

High-end Product Catalog



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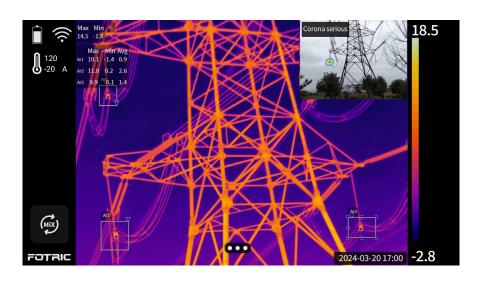




## MiX Mode: Approach a Problem from **Different Perspectives**

The MiX mode of the FOTRIC acoustic-thermal imaging device introduces a novel diagnostic approach tailored to real-world scenarios. During the inspection process, the device's 5-inch LCD screen simultaneously displays real-time thermal and acoustic images.

In MiX mode, the thermal distribution and acoustic patterns of the device under test appear simultaneously, enabling comprehensive and accurate analysis of equipment faults from multiple perspectives. This enhances inspection efficiency and quality.





## IR Mode: Meticulous Measurement, Flawless Imaging

#### > Up to 640x480 thermal resolution & IREdge image detail enhancement

Provides clear thermal gradients for easy analysis and preserves thermal details to highlight object contour.

#### > A wealth of selectable lenses

Single view lenses: 46°, 25°, 12°, 7° Dual-view lenses: 25°&12°, 25°&7°

#### > TurboFocus® smart focusing

Ensures image clarity at any distance and any position, laying a solid foundation for AI recognition.

#### > MagicThermal®

Al-based auto-recognition and feature contour mark up.

## **AC Mode: Al-empowered Acoustic Detection**

162 **1.3MP** 

MEMS digital microphones Digital camera

#### **Leak Evaluation**

Leak level, leak rate, leak cost

#### **Partial Discharge Diagnosis**

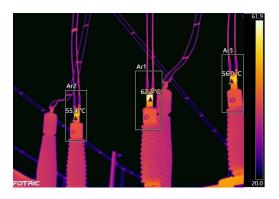
Automatically identify surface, floating and corona discharge.

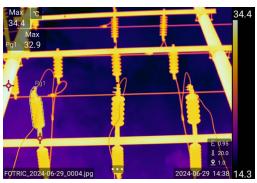
#### **Filter Mode**

Narrow the focus of the camera to an isolated area, screening out unwanted noise.

#### Signal Delay Mode(T-FFTD®)

Extrapolate intermittent signals to enhance camera detectability.









# **Specifications of P-MiX**

Model	P7MiX	P5MiX		
Thermal Imaging Parameter	S			
Infrared Resolution	640x480	384x288		
Super Resolution	1280x960	768x576		
Thermal Sensitivity (NETD)	<30mK@30°C (86 °F )	<40mK@30°C (86 °F )		
Frame Rate	30Hz	30Hz		
Field of View (FOV)	25° x 19°	25° x 19°		
Spatial Resolution (IFOV)	0.68 mrad	1.14 mrad		
Focus Mode	TurboFocus® system (thermal contrast AF, laser-assisted AF, continuous AF, touch AF); Manual.			
Temperature Analysis				
Temperature Range	-20°C ~120°C (-4 °F ~248 °F ), 0°C ~650	0°C (32 °F ∼1202 °F ), Intelligent range.		
Measurement Accuracy	$\pm$ 1°C (1.8 °F ) or $\pm$ 1 %, whichever is greater (ambient temp at 25°C (77 °F ) , temperature range 0°C -100°C (32 °F ~212 °F )), $\pm$ 2°C or $\pm$ 2 % for other temperature range.			
On Device Analysis	Support analyzing radiometric images and videos.			
PC Software	AnalyzIR®, NaviPdM®			
Thermal Imaging Display				
Image Mode	Thermal\Digital\PIP\T-DEF® blend			
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	1~16x, continuous			
Acoutherm Features				
Mix Mode		istic signals on the same interface.		
Acoustic Imaging Parameter				
Microphone Channels	162 MEMS digital microphones	140 MEMS digital microphones		
Acoustic Image FOV	66°>			
Acoustic Sampling Rate	200kHz			
Working Distance	0.3~100m			
Acoustic Measurement Analy				
Frequency Range	2~ 100kHz			
Frequency Range Selection	Support preset frequency range for different scenarios for later selection; Support manual adjustment for frequency range.			
Detection Mode	LQ Mode: Displays the leakage level; PD Mode: Displays a PRPD diagram, adapted to different AC frequencies (50/60Hz).			
<b>Default Detection Mode</b>	LQ Detection Mode			
AC Frequency	Selectable between 50 and 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.			

