WiSono

Leader in Intelligent Detection Equipment

Tel: 020-3201 2106/+86 17386668802

Email: wisono@wisono.com

Website: www.wisono.com

Address: Room 501, Building 4, Floor 5, No. 12 Ruifa Road, Huangpu District, Guangzhou, China

WiSono

——Acoustic imaging detection, vibration and voiceprint monitoring series of instruments

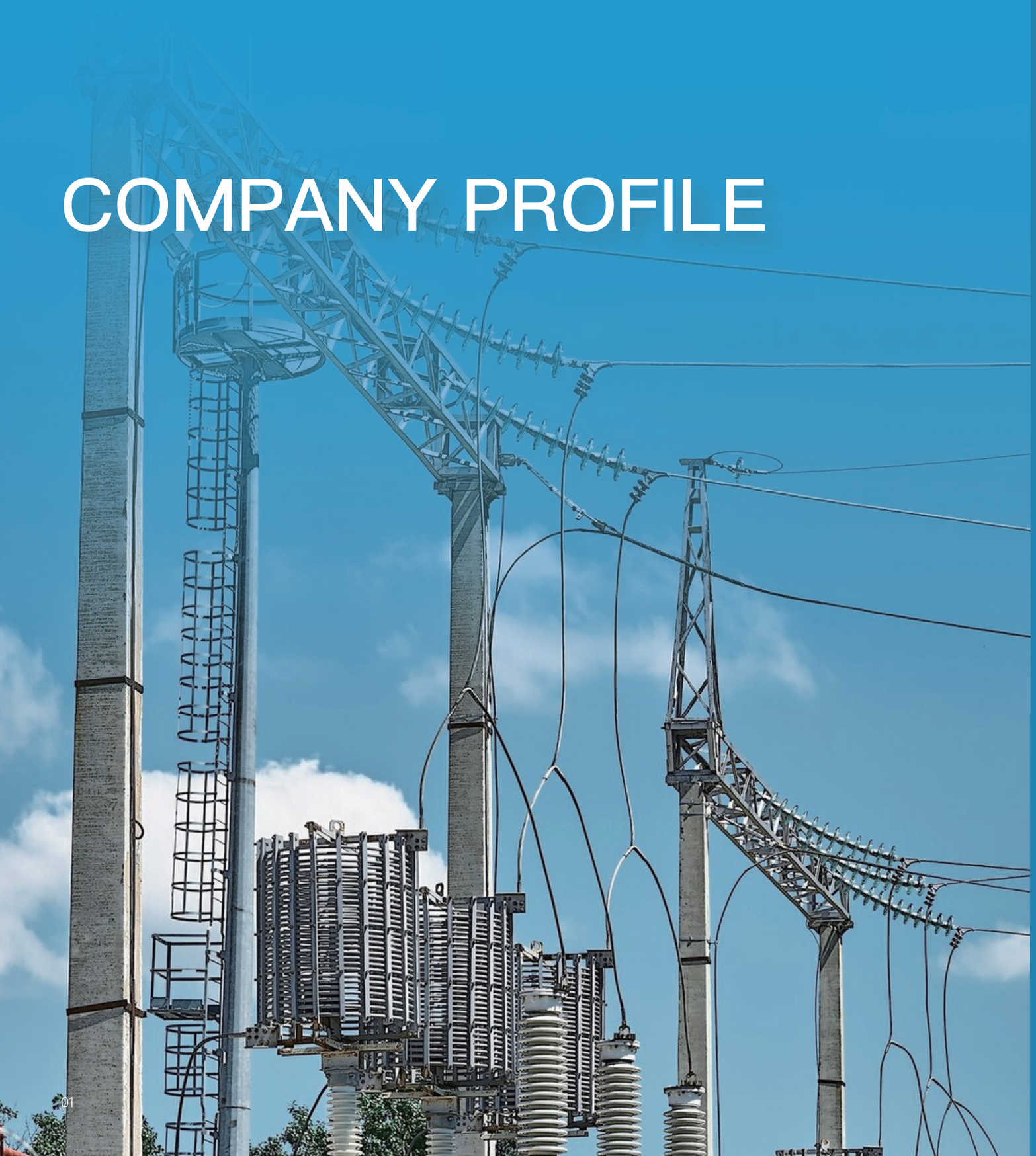
Product Catalogue

Follow the sound track, precise control

WiSono Technology Co., Ltd



COMPANY PROFILE



WiSono Technology Co., Ltd. is a high-tech enterprise driven by the dual engine of "technology+data" of physical acoustics, relying on the State Key Laboratory of "precision electronic manufacturing technology and equipment" to carry out product research and development. The company is committed to building an intelligent and comprehensive equipment status monitoring and management platform, helping users achieve the transformation and upgrading of detection and monitoring technology based on the Internet of Things and intelligent manufacturing. The registered capital of the company is 10 million yuan. The company was jointly founded by several professors who have mastered the world's cutting-edge acoustic technology, device manufacturing, and equipment research and development. It has gathered a group of young and dynamic engineering teams with strong technological innovation capabilities. The company currently has dozens of employees with bachelor's degrees or above, including 1 professor, 2 associate professors, and 4 PhDs.

The system solutions and products for the analysis and application of ultrasonic mechanical effects are the core business of the company. Our business scope covers consumer electronics, electricity, petrochemicals, ships, automobiles, rail transit, aerospace and other fields, providing customers with technical services such as failure analysis, reliability testing, service environment simulation testing, as well as software and hardware products related to health monitoring and fault diagnosis of industrial equipment in service.



The company currently has acoustic imaging camera,partial discharge detector, ultrasonic laser resonance system and other products, which have been applied or transformed in many influential units such as State Grid, State Power Research Institute, Aviation Research Institute, CGN etc.





