FOTRIC

CONNECTING THE DIGITAL FUTURE

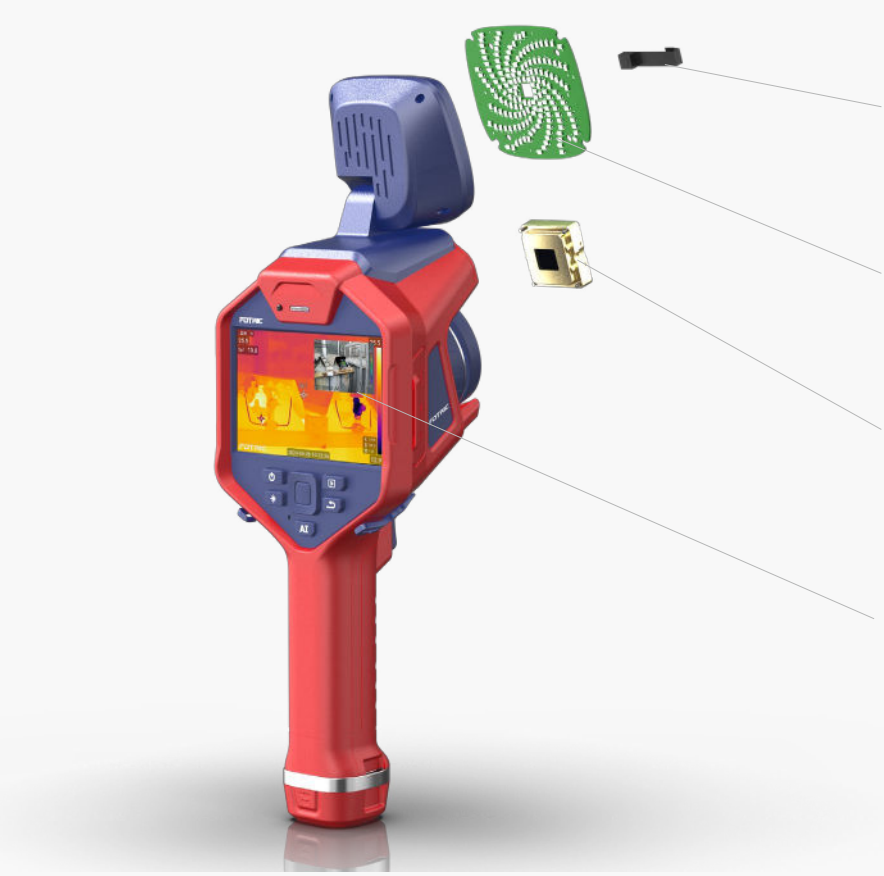
A Symphony of Sight and Sound

Where Professional Thermal Imaging Meets Professional Acoustic Technology

FOTRIC V MiX

Acoutherm Camera

World Class Components



13MP Industrial Digital Camera

Ensures superior image quality in industrial environment

162 MEMS Digital Microphone

Ultra-high sensitivity, rendering amazingly detailed imaging

640x480 Resolution Infrared Sensor

Impeccable image quality, accurate measurement, extraordinary stability

5 Inch IPS LCD Touch Screen

Brings unparallel clarity and durability

Two-in-one Design

2 professional capabilities, weigh less than 1.5 kg

MiX Mode

Present thermal and acoustic signal on the same interface. Gain the insight of both worlds.

IP54 Protection

Compatible with OGI HR Lens

SF_6 Gas

NH_3 Gas

- FOV: 25° x 19°
- Spectral Range: 10μm~10.8μm
- Temperature range: -20~150°C , 0~700°C
- Other Detectable Gases: Ethylene , Vinyl chloride , Methyl vinyl ketone, Acrylonitrile

Professional Thermal Imaging

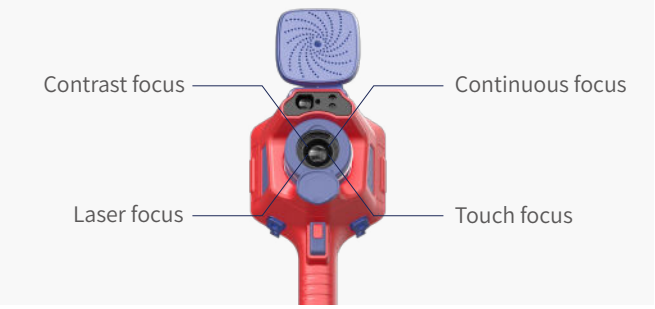
Accurate Measurement (NemoTAP Platform)