# **Specifications of P-MiX**

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.	
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.	
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	1~10x, continuous	
Unique Features		
MagicThermal <sup>®</sup>	Al-based auto-recognition and feature contour mark up.	
Warranty		
Warranty	2 years.	
Recommended Calibration Interval	2 years for thermal camera; 1 year for acoustic camera.	



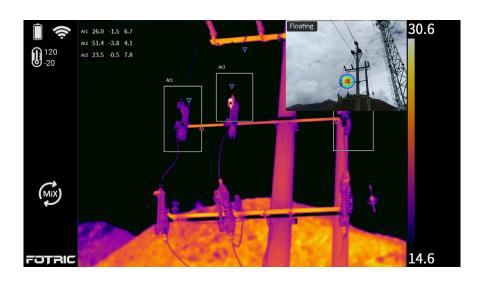
# MiX Mode: Approach a Problem from **Different Perspectives**

IR resolution

Professional Thermal + Professional Acoustic

The MiX mode of the FOTRIC acoustic-thermal imaging device introduces a novel diagnostic approach tailored to real-world scenarios. During the inspection process, the device's 5-inch LCD screen simultaneously displays real-time thermal and acoustic images.

In MiX mode, the thermal distribution and acoustic patterns of the device under test appear simultaneously, enabling comprehensive and accurate analysis of equipment faults from multiple perspectives. This enhances inspection efficiency and quality.





Accuracy

**MEMS Microphones** 

### **Optional OGI Lens**

- SF<sub>6</sub> Gas
- NH<sub>3</sub> Gas
- FOV: 25° x 19°
- Spectral Range: 10μm~10.8μm
- Temperature range:

-20°C ~150°C (-4 °F ~302 °F ) , 0°C ~700°C (32 °F ~1292 °F )

• Other Detectable Gases: Ethylene, Vinyl chloride, Methyl vinyl ketone, Acrylonitrile

### Professional level of analysis infrared and acoustic

#### > Up to 640x480 thermal resolution & IREdge image detail enhancement

Provides clear thermal gradients for easy analysis and preserves thermal details to highlight object contour.

#### > TurboFocus® smart focusing

Ensures image clarity at any distance and any position, laying a solid foundation for AI recognition.

#### > MagicThermal®

Al-based auto-recognition and feature contour mark up.

#### > Leak Evaluation

Leak level, leak rate, leak cost

#### > Partial Discharge Diagnosis

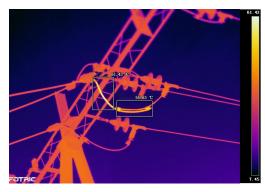
Automatically identify surface, floating and corona discharge.



SF<sub>6</sub> Gas



NH<sub>3</sub> Gas





# **Specifications of V-MiX**

Model	V7MiX	V5MiX		
Thermal Imaging Parameter	S			
Infrared Resolution	640x480	384x288		
Super Resolution	1280x960	768x576		
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		
Field of View (FOV)	25° x 19°	25° x 19°		
Spatial Resolution (IFOV)	0.68 mrad	1.14 mrad		
Focus Mode	TurboFocus® system (thermal contrast AF, laser-assisted AF, continuous AF, touch AF); Manual.			
Temperature Analysis				
Temperature Range	-20°C ~120°C (-4 °F ~248 °F ),0°C ~650	0°C (32 °F ∼1202 °F ),Intelligent range		
Measurement Accuracy	$\pm$ 2°C (3.6 °F )or $\pm$ 2 %, whichever is greater.			
On Device Analysis	Support analyzing radiometric images and videos.			
PC Software	AnalyzIR®, NaviPdM®			
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.			
Minimum Temperature Span	Auto (Minimum Temp Span 3°C (5.4 °F )), Manual (Minimum Temp Span 2°C (3.6 °F )), Touch-screen(Minimum Temp Span 2°C (3.6 °F ).			
Color Alarm	High temperature, low temperature, and interval isotherms.			
Image Overlay	Display global max, min, avg and measurement parameters.			
Digital Zoom	1~12x, continuous 1~18x, continuous			
Acoutherm Features				
Mix Mode	Display thermal imaging and acoustic signals on the same interface.			
<b>Acoustic Imaging Parameter</b>	S			
Microphone Channels	162 MEMS digital microphones	140 MEMS digital microphones		
Acoustic Image FOV	66° x 52° 66° x 52°			
Acoustic Sampling Rate	200kHz			
Working Distance	0.3~100m			
Acoustic Measurement Analy	ysis			
Frequency Range	2~100kHz			
Frequency Range Selection	manual adjustment for frequency range.			
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.			
Leak Evaluation	Automatic identification of leakage points, automatic evaluation of leakage and annual energy costs.			