Acoustic Imaging Camera

Production Introduction

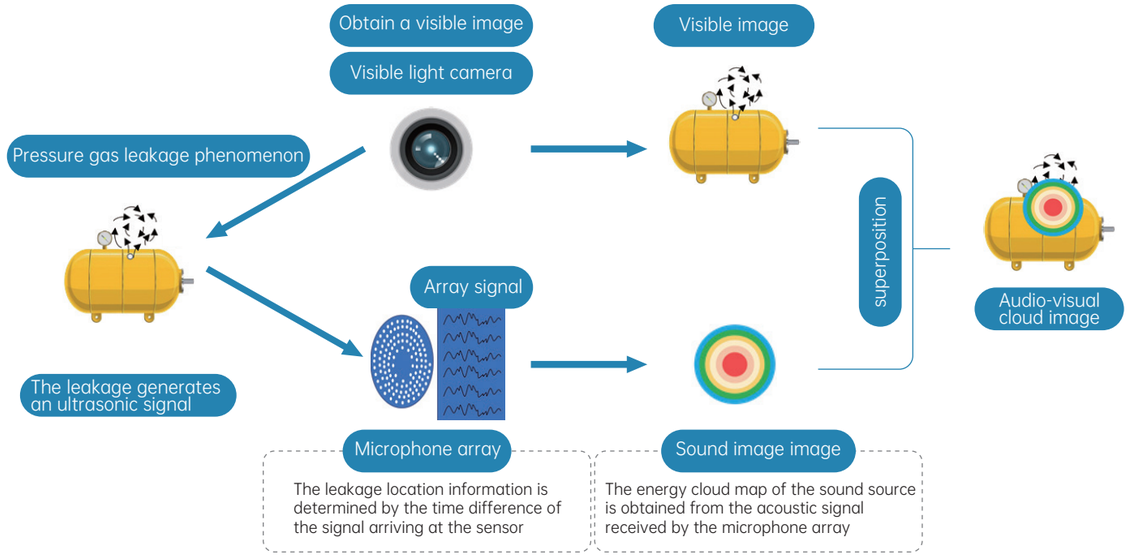
Acoustic imager camera is an advanced sound visualization positioning device that is widely used for detection of pressure gas leaks and partial discharge detection of power systems in industrial environments. With a built-in data acquisition and processing module, our device is able to capture and analyze acoustic signals from leaks or discharges in real time, using beamforming technology to convert invisible signals into visual images that help technicians quickly locate problem areas.

The integrated data acquisition system can record key data during detection (such as acoustic wave intensity, amount of leakage, location of local discharge, etc.). Real-time acoustic wave capture and analysis, the localization error is less than ±3mm within a point distance. It supports automatic analysis, photo-taking and video recording functions to easily generate detailed reports. Supports PC-side software analysis, extending multimodal fusion (acoustic imaging with infrared imaging).

Our acoustic imaging camera is designed for routine detection and preventive maintenance, the equipment can effectively reduce equipment downtime and maintenance costs, suitable for enterprises with large inspection range and many risk points, improving the detection efficiency and safety of industrial and power systems.



Principles of Acoustic Imaging



Product Advantages

1. High efficiency

The conventional gas leak detection methods such as the soapy water method, often require a lot of time and manual operation with low detection efficiency. Acoustic imager camera can greatly improve detection efficiency through real-time imaging technology, which automatically locates and visualizes the source of leakage, especially suitable for large-scale or complex industrial facilities.

2.High accuracy

The resolution of our acoustic image camera is extremely high and it is capable of detecting extremely small leakage points with a localization error not exceeding ±3mm at a certain distance.

3.Assessment the flow rate of leakage

Acoustic image camera is capable of capturing the ultrasonic signal generated by the leak and combined with data analysis to automatically assess the size of the leak, providing more accurate data support for subsequent maintenance.

4.Assessment of partial discharge

Acoustic image camera is able to judge the type of partial discharge (tip discharge, suspension discharge, along-plane discharge) based on the ultrasonic signal, and can evaluate the partial discharge intensity.



5.Long distance detection

Acoustic image camera can detect gas leakage at long distance(up to 50m) and partial discharge (up to 150m), which ensures the safety and convenience of the operator.

6.Multi-sensor integrated

Integrated infrared thermal imaging modules provide a more complete leakage assessment, and adapt to changing field environments by integrating different data sources. This multi-sensor integrated technique allows the acoustic image camera to maintain efficient detection under more complex conditions.

7.High resolution

The 8-inch display with 1280*800 resolution provides more intuitive visual feedback. Complicated signal interpretation is avoided. In addition, the device supports photo-taking and video-recording functions which further improve the quality of detection records and offline analysis.

8.Strong anti-interference

Using advanced ultrasonic processing technology, the acoustic image camera can effectively filter out ambient noise, focusing on capturing specific frequency acoustic signals generated by leaks, ensuring the accuracy of detection results.

Acoustic Imaging Camera Models

Gas Leak Detection Type AC-D72LK

- Pressure gas/vacuum leak detection, leak rate assessment, report export function.
- 72-channel
- 200kHz sampling rate
- leakage estimation
- infrared thermal imaging function (expandable)



Gas Leak Detection Type AC-D128LK

- Pressure gas/vacuum leak detection, leak rate assessment, report export function.
- 128-channel
- 200kHz sampling rate
- leakage estimation
- infrared thermal imaging function (expandable)

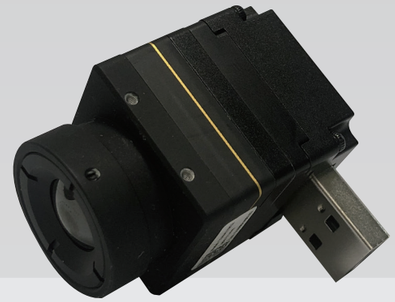
Partial Discharge Detection Type AC-D128PD

- Partial discharge detection of substation and switchgear etc.
- 128-channel
- 200kHz sampling rate
- partial discharge evaluation
- infrared thermal imaging function (expandable)

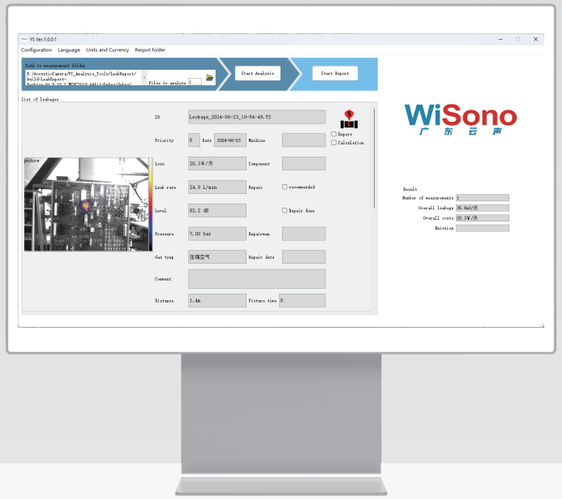


Accessory

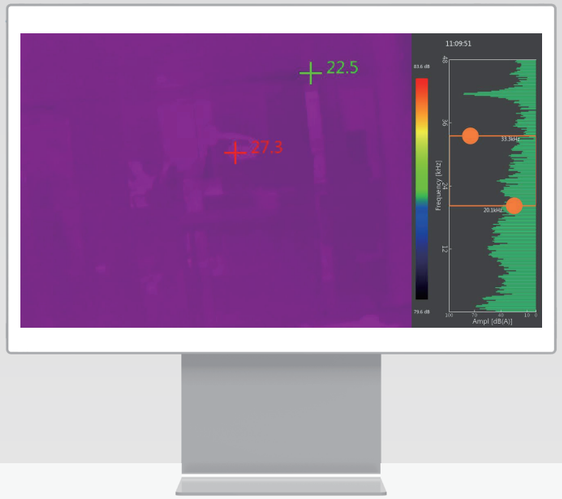
IR-384 Infrared Thermal Module
Resolution 384×288



Analysis Software



Process all the data captured by offline analysis software.



