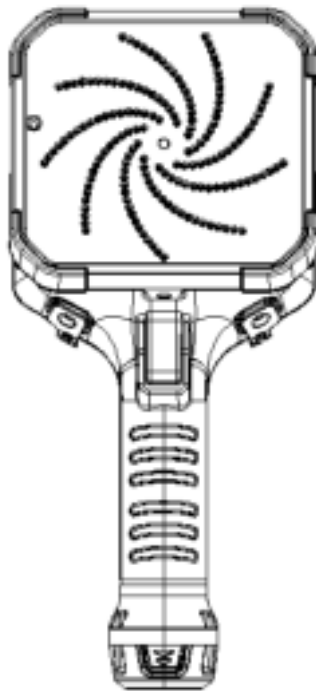


FOTRIC Inc.

# Acoustic Camera Quick Start Manual



June 2024

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## Security Information

This product meets the Class B digital device requirements outlined in Chapter 15 of the FCC Rules. These requirements aim to minimize interference in residential installations. Please note that this equipment generates and uses radio frequency energy, which may interfere with radio communications if not installed and used correctly according to the provided instructions.

### Definition

**! Warning** > Represents a dangerous situation or behavior that could result in personal injury or death.

**! Caution** > Represents a condition or action that may result in damage to the Acoustic Camera or permanent loss of data.

**! Note** > represents a useful reminder for the user.

### Important information - please read before using the instrument

**! Warning** > Do not disassemble or modify the Acoustic Camera battery. The battery is equipped with safety and protection devices which, if tampered with, may cause the battery to overheat and may result in explosion or combustion. If the battery leaks and fluid gets into your eyes, do not rub it, wash it with water and get immediate medical attention.

**! Warning** > Use a Acoustic Camera with a laser pointer. Do not look directly at the laser beam with the human eye. The laser beam can cause eye irritation.

**! Caution** > Because Acoustic Cameras use very sensitive thermal sensors, do not point the lens directly at a strong radiation source (such as the sun, direct laser beam or reflection, etc.) under any circumstances (on or off), as this will cause permanent damage to the camera!

**! Caution** > The original box must be used during transport. Do not strongly bump the camera during use or transportation.

**! Caution** > When storing the camera, it is recommended to use the original box and place it in a cool, dry, ventilated place without strong electromagnetic fields in the environment.

**! Caution** > Avoid staining and damaging the lens surface with oil and various chemicals. After use, close the lens cap.

**! Caution** > Do not use the camera in high temperature environments exceeding +50°C (+122°F) unless otherwise specified in the product specifications. High temperature environments may damage the camera.

**! Caution** > To prevent the potential risk of data loss, regularly copy (back up) your data to your computer.

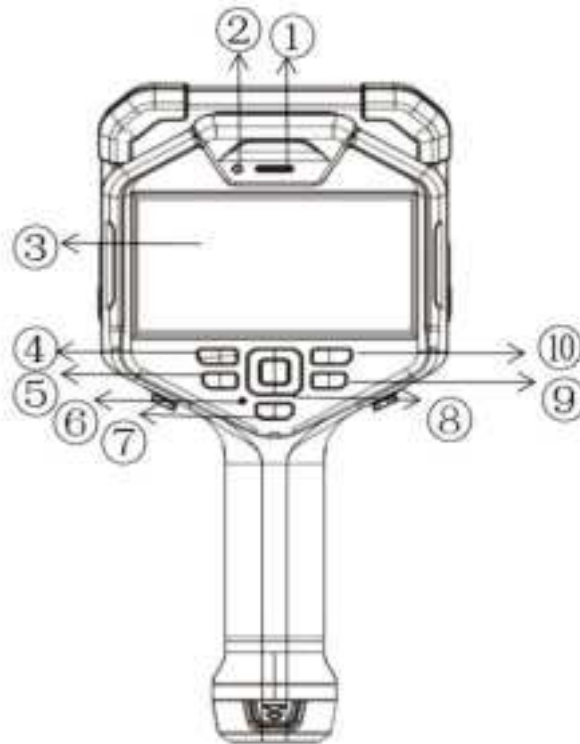
**! Caution** > Do not open the case or modify it without permission, and repairs should only be performed by authorized personnel of our company.

**! Note** > After the camera is turned on, it may take approximately 5-10 minutes for the camera to warm up before accurate readings are taken.

