detected, the PRPD graph will plot the pulses in a sinusoidal pattern, indicating the phase angle and magnitude of each discharge occurrence.

The PRPD graph is a powerful diagnostic tool in acoustic cameras, as it allows for the visualization of discharge patterns over time. This visual representation helps to distinguish between different types of discharges and to identify problematic insulation in electrical equipment.

# About This Manual

This manual is used as a guide and the photos, graphics, icons and illustrations provided in the manual are for explanation and illustration purposes only and may differ from the specific product, please refer to the actual product. This manual may be updated by FOTRIC without notice due to product version upgrade or other needs.

The trademarks and images used in this manual are for illustrative purposes only and are the copyright of the trademark owner.

## **Disclaimer**

The products (hardware, software, etc.) provided in this manual may be defective, faulty or malfunctioning and FOTRIC disclaims all warranties of any kind, express or implied, including but not limited to warranties of merchantability, satisfactory quality, fitness for a particular purpose, non-infringement of third-party rights, etc. FOTRIC shall not be liable for any special, incidental, consequential, or indirect damages arising out of the use of this manual or our products including, but not limited to, damages arising from loss of business profits, loss of data or documentation.

To the maximum extent permitted by law, our liability will not exceed the amount you paid for the product.

After the product is connected to the Internet, it may be exposed to risks including but not limited to network attacks, hacker attacks, virus infections, etc. The Company will not be responsible for any

abnormal operation of the product or information leakage caused by such problems, but will provide you with technical support in a timely manner.

The product can sense motion detection and fire events under correct installation and configuration, but cannot avoid accidents or resulting personal injury or property damage.

When using this product, you are requested to strictly comply with applicable laws. You agree that this product is intended for civilian use only and shall not be used in violation of the rights of third parties, medical/safety equipment or other applications where the failure of the product could result in life-threatening or personal injury, and for fog of mass destruction, biochemical weapons, nuclear explosions or any unsafe use of nuclear energy or for hazardous or inhumane purposes. Any loss or liability arising from such use will be borne by you.

In the event of a conflict between the above and applicable law, the provisions of the law shall prevail.

# How to Contact FOTRIC

If you need to contact FOTRIC, please address the following

✉ [info@fotric.com](mailto:info@fotric.com)

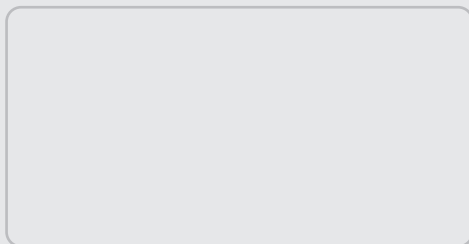
🏠 [www.fotric.com](http://www.fotric.com)



## Certificate of QC

This is to certify that the device or instrument listed on this card meets the requirements of FOTRIC quality control procedures.

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FOTRIC TD3 series' technical standards are formulated following the international standards for the industrial testing infrared thermal imager and the relevant standards cited therein, as listed below:

- FCC 47 CFR Part 15 Radio Frequency Devices
- EN 61326-1:2013 Electrical equipment for measurement, control and laboratory use
- EN IEC 61000-3-3:2013 Voltage fluctuations
- EN IEC 61000-6-2:2019 EMC immunity requirements
- EN IEC 61000-6-4:2019 General standards for EMC
- EN IEC 61000-3-2:2019 Limitation of harmonic currents

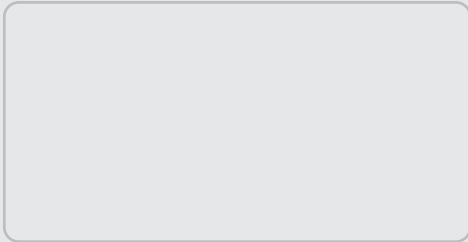


# Warranty Card

Thank you for choosing FOTRIC. We design products to deliver long-lasting performance under our warranty policy (starting from date of original purchase). If any manufacturing defects appear under normal use, the product will be repaired or replaced by FOTRIC INC. with no cost to the owner.

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# Innovation Excellence Integrity

## Company Disclaimer

Equipment described herein may require EU, US and UNSC authorization for export purposes.

Imagery for illustration purposes only.

Specifications are subject to change without notice.

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**FOTRIC INC.**