The software can be integrated infrared image data with acoustic image data, reporting the detailed results from different respects

AC-72 Series Specification

72 Channel



Acoustic Imaging Parameters

Channel Quantity	72
Sensor Type	MEMS Digital Microphone
Sensor Dynamic Range	30dB~120dB
Frequency Band Range	2kHz~48kHz
Detection Distance	0.3m~50m
Application Scenarios	Pressurized gas leakage detection, abnormal mechanical vibration detection
Leak Detection Performance	Minimum detectable leakage: >150 mL/min(700kpa detection distance 14.5m) >90 mL/min(300kpa detection distance 7.5m) >35 mL/min(170kpa detection distance 0.5m)
Minimum Test Frequency Bandwidth	<200Hz

Environmental Adaptability

Operation Temperature	-10℃~+50℃
Storage Temperature	-20℃~+70℃
Operation Humidity	10% ~ 95%, Non-condensing
Protection Lever	IP54
EMC Reliability Index	Comply with GB/T 17799.1-2017、GB/T 4208-2017、GB/T 2423.1-2008、GB/T 2423.2-2008 EN 61010-1:2010+A1:2019+AC:2019 EN IEC 61326-1:2021 etc.
Certification	C E

Optical Imaging Parameters

Product Size	30cm×15.8cm×6.1cm
Product Weight	About 1.2kg
Battery Capacity	Lithium Battery: 7.4V/6600mAh Duration: >5h
Power Adapter Charging Parameters	DC12V/5A
Display Size	8-Inch LCD Screen
Touchscreen	Capacitive
Data Transmission Interface	USB3.0/Gigabit LAN/WIFI
Memory Capacity	32GB(expandable)

Other Functions

Infrared Temperature Measurement	Support Multi-point Temperature Measurement
Microphone Self Diagnosis	Support 72 Channel detection
Offline Analysis	Support PC offline analysis of gas leakage
Online Upgrade	Support USB Remote upgrade
Multi-language Mode	Available in Chinese, English, Spanish, Portuguese, French, German, Japanese, Russian, Italian etc.
Acoustic Calibration	Support
Leakage Estimation	Support

Optical Imaging Parameters

Screen Resolution	1280*800	Acoustic Frame Rate	25FPS	Camera Field of View	65°(Horizontal)
Video Frame Rate	Maximum 25FPS	Camera Focal Length	Fix Focus3.6mm		

AC-128 Series Specification

128 Channel



Acoustic Imaging Parameters

Channel Quantity	128
Sensor Type	MEMS Digital Microphone
Sensor Dynamic Range	30dB~120dB
Frequency Band Range	2kHz~100kHz
Detection Distance	0.3m~100m
Application Scenarios	Partial discharge detection Pressurized gas leakage detection Abnormal mechanical vibration detection
Target Minimum Lateral Resolution	±3mm (1m , 94dB SPL)
Minimum Test Frequency Bandwidth	<200Hz

Environmental Adaptability

Operation Temperature	-10℃~+50℃
Storage Temperature	-20℃~+70℃
Operation Humidity	10% ~ 95%, Non-condensing
Protection Lever	IP54
EMC Reliability Index	Comply with GB/T 17799.1-2017、GB/T 4208-2017、GB/T 2423.1-2008、GB/T 2423.2-2008 EN 61010-1:2010+A1:2019+AC:2019 EN IEC 61326-1:2021 etc.
Certification	GB

Physical Electrical Parameters

Product Size	30cm×15.8cm×6.1cm
Product Weight	About 1.2kg
Battery Capacity	Lithium Battery: 7.4V/6600mAh Duration: >5h
Power Adapter Charging Parameters	DC12V/5A
Display Size	8-Inch LCD Screen
Touchscreen	Capacitive
Data Transmission Interface	USB3.0/Gigabit LAN/WIFI
Memory Capacity	32GB(expandable)

Other Functions

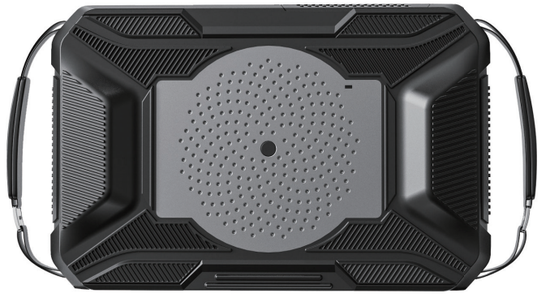
Infrared Temperature Measurement	Support Multi-point Temperature Measurement
Microphone Self Diagnosis	Support 128 Channel detection
Offline Analysis	Support PC offline analysis of partial discharge detection and gas leakage detection
Online Upgrade	Support USB Remote upgrade
Multi-language Mode	Available in Chinese, English, Spanish, Portuguese, French, German, Japanese, Russian, Italian etc.
Acoustic Calibration	Support
Leakage Estimation	PRPD Threshold monitoring Time-frequency image Leakage rate estimates calculation

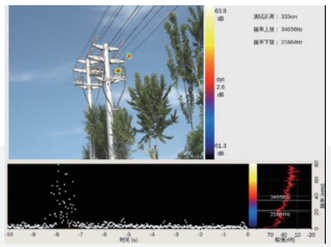
Optical Imaging Parameters

Screen Resolution	1280*800	Acoustic Frame Rate	25FPS	Camera Field of View	65°(Horizontal)
Video Frame Rate	Maximum 25FPS	Camera Focal Length	Fix Focus3.6mm		

AC-256 Ultra Parameter Description







Real-time visualization and location of far-field sound sources.



Detection of compressed air and hazardous gas leaks, assessment of leakage volume and economic losses.

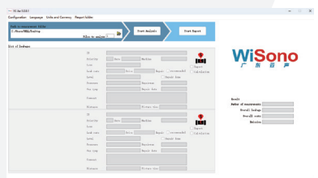
Main functions



Partial discharge detection and type identification of insulators, transformers and switchgear.



Mechanical detection for predictive maintenance of bearings and conveyor belts.



Generation of reports to share key data.