±2°C or ±2%
Accuracy

⩽ 0.5°C
Image Uniformity

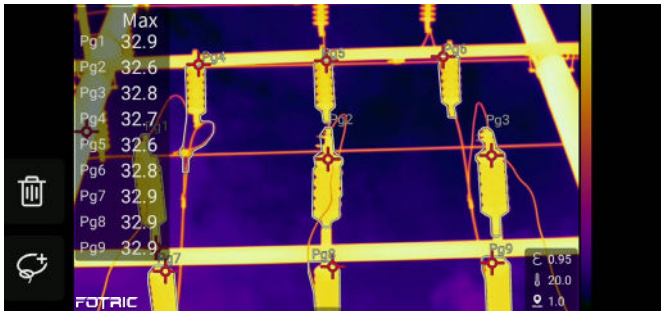
< 0.5°C
Thermal Stability

Exceptional Image Quality



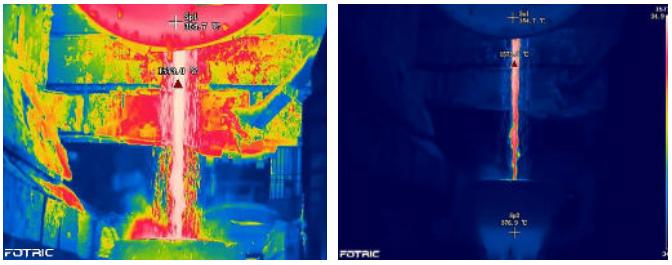
TurboFocus® Intelligent Focusing System

A rich and practical set of focusing methods brings out flawless inspection experience.



MagicThermal® Feature

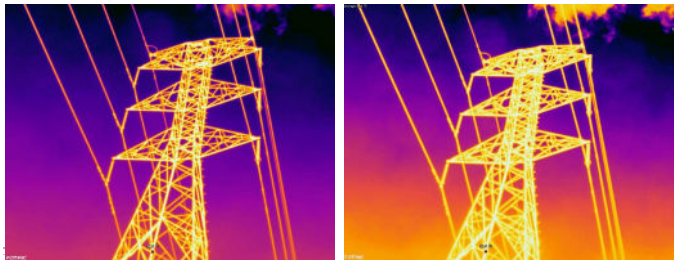
A.I. automatically recognizes feature object and create ROI to outline its contour.



On Off

T-TWB® Histogram Temperature Representation

Magnifies subtle differences even at broad temperature range.



On Off

IREdge® Contour Detail Enhancement

Enhances image layering and enrich details.

Professional Acoustic Imaging

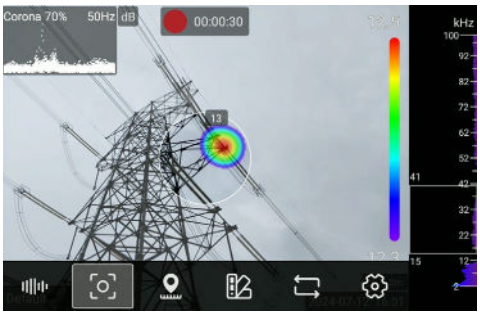
Frequency Range

2kHz-100kHz

2 Professional Detection Mode

Leak&PD mode

Leak evaluation. Partial discharge diagnosis.



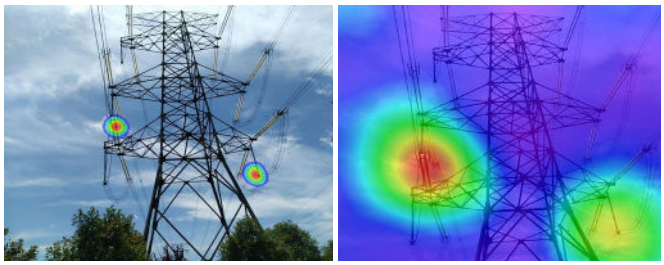
Acoustic Focus

Focus on area of interest, screening out noise interference.

On Off

T-FFTD Signal Delay

Aids finding intermittent leak, PD and vibration signals on-site.