# **Specifications of V-MiX**

Partial Discharge Diagnostics	Automatic diagnosis of discharge types such as surface, floating and tip (corona) discharges.	
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.	
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	
Unique features		
MagicThermal®	Al-based auto-recognition and feature contour mark up.	
Warranty		
Warranty	2 years.	
Recommended Calibration Interval	2 years for thermal camera; 1 year for acoustic camera.	



### State of the Art Inspection System-NaviPdM®

- Asset component A.I. tracking
- Temperature trending
- Automated diagnostics
- Automated camera set-up
- Multiple inspection routes
- QR code scanner for asset identification and camera set-up
- On-device report generation

## **Built on National Standards, Trusted by Experts**

Use international standards or your site standards for assetspecific on-device alarms.



NaviPdM on-device ROI-based alarms

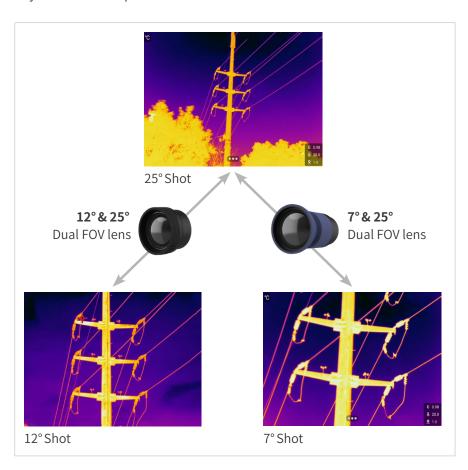


Example of on-device Trending

### **Meticulously Designed Hardware**

#### > One Lens to See them All

Eliminate the need to carry and change an extra lens, saving both your time and space.





## **Powerful Software-IRExplorer**

Brings untrammeled communication.

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





**Temperature Range** 

**Cutting-Edge Image Algorithms** 

FOTRIC's imaging enhancement algorithms, such as TWB and IREdge, enable prominent image representation in complex environments.

Thermal Sensitivity

#### > IREdge function

**IR Resolution** 

The IRedge function strengthens the visual impact of object contour and edges to help users distinguish them from the background.

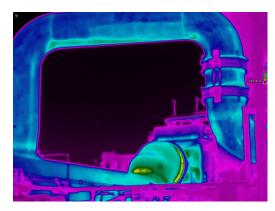
#### > TWB® function

TWB essentially re-scales the palette ribbon based on the number of pixels in representing each temperature range. Consequently, the temperature distribution of the entire image is more clearly laid out for the inspector.

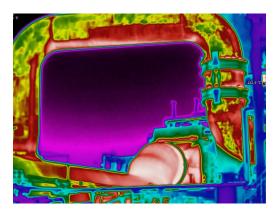
### **Extraordinary Performance**

Reveal miniscule thermal difference at any temperature range.

- Hand work eased like never before with programmable AI Quick-Access button.
- Turbo-Focus® system enables swift and meticulous measurements.
- Android-powered system, enables swift function upgrades.



**TWB OFF** 



TWB ON

### **Unparallel Accuracy**

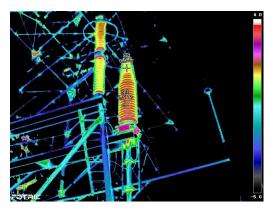
- 0.03mk thermal sensitivity reveals thermal anomalies with unprecedented clarity.
- 0.5°C image uniformity enables accurate measurement on every pixel.

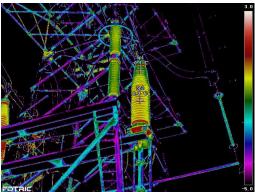
### **Exceptional Field Work**

FOTRIC's fine-tuned new series is equipped to help you thrive in the toughest environments.

Inspectors need to deal with objects far and near, large and small. And that's what FOTRIC products can accommodate. FOTRIC V series cameras come with interchangeable 44°, 25°, 12°, 7° and HR25 SF6-detecting lenses, making sure the owner can accurately acquire object's condition and temperature at any distance.