Technical Specifications

Acoustic parameters

Microphone array	256-channel MEMS microphone
Imaging frequency	2k - 100k Hz
Sound pressure	28 - 132 dB
Sound frame rate	25Hz/50Hz
Test distance	0.3 - 200 m
Minimum leakage	10 m 2.7 bar 0.0029 L/min ;0.5 m 1.9 bar 0.0028 L/min
Detection mode	Single sound source/Multiple sound sources/Sound holography

Camera

Field of view	65°
Focal length	4.3 mm (fixed focal length)
Pixels	13 million
Digital zoom	1x - 6x
Lighting	LED

Display screen

Resolution	1920 * 1200
Size	10 inches
Touchscreen	Capacitive touchscreen
Brightness	800 cd/m2, visible in sunlight, adjustable manually

Storage

Storage space	Data export 256 G (internal)
Storage format	.jpg (photo), .mp4 (video), .wav (audio recording), .xdat (data)
Video duration	10 minutes Supported

Software functions

Multi-point imaging, directional focusing, distance measurement, leakage volume estimation, PRPD spectrum analysis, type identification, image annotation, report output, multiple languages (Chinese, English, etc.).

Interface

USB-C 1	Charging
USB-C 2	Export data, sensor expansion (infrared module)
USB-C 3	Export data, external headphones for listening
WIFI interface	Wireless screen projection, wireless networking
Bluetooth interface	Wireless transmission



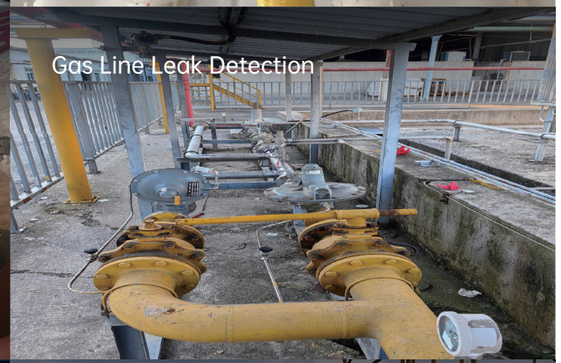


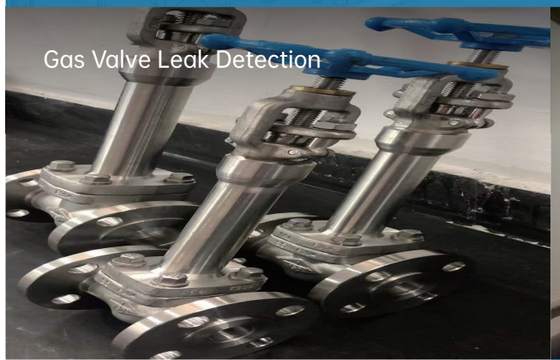


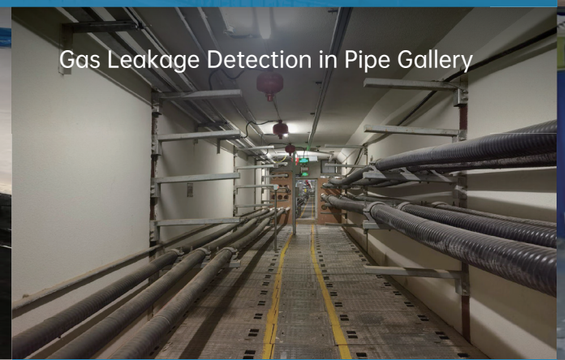


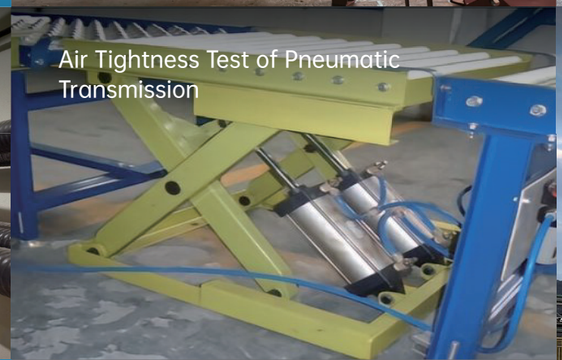
Application Scenario



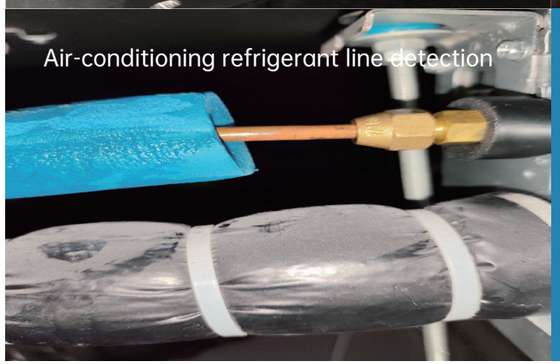




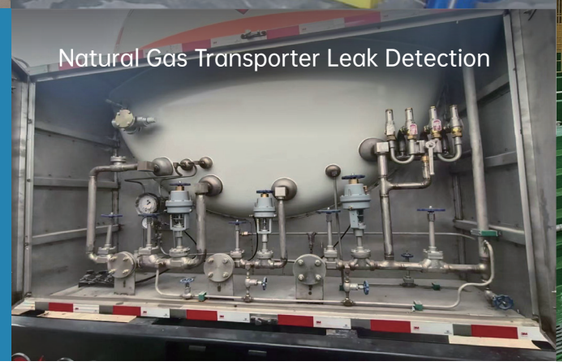








WiSono



Application Scenario

Transformer Partial Discharge Detection

Detecting the partial discharge of the transformer to identify insulation aging or failure problems in advance to avoid damage or failure of the transformer.



Insulator Partial Discharge Detection

Acoustic imaging camera can be used for identifing partial discharge of insulator triggered by age, contamination or physical damage.



Transmission Cable Partial Discharge Detection

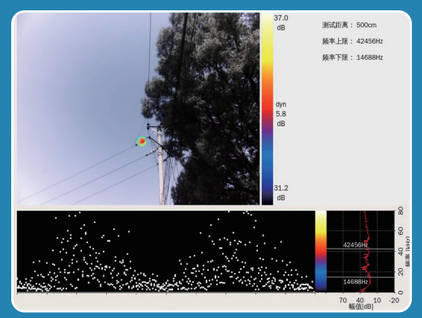
Detecting partial discharge of power cables to help locate defects in cable insulation, and prevent cable failures and outage accidents.



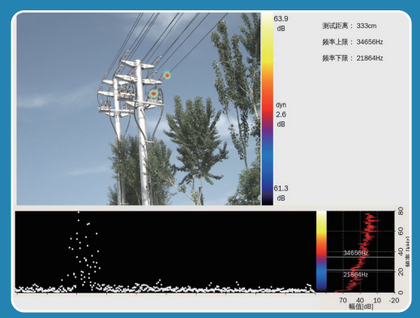
Cabinet Partial Discharge Detection

Detects the phenomenon of partial discharge inside the distribution cabinet, detects potential faults and repairs them at an early stage to avoid power outages and equipment damage.







