FOTRIC CONNECTING THE DIGITAL FUTURE	FOTRIC P7Mix AcouTherm Imager Specification
Thermal Imaging Parameters	
Infrared Resolution	640*480
Super Resolution	1280*960
Detector Type	Uncooled infrared focal plane detector
Thermal Sensitivity (NETD)	<30mK@30°C
Detector Pitch	17μm
Spectral Range	7~14μm
Frame Rate	30Hz
Field of View (FOV)	25°*19°
Spatial Resolution (IFOV)	0.68 mrad
Minimum Focus Distance	0.25m
Focal Length	25mm
Focus Mode	TurboFocus® system (thermal contrast AF, laser-assisted AF, continuous AF), Manual
Acoustic Imaging Parameters	
Microphone Channels	162 MEMS digital microphone
Acoustic Image FOV	66°*52°
Localization Error	<0.05m@1m，40kHz
Transverse Spatial Resolution	<0.45m@1m，40kHz
Main-Side Lobe Inhibition Ratio	>10dB@40kHz
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
Sound Pressure Measurement Range	10kHz：6~120dB SPL 15kHz：-3~120dB SPL 20kHz：-7~120dB SPL 25kHz：-13~120dB SPL 30kHz：-4~120dB SPL 35kHz：8~120dB SPL 40kHz：2~120dB SPL 45kHz：-2~120dB SPL 50kHz：-5~120dB SPL 55kHz：-2~120dB SPL 60kHz：3~120dB SPL 65kHz：2~120dB SPL 70kHz：8~120dB SPL 75kHz：7~120dB SPL
Acoustic Sampling Rate	200kHz
Acoustic Refresh Rate	25Hz
Working Distance	0.3~100m
Temperature Analysis	
Complete Temperature Range	-20~700℃
Temperature Range	-20~120℃，0~700℃，Intelligent range
Temperature Extension	Support extension: Lowest to -40℃; Highest to 2000℃.
Measurement Accuracy	± 1℃ or ± 1 %, whichever is greater (ambient temp at 25℃ , temperature range 0° C-100° C), ± 2℃ or ± 2 % for other temperature range
Measurement Spot	18
Measurement Line	15
Measurement Area	18
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® NaviPdM®
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.
Gain Mode	Noisy environment: Used in scenarios where there is interference from other sound sources. Quiet environment: Used in scenarios where there is no interference from other sound sources. The device amplifies weak sound signals to enhance detection sensitivity. Smart gain: The device automatically adjusts the size of the sound signal based on its characteristics.
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).
Default Detection Mode	LQ Detection Mode
Default AC Frequency	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.
Thermal Imaging Display	
Image Mode	Thermal\Digital\PIP\T-DEF® blend
Palette	16 standard palettes: Grey、Iron10、Iron、Rainbow、Grey10、GreyRed、MidGrey、Yellow、Rain、Rain10、Blue、GlowBow、Medical、Medical10、MidGreen、Prism.
Inverted Palettes	16
Minimum Temperature Span	Auto (Minimum Temp Span 3℃), Manual (Minimum Temp Span 2℃), Touch-screen(Minimum Temp Span 2℃.
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.
IREdge	Support thermal-based contour enhancement.
T-DEF®	Adjustable transparency 0% ~100%
PIP	Moveable and Resizable
T-TWB®	Tempetrature visual representation normalization option
Digital Zoom	1~16x, continuous
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 assessment; 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
Capture Features	
Digital Camera	Thermal: 5 megapixel, industrial grade digital camera; Acoustic: 13 megapixel, industrial-grade digital camera.
Storage Card	SD card, hot-swappable, supports up to 2TB
Single Frame Capture	Support

Time-lapse Capture	Set the time interval from 2 seconds to 1 hour to save the images of corresponding modes in thermal image mode (IR image, T-DEF®, Picture-in-Picture) and acoustic image mode (single-source, multi-source, holographic) at regular intervals.
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 (non-full radiometric video), MP4 (non-holographic acoustic video)
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
Voice Annotation	Record up to 120 seconds of voice to be saved in thermal image, acoustic image, radiometric and holographic video.
Text Annotation	Enter text via soft keyboard to save to thermal, acoustic, radiometric and holographic video.
Tags	Enter text via the soft keyboard to save to Thermal and Acoustic images, Radiometric and Holographic video, which can then be filtered by tags in the gallery.
Favorite	Click on the 'Favorite' button to save the Favorite status to Thermal, Acoustic images, Radiometric and Holographic video and highlight it in the gallery preview screen, then filter by 'Favorite' status in the gallery.
Radiometric Video	Supports the recording of radiometric video for analysis.
MP4 Recording	Support for non-radiometric, visible video recording (for viewing only, not for analysis).
Hologram Video Recording	Supports holographic video recording for analysis, up to 7 minutes in length.
Non-Hologram Video Recording	Supports non-holographic acoustic video recording (for viewing only, not for analysis).
Panorama	Not supported
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
TurboFocus®	TurboFocus® Speedy Intelligent Autofocus system for continuous, laser distance, thermal contrast,manual focus.
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.
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
Unique features	
MagicThermal®	AI-based auto-recognition and feature contour mark up.
Power System	
Battery	3.6V, 9900mAh 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 Managment	Automatically screen rest time.
External Power Source	Support using DC 12V to power the device.
Reliability and Certificates	
Safety	SELV(GB 4943.1-2011/IEC60950-1:2005)
EMC Compatibility	GB/T17626.2/IEC 61000-4-2
Enclosure Rating	IP40
Shock	25g(GB/T 2423.5-2019/IEC 60068-2-27:2008)
Vibration	2g(GB/T 2423.10-2008/IEC 60068-2-6:1995)
RoHS Compliant	Compliant
Physical Parameters	
Operating Temperature	-20~50℃
Storage Temperature	-40~70℃ without battery
Relative Humidity	<95%RH
Dimension (mm)	190mm*181mm*99mm
Weight (include battery)	1.6kg（without lens）
Battery Weight	210g
Casing Material	Hard plastic: PC+ABS, Soft plastic: TPE, Magnesium alloy, Aluminum alloy, Flame retardancy rating: UL94 HB
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
Configurations	
Standard Configuration	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, 2 pieces of rechargeable lithium battery, Softbag, Hard carrying case.