Multi source mode Hologram mode

Signal Source Mode Selection

Single source mode, multi source mode, hologram mode

On Off

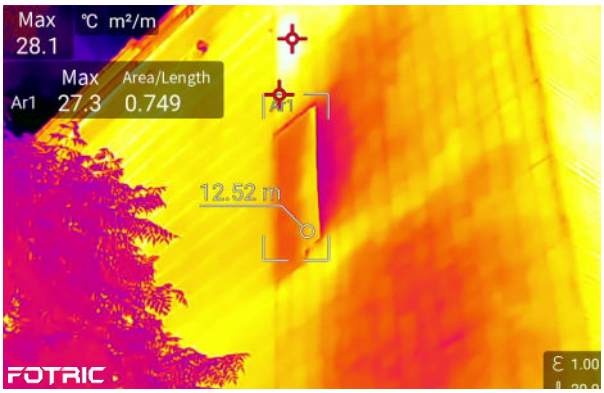
Gray Scale

Enhance signal clarity against background glare and distractions

Practical Features

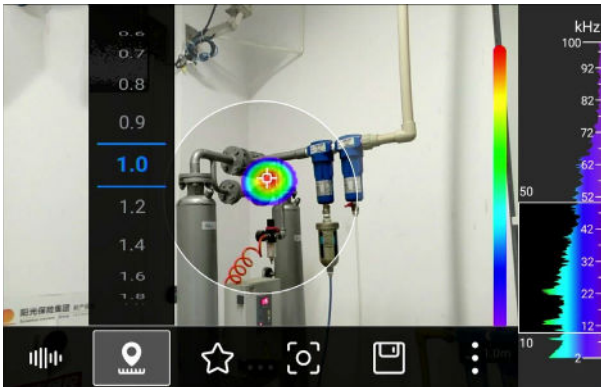
Built-in A.I. Assistant

NaviPdM A.I. system offers streamlined asset creation, data transcription and report generation process, ensures the quality and efficiency of the user's inspection.



On-device Analysis

Powerful analytical capability (infrared image, radiometric video, acoustic image).



Versatile Laser Ranger

Laser pointer, laser focus, laser distance & area measurement.

Prolonged Sustainability

3 batteries that supply up to 12 hours of total operation time.

Multitude of Data Transmission Method

SD card, USB, FTP, WiFi, Bluetooth, HDMI.

Professional Software

AnalyzIR® Venus

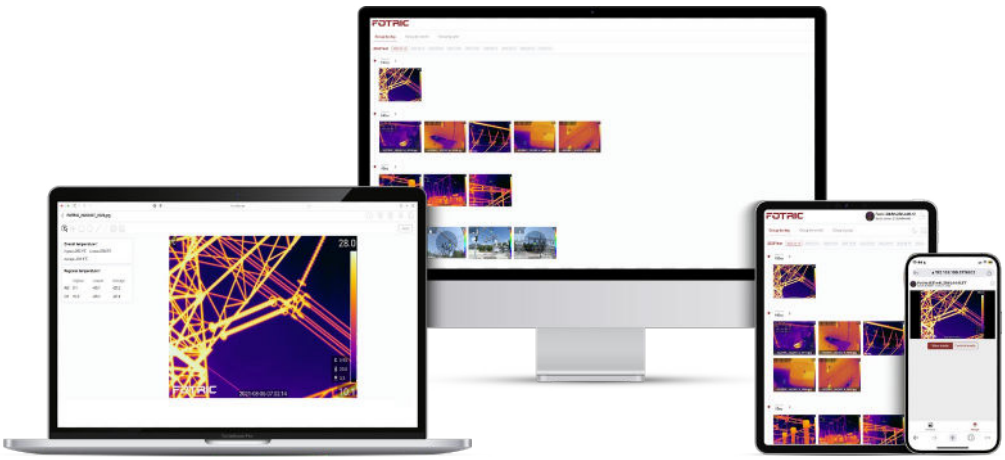
FOTRIC developed AnalyzIR software to distinctively analyze images, videos and other data captured by multiple series of products including thermal cameras, acoustic cameras, and acoutherm imaging devices.

We continually upgrade and enhance our specialized software, responding to valuable user feedback and the increasing demand for precision technology. AnalyzIR has become an invaluable tool for FOTRIC's industrial and research users.

One-click generation of professional reports

IRexplorer ™

- Remote control via WiFi or Self-equipped Hotspot
- No need for installation
- Across any platform Windows Linux MacOS/IOS Android
- Access and edit thermal files