- Professional laser meter for distance and area measurement.
- Full-range radiometric video for post-analysis.
- Voice annotation via Bluetooth Headset.
- QR-code scan to save in Tags, for auto-naming of files.
- Oustanding battery performance for extended work sessions.







Interchangeable lens



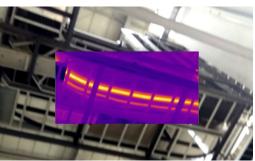
### Reliable from the inside-out

- Assembled with world-class components-Lynred sensor, Qualcomm chips, Texas Instrument FPGA.
- Up to one day shift of combined battery life makes it the perfect companion for long shifts.
- IP54 enclosure rating, 2 meters-drop tested. Highly durable against common field environment.

### **Wide Coverage of Applications**

- Compact size and professional power
  - 730g camera that fits comfortably in the pocket
  - Radiometric video recording capability, making sure no spot left unchecked.
- More alternatives on working distances
  - Assess electrical targets with 25° lens.
  - Work in confined spaces or fit larger targets with 49° & 46° wide-angle lens.







# **More Intuitive Inspections**

- AI button allows instant access to frequently used features.
- Total focus control:
  - Achieve sharper details by easily switching from focus-free to manual focus.
  - Get as close as 0.1 m from targets to capture more details





## **Slection Guide**







Specifications		Premium		Adva	nced	Com	pact
Model	P9	P7	P5	V7	V5	C5	C2
Infrared Resolution	1280x1024	640x480	384x288	640x480	384x288	384x288	160x120
Super Resolution		Yes		Υ	es	Yes	Yes
Remote Control Function		Yes		Υ	es	Yes	Yes
Thermal Sensitivity(NETD)	< 0.03°C (30ml	x)@30°C (86 °F )	< 0.04°C (40mk)@30°C (86 °F )	< 0.03°C (30mk)@30°C (86 °F )	< 0.04°C (40mk)@30°C (86 °F)	< 0.04°C (40mk)@30°C (86 °F)	< 0.05°C (50mk)@30°C (86 °F )
Accuracy	(77 °F), temperature range	er is greater (ambient temp at 25°C 0°C -100°C (32 °F ~212 °F )), her temperature range	±2°C or 2%, whichever is greater (at 25°C ambient temperature)		nichever is greater nt temperature)	±2°C or 2%, wh (at 25°C ambie	ichever is greater nt temperature)
Temperature Range	-20°C ~ 120°C 0°C ~ 700°C (3	(-4°F to 248°F),	-20°C ~ 120°C (-4°F to 248°F), 0°C ~ 700°C (32°F to 1292°F), 300°C ~ 1550°C (572°F to 2822°F)	-20°C ~ 1550°C	(-4°F to 2822°F)	-20°C ~ 120°C,0°C ~ 650°C (-4°F ~ 248°F,32°F ~ 1202°F)	-20°C ~ 120°C,0°C ~ 550°C (-4°F ~ 248°F,32°F ~ 1022°F)
Field of View(FOV)	25° x 19°		25° x 19°		49° x 37°	46° x 35°	
Focus Mode	Manu	al focus+ thermal contrast/laser-assis Continuous AF; Touch AF	ted AF;		ontrast/laser-assisted AF; AF; Touch AF	Focus free+Manual focus	Manual focus
Alternative Lenses	46°; 12°; 7°	46°; 12°; 7°; 25°/12° dual-view lens; 25°/7° dual-view lens	46°; 15°; 7° 25°/12° dual-view lens	44°;1	2°;7°		
Display	5 inch		5 inch		3.5 inch		
ROIs	Spot: 30; Line: 30; Rectangle/Circle: 30	Spot: 25; Line: 25; Rectangle/ Circle: 25	Spot: 20; Line: 20; Rectangle/Circle: 20		; Line: 8 ; e/Circle: 12	Spot: 10; Line: 2; Rectangle/Circle: 8	Spot: 4; Line: 1; Rectangle/Circle: 4
On-Device Analysis	Yes		Yes		Yes		
Connectivity	USB to USB-C cable; HDMI to Micro HDMI cable; Bluetooth; WLAN; Hotspot; FTP Transfer; Web service(IRExplorer)						
Video Format	MP4; Radiometric		MP4; Radiometric		MP4; Radiometric		
Laser	Yes, as ranger and measurement tool		Yes, as ranger and measurement tool		Yes, as pointer		
Palettes		16 standard+16 inverted		16 standard	+16 inverted	8 Standard+8 Inverted	8 Standard
Storage Memory	SD card, 256 GB	SD card, 128 GB	SD card, 64 GB	SD card, 128 GB	SD card, 128 GB	TF card, 64 GB	TF card, 64 GB