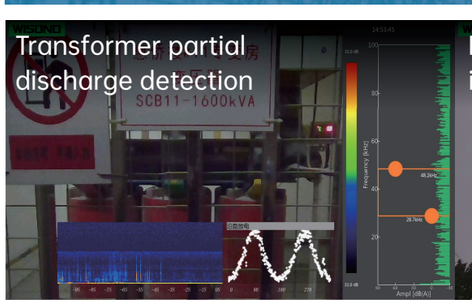


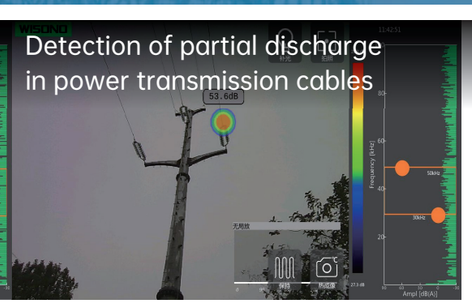


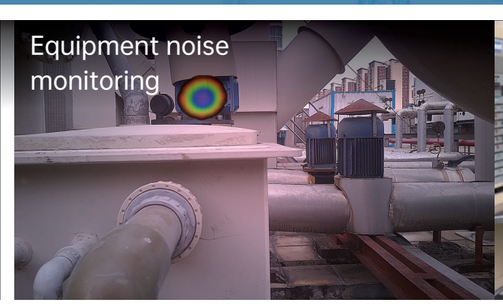




Example of detection scenario

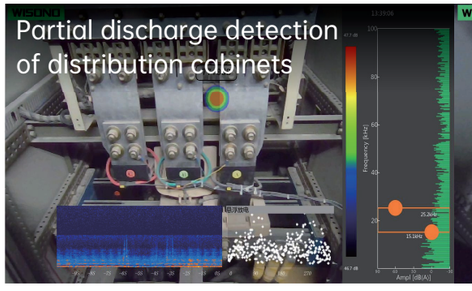


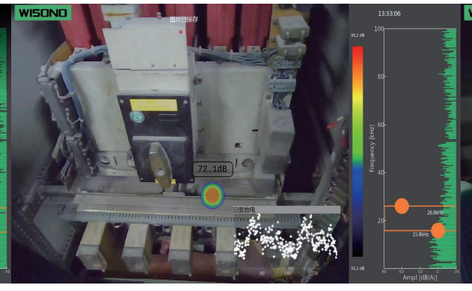


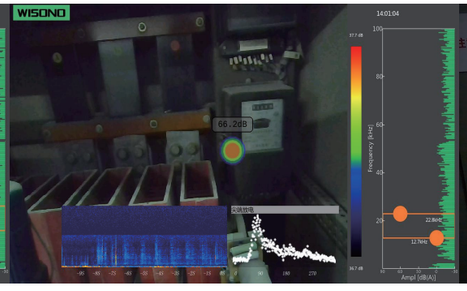


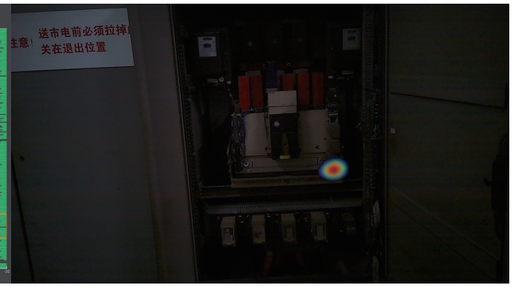










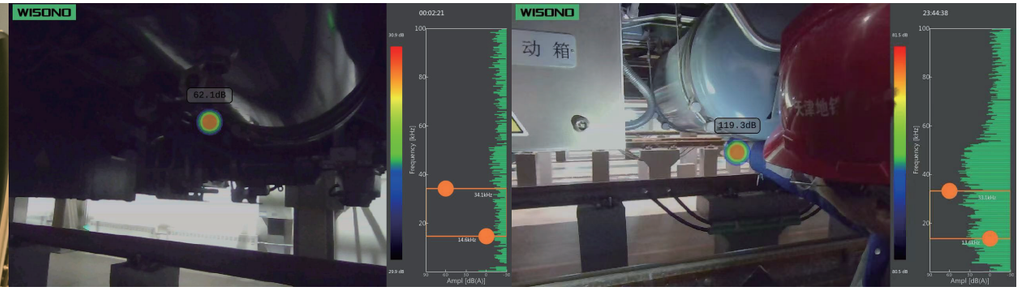












WiSono Sonic Tester SS-50



Technical Specification

Instrument Specification	
Plant	WiSono Technology Co., Ltd.
Type	WiSono Sonic Tester SS-50
Frequency Range	2k ~ 40kHz
Input Voltage Range	DC-5V
Input Current	>2A

Parameters and Protection Level	
Size	180 ×115 ×76 mm
Weight	About 1.5kg
Protection Level	IP40

Operation Mode	
BLUETOOTH	Bluetooth Mode
CALIBRATION	Standard Mode
PD1	Corona Sound
PD2	Suspended Discharge Sound
PD3	Surface discharge sound
LEAK	Compressed air leakage sound

Product introduction

The WiSono sonic tester SS-50 is an accuracy checker that is used with the acoustic imaging camera. The equipment produces a sound signal, which is perceived and evaluated by the acoustic imaging camera.

The perceived dB level of the signal can be used to ensure the correct level of acoustic imaging camera readings and the conditions of the microphone array.

Our SS-50 has different operating modes and can simulate typical leak sounds and different types of partial discharge sounds.

The SS-50 may cause deviations due to dust, impact, etc., and should be sent back to the manufacturer for re-calibration every two years. You can also contact wisono@wisono.com for more detailed instructions.

Each SS-D50 has been individually tested and calibrated before leaving the factory.

Feature

Bluetooth connected device for real-time audio playback
Built-in high-capacity rechargeable lithium battery, no restrictions on sound source placement, long battery life.

Warning

The SS-50 is capable of providing sound pressure levels that may cause permanent hearing damage. When the device is operated at a distance less than 0.5m, the user of the device should always use hearing protection to avoid permanent hearing damage.

The actual frequency range of the sound signal generated by the SS-50 will exceed 40kHz, but the 2 ~ 40kHz range is the best choice for calibrating the acoustic imaging camera. Due to the directional nature of ultrasonic sound sources, there may be significant fluctuations in the dB readings at frequencies above 40kHz, causing errors in calibration at these frequencies.