**! Note** > Every Acoustic Camera is factory calibrated.

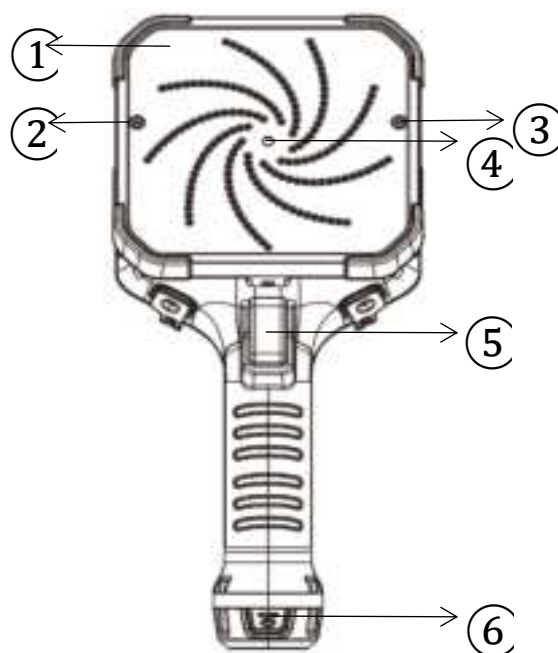
# Acoustic Camera

## Front View

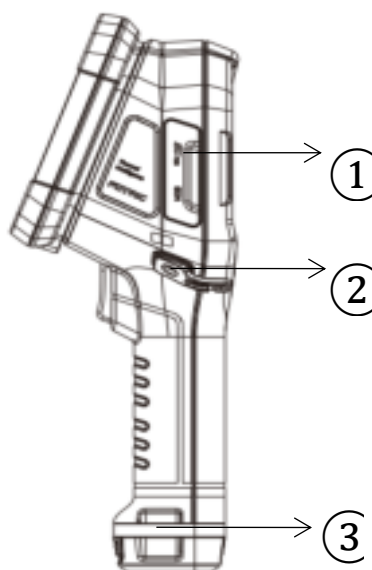


- ① Speaker
- ② Status light
- ③ 5' LCD screen
- ④ Power button
- ⑤ LED button
- ⑥ Microphone
- ⑦ AI button
- ⑧ Confirm key and Arrow keys
- ⑨ Back button
- ⑩ Gallery button

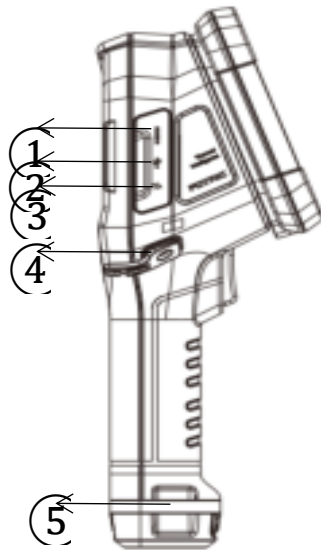
## Rear view



- ① Acoustic module
- ② LED flash light
- ③ LED flash light
- ④ Digital camera
- ⑤ Capture button
- ⑥ Battery

**Left view**

- ① SD card socket
- ② Wrist strap bracket fixing point
- ③ Wrist strap
- ④ Acoustic module

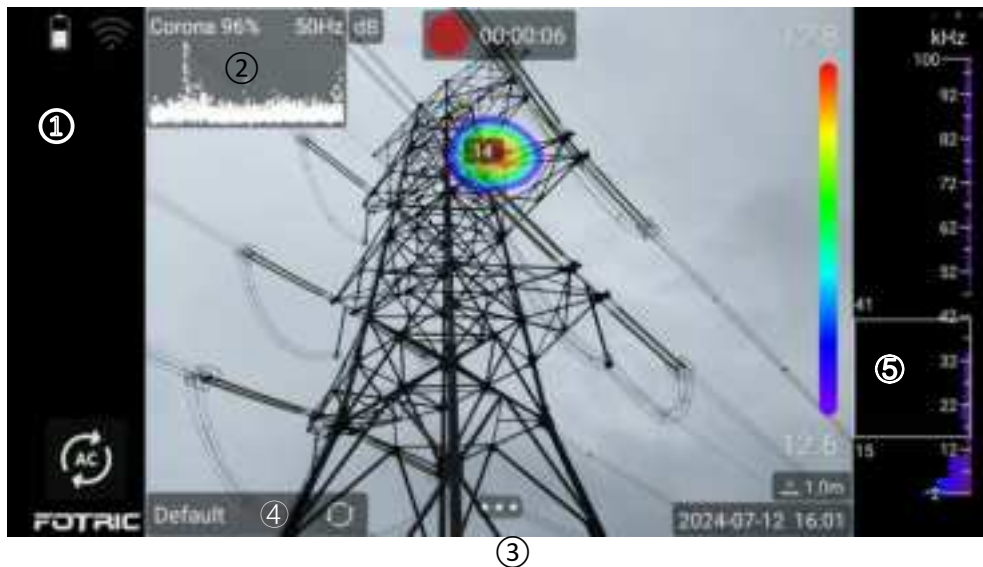
**Right View**

- ① Micro-HDMI interface
- ② USB type-C interface
- ③ Power supply interface
- ④ Wrist strap bracket fixing point
- ⑤ Wrist strap