Specifications

Model	V7MiX	V5MiX
Acoutherm Specification		
Unique Features		
Mix Mode	Display thermal imaging and acoustic signals on the same interface	
NaviPdM®	Support, AI inspection assistant	
IRExplorer ™	Support, cross-platform remote control and data transfer	
T-DEF®	Support, thermal and visible light image blend, transparency 0% ~100%	
T-TWB®	Support, tempetrature visual representation normalization	
IREdge	Support, contour detail enhancement	
MagicThermal®	AI-based auto-recognition and feature contour mark up.	
Thermal Imaging Parameters		
Infrared Resolution	640*480	384*288
Super Resolution	1280*960	768*576
Detector Type	Uncooled infrared focal plane detector	Uncooled infrared focal plane detector
Thermal Sensitivity (NETD)	<30mK@30° C(86 °F)	<40mK@30° C(86 °F)
Detectable Gas	(Equipped with HR lens) sulfur hexafluoride, ammonia, ethylene, vinyl chloride, methyl vinyl ketone, acrylonitrile	Not supported
Detector Pitch	17μm	17μm
Spectral Range	7~14μm	7~14μm
Frame Rate	30Hz	30Hz
Field of View (FOV)	25° *19°	25° *19°
Spatial Resolution (IFOV)	0.68 mrad	1.14 mrad
Minimum Focus Distance	0.25m	0.1m
Focal Length	25mm	15mm
Focus Mode	TurboFocus® system (thermal contrast AF, laser-assisted AF, continuous AF, touch AF); Manual	
Acoustic Imaging Parameters		
Microphone Channels	162 MEMS digital microphone	140 MEMS digital microphone
Acoustic Image FOV	66° *52°	66° *52°
Sound Pressure Sensitivity	0.01L/min@0.1MPa，1.5m，ϕ30μm leakage 0.025L/min@0.3MPa，6.5m，ϕ30μm leakage 0.045L/min@0.3MPa，7.5m，ϕ40μm leakage	0.01L/min@0.1MPa，1.4m，ϕ30μm leakage 0.025L/min@0.3MPa，6.5m，ϕ30μm leakage 0.045L/min@0.3MPa，7.5m，ϕ40μm leakage
Acoustic Sampling Rate	200kHz	
Acoustic Refresh Rate	25Hz	
Working Distance	0.3~100m	
Thermal Specification		
Temperature Analysis		
Temperature Range	-20~120°C (-4~248 °F)，0~650°C (32~1202 °F)，Intelligent range	
Temperature Extension	Support extension: Highest to 1550° C(2822 °F).	

Specifications

Measurement Accuracy	± 2°C (3.6 °F)or ± 2 %, whichever is greater.	
Measurement Spot	12	12
Measurement Line	6	3
Measurement Area	12	12
Line Temperature Distribution	Support checking line temperature distribution	
Measurement Parameters	Emissivity, Reflected temperature, Ambient temperature, Humidity, Distance and IR window compensation.	
Local Emissivity	Support changing emissivity for individual measurement tool.	
Area Alarm	Area alarm; High temperature alarm and low temperature alarm.	
Delta T/Temperature Rise	Support	
On Device Analysis	Support analyzing radiometric images and videos.	
PC Software	AnalyzIR®	
Thermal Imaging Display		
Image Mode	Thermal\Digital\PIP\T-DEF® blend\High sensitivity	
High Sensitivity	Only available when the lens registers as HR gas detection lens.	
Palette	16 standard palettes	
Inverted Palettes	16	
Color Alarm	High temperature, low temperature, and interval isotherms.	
Image Overlay	Display global max, min, avg and measurement parameters.	
High/Low Temperature Tracking	Yes, for both global and regional.	
Digital Zoom	1~12x, continuous	1~8x, continuous
Acoustic Specification		
Acoustic Measurement Analysis		
Frequency Range	2~100kHz	
Frequency Range Selection	Support preset frequency range for different scenarios for later selection; Support manual adjustment for frequency range.	
Measurement Spot	2	
Measurement Area	2	
Detection Mode	LQ Mode: Displays the leakage level; PD Mode: Displays a PRPD diagram, adapted to different AC frequencies (50/60Hz).	
Acoustic Image Focus	Masks the surrounding area and focuses only on a selected part of the acoustic image.	
On-device Analysis	The device can directly analyse acoustic images and holographic acoustic videos.	
Analysis Software	AnalyzIR professional thermal and acoustic image analysis software.	
Leak Evaluation	Automatic identification of leakage points, automatic evaluation of leakage and annual energy costs.	
Partial Discharge Diagnostics	Automatic diagnosis of discharge types such as surface, floating and tip (corona) discharges.	
Display Screen	5", 1280*720 pixels, LCD touchscreen display with Gorilla Anti-Explosion screen.	
Acoustic Imaging Display		
Image Mode	Single, Multi, Hologram	
Palette	Support 3 palettes: Red-Blue, Iron, Grey. Supports transparency adjustment.	
Gray-scale Background	Displayed as a digital image in black and white grey scale	