PD1 Partial Discharge Detector

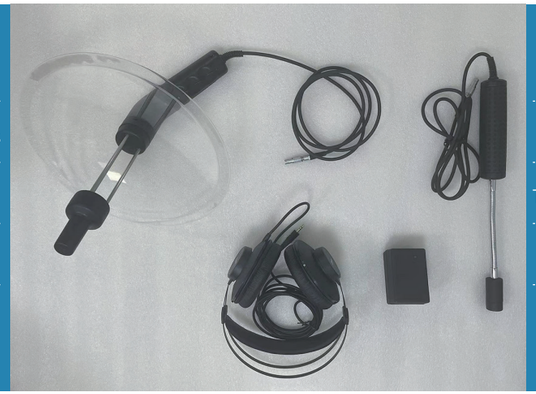
Product Overview

PD1 is a hand-held, pre-screening, tool-based professional live detection instrument. It can be equipped with 8 external sensors including AA/AE Ultrasound, TEV ground wave and temperature sensor etc. It is suitable for live detection of various electrical equipment such as substation, switch station and outdoor.

This instrument adopts acoustic and electric joint detection method, using transient ground wave (TEV), ultrasonic wave (AE) and other sensors to comprehensively detect the partial discharge of power equipment, to achieve direct monitoring of power equipment such as transformers, switchgear and distribution cables.The PD1 detector can evaluate the insulation condition comprehensively according to a variety of characteristics, detect the magnitude of partial discharge, and calculate the time difference between acoustic and electrical signals to achieve accurate discharge power location.



Package Checklist

External TEV sensor		Extended Ultrasonic sensor
Long range Ultrasonic converters		SD Memory Card (8GB)
Stereo monitor headphones		Temperature and Humidity sensor
AC synchronizer		communication cable
Communication cable		Carry case

Product Features

1. Portable design, small size, light weight, easy to carry, single person can operate.
2. Embedded GPS receiver automatically stores coordinate data, which is convenient to query and save detection path.
3. With the function of temperature and humidity detection, real-time detection of ambient temperature and humidity.
4. With data saving function, data can be uploaded to the cloud platform to realize data analysis and review function.
5. High sensitivity,directivity and directionality,can accurately locate the line fault.
6. Non-contact detection, detection is effective, safe and reliable.
7. Converts the abnormal discharge signal detected into audible signal intuitive waveform.
8. Discharge intensity can be clearly distinguished based on sound and waveform.
9. Live detection, does not affect the normal operation of the checked equipment.
10. The instrument can be extended to a variety of external sensors, flexibly used in various detection scenarios.



Technical Specifications

Buil-in Partial Discharge Detection Channel

Index Name	Technical Index
Air Type Ultrasonic Sensor（AA）	Measuring Range：-7dBμV to 68dBμV
	Center Frequency：40kHz
	Deviation：±1dB
	Resolution Ratio：1dB
Transient Ground Wave Sensor (TEV)	Frequency Rangef：3-80MHz
	Measuring Range：0~60dBmV
	Deviation：±1dB
	Resolution Ratio：1dB

Display（LCD Screen）

Size	5"TFT Backlit Display Screen
Brightness	500 cd/m² (Typ.)
Resolution Ratio	480×800
Contrast Ratio	700:1 (Typ.) (Transillumination)
Visual Angle	85/85/85/85 (Typ.) (CR⩾10) (Full -view Perspective)
Color Number	16.7M (8-bit)

GPS

Protocol	NMEA0183
Position Accuracy	<2m
Timing Accuracy	<30nS
Positioning Update Rate	1Hz（default），maximum10Hz

Storage（Micro SD Card）

Memory Capacity	8G

External Sensor(Temperature and Humidity Sensor)

Typical Accuracy	±3%RH and ±0.3℃
Humidity Range	0-100%
Temperature Range	-45-130℃

Operation Environment

Temperature	-20 ~ 50℃
Humidity	0~ 90% noncondensing
IP Grade	54

Power Supply

Bulit-in Battery	It has a built-in rechargeable battery and can also be powered by an adapter for 8 hours
Charging Port	1pc

Audio Output

Audio Output Port	Can be connected to the earphone, can monitor the ultrasonic signal, earphone included

Commnication Interface（4G）

Wireless Communication Protocol	LTE CAT 1
Maximum Uplink and Downlink Speed	5Mbps/10Mbps

USB

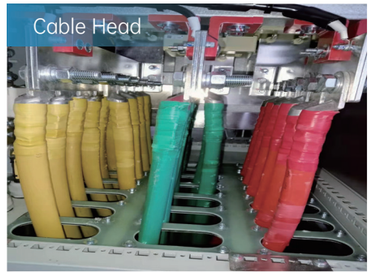
Communication Mode	Support USB data transfer

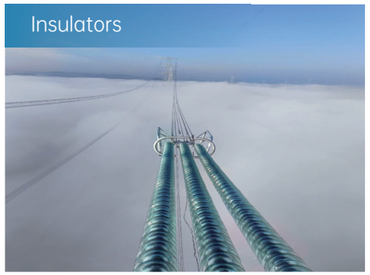


WiSono



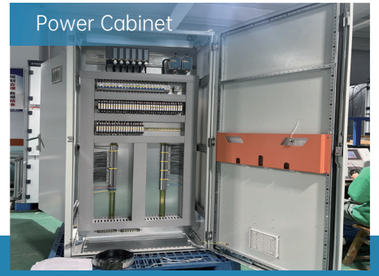
















Application Scenario

Any form of local discharge detection and positioning, arc, electrical trace and corona discharge detection; Electrical equipment transformer, switch cabinet, ring network cabinet, cable head, insulators, circuit breakers, busbar bushings, CT/PT, reactor, GIS/GCB, power cabinet, communication cabinet and other local discharge detection;SF6 leak detection; Pneumatic system leak detection; Mechanical failure detection, etc.

Noise and Vibration Analysis System NV-800



Product introduction

The WiSono noise and vibration analysis system NV-800 is a professional device that combines multi-channel signal acquisition, high-precision analysis and convenient operation. Widely used in industrial equipment health monitoring, vibration analysis in the automotive and aviation sectors, and the development of acoustic materials and audio equipment, our NV-800 can provide comprehensive and precise data support. The system uses advanced digital signal processing technology to support real-time spectrum analysis and data storage to help users identify and solve problems quickly. Meanwhile, the compact design and modular interfaces meet the flexible needs of a variety of scenarios, making it the best choice in the laboratory versus industrial field.

1.Multi-channel and high-precision measurement

Synchronous acquisition of 4/8 channels (expandable) is supported, with an optional sampling rate of up to 200 kS/s per channel, ensuring that small signal changes are captured.

2.Wide frequency response range

The frequency response range is from 0.6 Hz to 20 kHz and is suitable for a variety of acoustic and vibration application scenarios.

3.Built-in preamplifier

Each channel is equipped with a built-in preamplifier that supports dynamic range expansion and ensures high fidelity of signal acquisition.

4.Modular design

Provides a variety of sensor interfaces to access multiple types of sensors such as acceleration sensors, microphones, ultrasonic sensors, sound intensity probes, force sensors, speed sensors, temperature and humidity sensors.