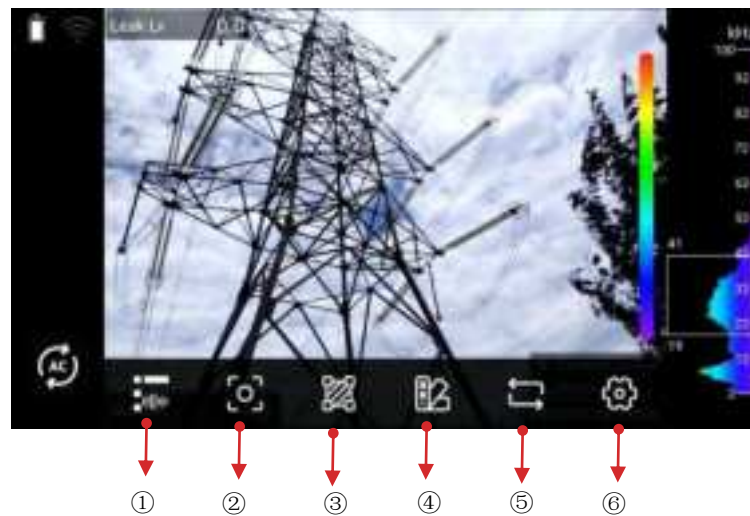
# Interface Introduction

## Main Interface



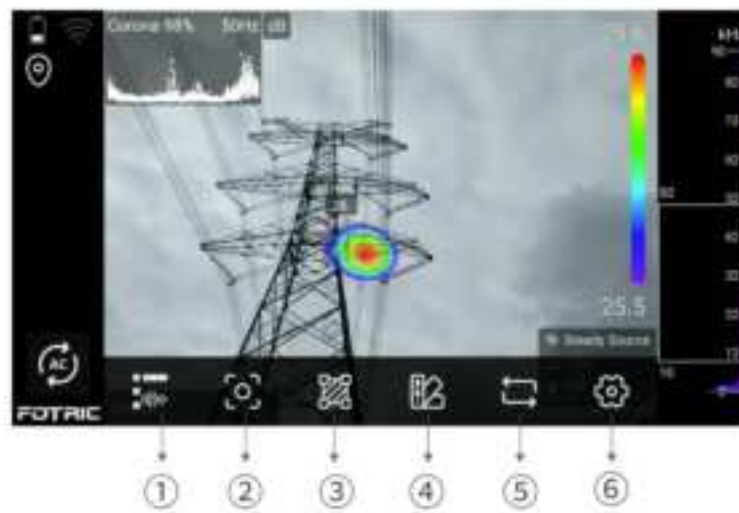
- ① Status bar: displays all read-only information. Contains: logo, time, battery, Bluetooth, WiFi, compass, current temperature range, SD card capacity low reminder icon and more.
- ② Diagnostic result: displays PRPD chart, diagnostic type, severity, AC frequency, distance, global units (dB), compass, leakage, leakage level, cost, and more..
- ③ System menu: includes acoustic parameters, focus mode, measurement tool, palettes, detection mode, settings
- ④ Palette and frequency spectrum: displays the color palette for signals and the frequency distribution spectrum.
- ⑤ Image display: displays real-time acoustic video and image.

## System menu



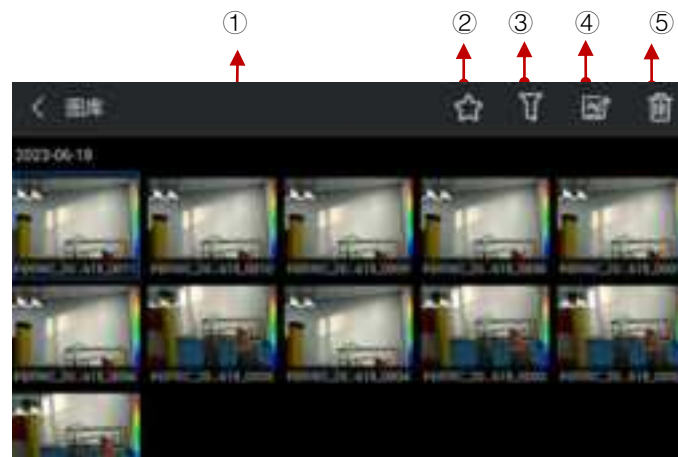
- ① Acoustic parameters: include signal source mode selection (single source, multi-source, and hologram mode) and T-FFTD signal delay mode selection (steady source, transient source).
- ② Acoustic image focus: turn on the acoustic image focus and the sound image screen will only detect sound sources within the focus frame
- ③ Measurement tools: apply spot and circle, set distance.
- ④ Palettes: red-blue, iron-red, gray-white, more (grayscale, transparency).
- ⑤ Detection mode: switch between partial discharge detection, leak detection and leak evaluation mode.
- ⑥ Settings: access capture mode, connection, storage & save options, device set, AC device set, plug-in manager, etc.