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Microphone Channel

**Inches Spiral Array** 

Detection Range

PRPD Diagnosis Capability

### **Extraordinary Sensitivity & Detectability**

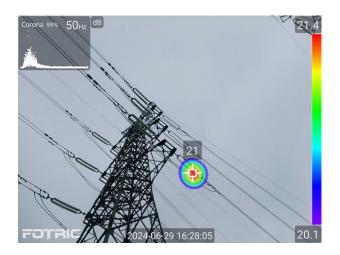
- Up to 162 MEMS Digital Microphones
- 6.6-inch Spiral Array Layout

### **Embrace Efficient Inspection in High-definition**

- Acoustic Image Field of View (FOV): 66° × 52°
- Industrial Digital Camera: 13 Megapixels

### **Capture Fleeting Signals**

Acoustic Signal Linger Mode (T-FFTD®)





## **Versatile Features for Different Applications**

- Leakage Cost Evaluation
- Partial Discharge Diagnosis

# **Double High-illumination LED light**

• Ensures operation safety in dark environment



## **Gas Leakage Applications**







# **Partial Discharge Applications**







# **Specifications of H series**

Models	H6	H4		
Acoustic Imaging Parameters				
Microphone Channels	162 MEMS digital microphones	112 MEMS digital microphones		
Acoustic Image FOV	66° × 52°			
Working Distance	1~656 ft (0.3~200m)			
Acoustic Measuremen	t Analysis			
Frequency Range	2~100kHz			
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 on	, ,		
On-device Analysis	The device can directly a	j		
Analysis Software	AnalyzIR professional thermal and	9 ,		
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.			
<b>Acoustic Imaging Disp</b>	lay			
Display Screen	5", 1280x720 pixels, LCD touchscreen display			
Single Source Mode	Overlay the acoustic image of the strongest sound pressure area on the digital camera image.			
Multi Source Mode	Overlay the acoustic image of multiple strong sound pressure area on the digital camera image.			
Hologram Mode	Adjust the sound pressure threshold to overlay the acoustic image of the area above the threshold on the digital camera image.			
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.			
T-FFTD®	Capture instantaneous sound signals and make it stay longer in real-time audio and video images.			
Digital Zoom	1~10x, continuous			
Capture Features				
Digital Camera	13 megapixel, industrial-grade digital camera			
Storage Card	SD card, hot-swappable, supports up to 1TB			
Single Frame Capture	Support			
Image Format	JPEG (holographic acoustic image)			
Video Format	MP4			
Gallery	Supports viewing, editing, and deleting already recorded images and video files.			
Data Connection				
FTP Data Transfer	Connect to the device via WiFi network or the c data in the de			
Remote Access	Via HDMI HD port to conne	ct to a display or projector.		

# **Specifications of H series**

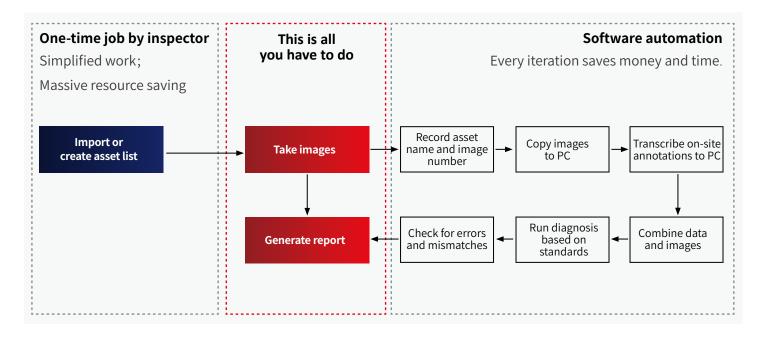
Auxiliary Features		
Real-time Distance Measurement	Real-time calculation of the distance to the sound source from the incoming sound signal of the acoustic sensor.	
Headphones	Real-time monitoring of incoming sound signals from acoustic sensors via Bluetooth headset.	
LED Flash Lamp	Supports torch illumination and flash light mode.	
Power System		
Battery	7.4V, 3500m rechargeable lithium battery, field replaceable.	
Battery Operation Time	Continuous work ≥ 4h (depends on the environment and work load)	
Physical Parameters		
Operating Temperature	-20~50°C	
<b>Storage Temperature</b>	-40~70°C without battery	
<b>Relative Humidity</b>	<95%RH	
Dimension (mm)	175mm*151mm*95mm	
Weight (incl. battery)	1.3kg	
Battery Weight	150g	
Warranty		
Warranty	2 years	
Recommended Calibration Interval	2 years	