5. Real-time data processing and analysis

Built-in real-time FFT analysis function, supports the calculation of vibration spectrum, sound intensity and other key acoustic parameters.

6.Multi-platform compatibility

Provide API interface, compatible with other development environment.

Main Feature

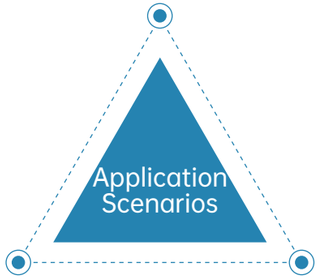
WiSono

Noise and Vibration Analysis System NV-800

Our noise and vibration analysis system NV-800 are widely used in the condition monitoring and fault diagnosis of industrial equipment. For example, in the operation of rotating machinery such as motors, pumps, fans and turbines, problems such as bearing wear, imbalance, centering deviation can be detected in advance by monitoring abnormal changes in vibration patterns and acoustic signals. This preventive maintenance style helps reduce unplanned downtime and improves equipment operation efficiency.

1.Industrial Equipment Health Monitoring

In the automotive and aviation industries, our NV-800 is used to analyze the vibration characteristics of vehicle components such as engines, suspension systems, body structure, as well as aircraft like wings, engines, fuselages. With precise vibration analysis, structural design can be optimized, noise can be reduced, and safety and comfort can be improved. This type of inspection is also commonly used in the R&D stage as well as in the quality control process.



2.Vibration analysis in automotive and aviation

3.Acoustic Materials and Product Development

Our Noise and Vibration Analysis System are essential when developing and testing acoustic materials (such as soundproof panels, sound absorbing materials) and audio devices (such as speakers, headphones). By testing the response of materials to sound and vibration, they help optimize acoustic performance to meet the needs of specific application scenarios, such as recording studios, concert halls, and the high-end audio equipment market.

Specification

Analog Input	
Input Type	Piezoelectric IEPE
Channel Number	4/8 (Extendable)
Bandwidth	0.6Hz~20kHz
ADC Type	24bit Δ-Σ Type
Sampling Rate	250KS/s、125KS/s 62.5KS/s、31.25KS/s 15.625KS/s、7.812KS/s 3.906KS/s、1.953KS/s
Range	±10V, Single End
Dynamic Range	120dB
Signal to Noise Ratio	108dB
Common Mode Rejection Ratio	130dB
Gain Drift	0.6 ppm/°C
Offset Drift	50nV/°C
Input	DC/AC
Input Impedance	320kΩ
Over-voltage Protection	±40V

Additional Specifications	
Input connection method	BNC

Power Supply	
Power	DC-12V

Digital Input	
Digital Input	4
Digital Output	4

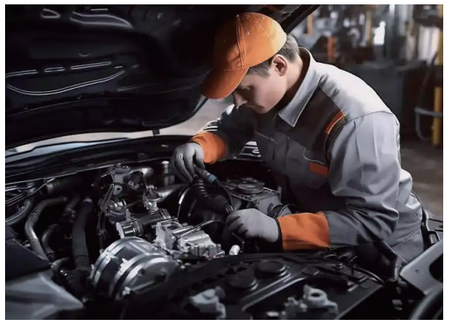
CCP Constant Current Source	
Excitation Current	3.5mA
Output Voltage	23.8V

Environment	
Work Temperature	-10~50℃
Storage Temperature	-20~70℃
Humidity	90%, Non-condensing
IP Level	IP54

Physical Parameter	
Size	240×160×90mm
Weight	800g
Storage	32G

Application Scenario









Aerospace

Our system helps design and build safer and more efficient aircraft, perform various types of physical measurements simulate and evaluate the behavior of flight control and propulsion systems, identify and address any potential problems early in the development process.

Automotive Industry

The system also helps manufacturers design and build safer and more efficient cars, trucks and motorcycles. Record data from physical sensors and digital data like CAN, CAN FD, FlexRay, GNSS and IMU sensors and cameras, from combustion analysis to EV testing, noise testing, EMC room testing, ADAS (Advanced Driver Assistance System) etc.

Civil Engineering and Surveying

Test and monitor the structural of bridges, tunnels, skyscrapers and wind power to ensure their safety for users and environment.

Electricity/Energy/Manufacturing

Power transformer testing, power quality analysis, machine condition monitoring, high precision power analysis, spindle trajectory analysis, noise and vibration analysis of rotating and reciprocating machinery, detection and diagnosis of bearing and gear faults, vibration and frequency analysis using FFT, measurement of sound and noise levels, vibration detection of gearbox, fan, motor, pump, vibration of rotation shaft angle.

YS0911 Microphone Kit



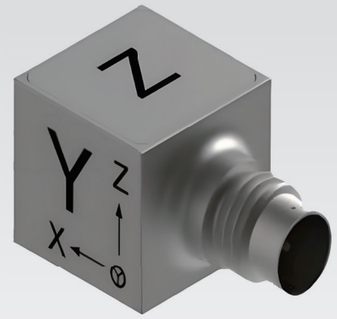
The YS0911 Microphone Kit is a highly precise acoustic measurement device that integrates advanced acoustic-electric conversion technology to accurately convert sound signals into electrical signals. This kit includes the YS0911 microphone and the YS1911 preamplifier. The YS0911 microphone features a 1/2-inch electret free-field design, while the YS1911 preamplifier is equipped with a 1/2-inch constant current power supply system, ensuring stable signal transmission and processing.
The kit offers a wide frequency response range from 20Hz to 20kHz, maintaining an excellent performance of +2~-3dB within this range, fully complying with the IEC61672 Class 1 frequency response limits. The core construction of the microphone uses stainless steel or titanium diaphragms, incorporating the latest laser welding technology, significantly enhancing the stability and corrosion resistance of the diaphragm, ensuring accurate sound signal capture and conversion.
Each YS0911 microphone is meticulously calibrated in a strictly controlled clean environment and undergoes aging tests in high and low temperatures as well as humid conditions, ensuring exceptional long-term stability and reliability. Additionally, its design, installation dimensions, and key performance indicators strictly adhere to the GB/T20441.4 and IEC61094-4 international standards, allowing the kit to directly replace other brands and imported instruments' corresponding test microphones, providing users with a more convenient and efficient acoustic measurement solution.