## AC Mode Interface



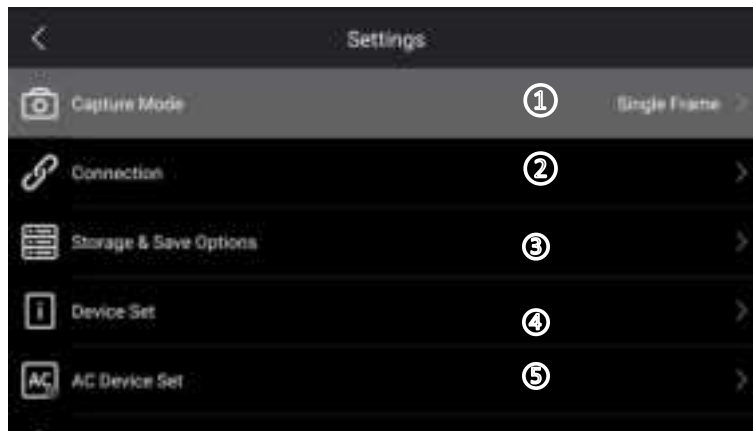
- ① Include signal source mode (single, multi, and hologram mode) and T-FFTD® signal delay option .
- ② Turns the acoustic focus on or off.
- ③ Add spot , circle and apply distance parameter.
- ④ Palette Selection.
- ⑤ PD Mode (partial discharge), LQ mode (leak) , and LQ eval mode(leak evaluation) settings.
- ⑥ Access capture mode, connection, storage & save Options, device set, plug-in manager, etc.

## Gallery



- ① Display the captured photos and videos. Short click to select, long press to multi-select.
- ② Display only images with the favorite toggle activated.
- ③ Filtering by tags attached to the images.
- ④ Enter the analysis mode to analyze the captured pictures and video files.
- ⑤ Delete the selected file.

## System Settings



- ① Switch between single-frame capture and MP4 recording.
- ② WLAN, portable hotspot, bluetooth and FTP transfer.
- ③ Video format, freeze-frame, file naming format, delete all saved files.
- ④ Language time and region setting, USB mode, display setting, geographic location, LED as flash, volume, reset, device information, etc.
- ⑤ Leak evaluation parameters, acoustic image focus range, frequency configuration, display dB value, AC frequency, SPL normalization, measurement enhancement and other settings.  
Plug-ins for business and services, etc.

## Quick Start

Please follow the steps below:

- ① Make sure the battery is fully charged.
- ② Place the battery in the camera's battery compartment.
- ③ Insert the SD card into the corresponding slot.
- ④ Long press the power button to turn on the device.
- ⑤ Aim the camera at the target object.
- ⑥ Press the snapshot button once to freeze the image.
- ⑦ Press the snapshot button again to save the image.
- ⑧ Download the respective FOTRIC software at '<https://www.fotric.com/support>'.
- ⑨ Transfer the images from the camera to PC, import them into the software for further analysis and report generation.

## Main Accessories

The documentation shall indicate that only accessories which meet the manufacturer's specifications shall be used.

### Power adaptor

Model No.: ABT030120A

Input: 100-240V ~ 50/60Hz 1.5A

Output: 12Vdc 3.0A

### Battery charging dock

Part No.: F900001ACC

Input: 12V dc 3.0A

### Batteries

Lithium-ion rechargeable batteries (7.4V, 3500mAh) 26Wh

Model No.: F900002ACC

Operation temp: -20~50 °C

### USB cables

USB type-C type; conforms to USB 3.0 / 2.0 specification; USB 3.0 has a maximum speed of 5Gbps;

USB 2.0 supports a maximum speed of 480Mbps, and is downward compatible with full speed (12Mbps) mode

### HDMI cables

Micro HDMI type, comply with HDMI 1.4 specification, support 1080p image video transmission at 60Hz frame rate