# **Boost Efficiency with Al-powered Automation**

Approximately 90% of inspectors' time during inspections is squandered on repetitive logistical tasks. 'NaviPdM®' will handle those, allowing you to focus on what truly requires your expertise.





## **AI-powered Asset Recognition & Diagnosis**

#### > Asset recognition

- A.I. algorithm on the camera recognizes and tracks previously inspected components with measurement boxes.
- The QR code assisted archive system registers and identifies assets.

#### > Auto-diagnosis

- NaviPdM® automatically run diagnosis on-device based on user-selected standards such as Delta-T or absolute temperature.
- It keeps a dynamic trend graph of the asset's temperature that makes predictive maintenance easy and intuitive.



Ordinary thermal camera



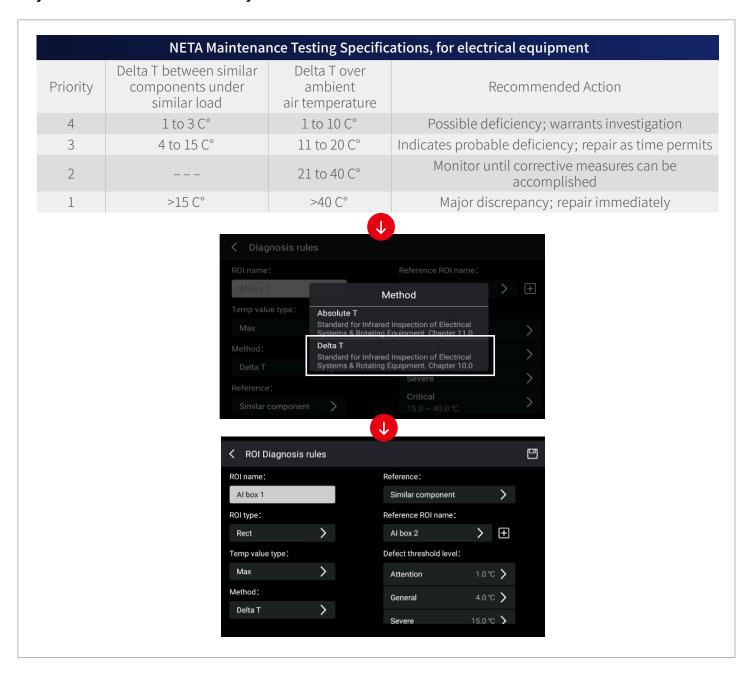
FOTRIC NaviPdM®



## **Built on National Standards, Trusted by Experts**

You could painstakingly compare the temperature differences in hundreds of thermal images and assign diagnoses following standards such as NFPA 70B or NETA Specifications or any other nation's standards.

#### Or you could let NaviPdM® do it for you.





### **Company Introduction**

FOTRIC Inc. is specializing in innovative thermal and acoustic sensing solutions for a wide range of industrial safety applications. Serving over 50 countries, our expertise extends to defect detection, condition monitoring, and safety assurance in sectors like manufacturing, chemical processing, metallurgy, electric utilities, oil & gas, and building infrastructure.

From our inception, precision in measurement and superior imaging technology have been our hallmarks. As a certified high-tech enterprise, FOTRIC adheres to stringent quality standards, evidenced by our ISO: 9001, FCC, CE, and KC certifications. Our leadership in the industrial safety equipment sector is marked by a commitment to continuous innovation, integrating advanced technologies for comprehensive safety solutions.

Underpinning our global presence is a robust distributor network across North America, Europe, Latin America, Southeast Asia, and other regions. This network ensures not only reliable sales channels but also sound technical support for our worldwide customers.

Embracing the motto 'Connecting the Digital Future', FOTRIC envisions a world where industrial safety is enhanced by smart, interconnected technologies. Our goal is to evolve continually, offering precise, datadriven tools that empower professionals to make informed decisions for safeguarding lives and livelihoods in the digital era.