Specifications

Information Overlay	Displays results of leak evaluation; Displays diagnostic results for type of partial discharge.
Sound Pressure Tracking	Special marker tracking the maximum sound pressure spot.
T-FFTD®	Capture instantaneous sound signals and make it stay longer in real-time audio and video images.
Digital Zoom	1~8x, continuous
General Specification	
Capture Features	
Digital Camera	Thermal: 13 megapixel, industrial grade digital camera; Acoustic: 13 megapixel, industrial-grade digital camera.
Storage Card	SD card, hot-swappable, supports up to 1TB
Image Format	JPG (radiometric thermal image), JPEG (holographic acoustic image), JPG (visible light image)
Video Format	IRS or IRSX (radiometric video), ACS (holographic acoustic video), MP4
Freeze Image	Supports single frame capture, full radiometric video and holographic sound video recording.
QR Code	QR codes and bar codes can be scanned as tag annotations
Annotations	Voice Annotation, Text Annotation, Tags, Favorite
Gallery	Supports viewing, editing, and deleting already recorded images and video files.
Data Connection	
WiFi	Support 2.4GHz&5GH channel，Support 802.11a/b/g/n/ac
Bluetooth	Support
USB	USB Type-C type；USB 3.0 / 2.0 compliant，Support USB OTG.
HDMI	Micro HDMI type，HDMI 1.4 compliant, Support 1080P imaging video streaming in 60Hz.
FTP Data Transfer	Connect to the device via WiFi network or the device's own WiFi hotspot, and then access the data in the device via FTP.
PC Radiometric Video Analysis	Real time radiometric video analysis through AnalayzIR
Remote Access	Connect to AnalyzIR via USB Type-C port to view full radiometric video streams, and via HDMI HD port to connect to a display or projector.
Remote Control	
Mobile Access	Via IRExplorer
Webpage Access	Via IRExplorer
Auxiliary Features	
Software and Firmware Upgrade	Support on OTA upgrade and local upgrade through USB
Ultrasound Conversion	Converting the inaudible sound of ultrasound into audible sound in real time.
Laser	Independent key activation; Laser level: 2; Wavelength: 635nm; Power: <1mW; Laser distance: 0.1~50m, Accuracy: d*0.01%±2mm.
Laser-assisted Area Measurement	Support
Real-time Distance Measurement	Real-time calculation of the distance to the sound source from the incoming sound signal of the acoustic sensor.
Headphones	Real-time monitoring of incoming sound signals from acoustic sensors via Bluetooth headset.

Specifications

GPS	Support BeiDou/GPS/GLONASS satellite positioning, location information can be saved to thermal image, acoustic image, full radiation video and holographic acoustic video.
Compass	Supports 360° orientation and orientation information can be saved to thermal and acoustic images, radiometric and holographic videos.
LED Flash Lamp	Supports torch illumination and flash light mode
Power System	
Battery	7.4V, 3500mAh rechargeable lithium battery, field replaceable.
Battery Operation Time	Continuous work ⩾ 2.5h （depends on the environment and work load）
Charging Method	Support charging dock, and USB direct charging.
Battery Charging Time	Charge to 90% in 2.5 hours.
Energy Management	Automatically screen rest time and shut down.
External Power Source	Support using DC 12V to power the device.
Reliability and Certificates	
Safety	EN 61010-1
EMC Compatibility	EN IEC 61326-1
Enclosure Rating	IP54
Shock	25g(IEC 60068-2-27:2008)
Vibration	2g(IEC 60068-2-6:1995)
RoHS Compliant	Compliant
Physical Parameters	
Operating Temperature	-20~50°C (-4~122 °F)
Storage Temperature	-40~70°C (-40~158 °F) without battery
Relative Humidity	<95%RH
Dimension (mm)	354mm*141mm*123mm
Weight (include battery)	1.3kg（without lens）
Battery Weight	150g
Casing Material	Hard plastic: PC+ABS, Soft plastic: TPE, Magnesium alloy, Aluminum alloy
Mounting Method	Support UNC 1/4-20 interface for tripod connection
Warranty	
Warranty	2 years.
Recommended Calibration Interval	2 years for thermal camera; 1 year for acoustic camera.
Language	
Languages	English, Spanish, German, Traditional Chinese, Korean, Italian, Portuguese
Configurations	
Packaging	FOTRIC acoutherm camera， Lens, Lens cap, Charging dock, USB to USB-C cable, Micro HDIM to HDMI cable, Documents(certificate of quality, certificate of calibration, warranty card, packing list), Quick start manual,SD card, SD card reader, Power adaptor, 3 pieces of rechargeable lithium battery, Softbag, Hard carrying case.

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