# Specifications

Power interface input	12V dc 3.0A
Operating Temperature	-20°C to +50°C(-4°F to 122°F)
Storage Temperature	-40°C to +70°C(-40°F ~158°F)
Relative Humidity	< 95%RH
Safety	EN 61010-1:2010+A1:2019
Vibration	2g (GB/T 2423.10-2019/IEC 60068-2-6:2007)
Shock	25g(GB/T 2423.5-2019/IEC 60068-2-27:2008)
EMC	EN IEC 61326-1:2021 (immunity) EN IEC 61326-1:2021 Class A (emission) FCC 47 CFR Part15 Class A (emission)
Enclosure Rating	IP54 (protected against dust, limited ingress; protection against water spray from all directions), GB/T 4208-2017/IEC 60529:1989+AMD1:1999+AMD2:2013
Drop	Engineered to withstand 2 meters (6.5 feet) drop with standard lens



## Cautions

- Please make sure to keep the camera away from hazardous areas or energized electrical components.
- Please avoid direct sunlight exposure if possible.
- Please make sure the battery is fully charged before storing the camera away for a long time.

This manual may be inconsistent with the product due to product enhancements or version changes.

In case of inconsistency, please refer to the actual product.

## Please read the manual before use

Please visit the following website to read or download the brochure:

<https://www.fotric.com/support>

## Software Download

The product comes standard with the PC analysis software AnalyzIR in a USB drive.

Users may also visit the following website to download the software:

<https://www.fotric.com/fotric-analyzir>

For instructions on using the software, please refer to 'AnalyzeIR User Manual' on the same page.

# Appendix

## Statement

### **Federal Communications Commission (FCC) Declaration of Conformity**

Note:

This device complies with Part 15 of the FCC. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

### **Exposure to Radio Frequency (RF) Energy**

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. And user must follow the specific operating instructions for satisfying RF exposure compliance. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

The mobile device is designed to meet the requirements for exposure to radio waves established by the Federal Communications Commission (USA). These requirements set a SAR limit of 1.6 W/kg averaged over one gram of tissue.

According to Article 10 (10) of Directive 2014/53/EU, the packaging shows that this radio equipment will be subject to some restrictions when placed on the market in Belgium (BE), Bulgaria (BG), the Czech Republic (CZ), Denmark (DK), Germany (DE), Estonia (EE), Ireland (IE), Greece (EL), Spain (ES), France (FR), Croatia (HR), Italy (IT), Cyprus (CY), Latvia (LV), Lithuania (LT), Luxembourg (LU), Hungary (HU), Malta (MT), Netherlands (NL), Austria (AT), Poland (PL), Portugal (PT), Romania (RO), Slovenia (SI), Slovakia (SK), Finland (FI), Sweden (SE), the United Kingdom (UK), Turkey (TR), Norway (NO), Switzerland (CH), Iceland (IS), and Liechtenstein (LI).

The WLAN function for this device is restricted to indoor use only when operating in the 5150 to 5350 MHz frequency range.



BE	BG	CZ	DK	DE
EE	IE	EL	ES	FR
HR	IT	CY	LV	LT
LU	HU	MT	NL	AT
PL	PT	RO	SI	SK
FI	SE	UK	TR	NO
CH	IS	LI		

## About this brochure

The photographs, graphics, icons, and illustrations provided in this manual are for illustrative purposes only and may differ from the actual product. This manual may be updated by FOTRIC without prior 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.

### Disclaimers

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, loss of business profits, loss of data or documentation.

To the maximum extent permitted by law, none of our liability will exceed the amount you paid for this 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 work of the product, information leakage and other problems caused by this, but will provide technical support for you in a timely manner.

Products can sense motion detection and fire events when properly installed and configured, but cannot prevent accidents or resulting personal injury or property damage.

Thermal imaging products are classified as export controlled by the U.S. Department of Commerce, Export Control Classification Number (ECCN) 6A003.b.4.b. This product contains a focal plane array, Export Control Classification Number 61002. a3.f. This product may not be used in controlled countries (e.g. North Korea, Iran, Syria, Cuba, Sudan, etc.) and should not be brought into or used in controlled countries. You will be responsible for any loss or liability arising from the above actions.

In using this product, you are requested to strictly comply with applicable laws. You agree that this product is for civilian use only and may 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 purposes such as mass destruction fog, biochemical weapons, nuclear explosions or any unsafe use of nuclear energy or dangerous or inhumane uses. 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 email: [info@fotric.com](mailto:info@fotric.com)

FOTRIC website: [www.fotric.com](http://www.fotric.com)