Product parameters

YS0911 microphone main technical indicators		
Nominal Diameter	Inch	1/2"
Open Circuit Sensitivity (250Hz)	dB re 1V/Pa	-26±1.5(50mV/Pa)
Frequency Response	Hz	20Hz~20kHz +2~-3dB IEC61672 class 1
Sound Field Type		Free Field
Pressure Equalization		Rear Equalization
Polarization Voltage	V	0，Pre-polarized
Dynamic Range Upper Limit(3%Distortion)	dB	133
Self-Noise	dBA	<17
Pressure Coefficient (250Hz)	dB/kPa	-0.01
Temperature Coefficient (250Hz) -10℃~+50℃	dB/℃	-0.01
Power Supply		2-20mAConstant Current (Typical 4mA)，24V
Output Impedance	Ω	<50
Maximum Output Signal Voltage	Vrms	5
Output Interface		BNC
Total Length	mm	86.5
Operating Temperature Range	℃	-25~+55(Industrial Grade) -40~+70(Military Grade)
Operating Humidity Range	RH,%	0~95

YS1911 Preamplifier Main Technical Specification		
Diameter	Inch	1/2
Frequency Response Range (Ref.250Hz)	Hz	10Hz~110kHz±0.2dB
Signal Attenuation	dB	0.2
Input Impedance	GΩ	10
Output Impedance	Ω	<100
Maximum Output Voltage	Vrms	5
Self-Noise	μV	A-weighted<3.0 Linear 20Hz-22.4kHz <7.0
Power Supply Requirement		4mA Constant Current(24V)
Output Interface		BNC
Length	mm	70
Operating Temperature Range	℃	-25~+75(Industrial Grade) -40~+120(Military Grade)
Operating Humidity Range	RH，%	0~95

YS0921

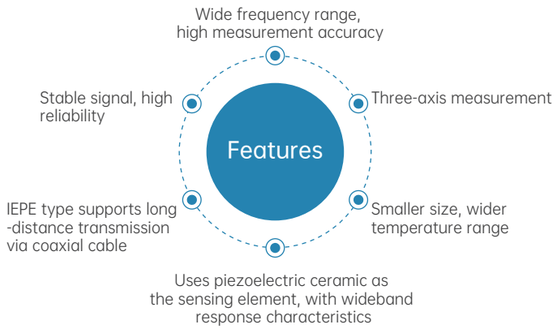


The YS0921 is a three-axis IEPE (Integrated Electronics Piezoelectric) accelerometer specifically designed for NVH (Noise, Vibration, and Harshness) testing and impact dynamic measurement. This ICP/IEPE piezoelectric accelerometer has a built-in charge amplifier, integrating power supply and signal output, requiring only a single coaxial cable (two-wire design) to provide a constant current power supply of 2 to 10mA and simultaneously output the measurement signal.
The accelerometer features a unique shear mode sensing element made from high-performance, stable piezoelectric ceramic crystal material, ensuring excellent long-term stability and providing a solid foundation for long-term, repeated, and precise measurements. Additionally, the shear mode design significantly reduces transverse sensitivity, exhibits high insensitivity to base strain and thermal transients, effectively reducing interference factors, enhancing measurement reliability, and further simplifying the testing process.
The YS0921 three-axis accelerometer uses a lightweight and high-strength titanium alloy housing, achieving compact size and lightweight design. Its unique structural design ensures stable operation over a wider temperature range and frequency response range, meeting the needs of various complex testing environments, demonstrating excellent application flexibility and adaptability.

Applications

Suitable for various vibration testing needs.

1. Such as high-impact, collision, and modal analysis: Widely used in aerospace, defense, vehicle transportation, bridge and shipbuilding, civil engineering, teaching experiments, etc.;
2. General vibration testing: Widely used in rotating machinery vibration condition monitoring, metallurgical machinery, rail vehicle model vibration, civil engineering bridge and tunnel, teaching experiments, etc., as well as harsh environment testing and fault diagnosis.



Structure

Sensor element	Piezoelectric ceramics - Shear
Housing/Base	Titanium Alloy
Output Connector	1/4-28
Mounting Thread	M5

Technical Parameters

Specification	Unit	Value
Range	g	±100g
Voltage Sensitivity	mv/g	50
Frequency Response	±10%(Hz) ±3dB(Hz)	1~6k 0.5~9k
Mounting Resonant Frequency	kHz	⩾25
Transverse Sensitivity	%	<5
Bandwidth Resolution	g	0.001
Nonlinearity	%	±0.1
Overload Impact	g	1000
Settling Time	s	5

Output

Bias Voltage	VDC	8~12
Impedance	Ω	<150
Full Scale Voltage	V	±5
Overload Voltage	V	±10V

Power Supply

Voltage	VDC	18~30
Constant Current Source	mA	2~10

Environment

Operating Temperature Range	℃	-40~100
Storage Temperature Range	℃	-40~120

Laser Ultrasonic Resonance System LURS-100

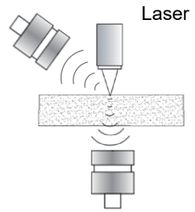


Product Introduction

Our laser ultrasonic resonance system LURS-100 is a non-contact inspection system. It enables fast, efficient and non-contact acquisition of workpiece structural information, including surface and internal defects, material parameters and characterization.

The system provides software analysis (eg: calculating defect size), output inspection results, and generate detailed reports automatically. It is designed specifically for daily detection. Meanwhile,large area workpiece detection can be realized with suitable scanners.

Imaging Principle



It excited the stress waves in the workpiece based on laser thermoelastic or ablation effect, and received the transmitted and reflected echoes through air-coupled sensors to obtain the artifact-related information, combining with laser ultrasonic resonance amplification signals, air-coupled array sensing, sound source phase-controlled positioning, etc. technology.

Application Scenario

LURS-100 is the perfect tool for non-destructive testing of composites, metals, and adhesive joints. It can be used in aerospace, semiconductor, electronic manufacturing, new energy and other fields of hole, bubble, debonding, and delamination inspection, can also be used for material parameters and performance testing without water or coupling gel.

Specification

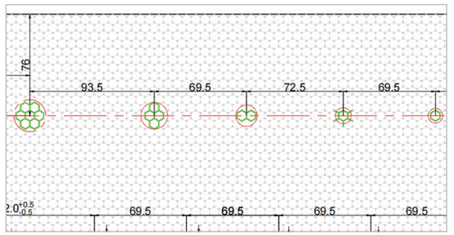
Specification	
Size	470 × 390 × 410 mm3
Imaging FOV	150 × 150 mm2
Working Distance	≦ 100 mm
C-scanning Frame Rate	≦ 40 s（C Scan）
Resolution	≦ 100 μm
Inspection Thickness	≦ 10 cm
Z-axis Adjustable Height	500mm（Manual）
Working Mode	Reflection Transmission
Coupling Mode	Air-coupling
Connection interface	USB（1 pc）
Power Supply	110/230 VAC 50/60 Hz
Weight	30kg

- No coupling gel;no ionizing radiation
- No mechanical scanning;automatically inspection
- No near-field blind zone; surface adaptive
- Real-time image, clearly show the location and size of the defects.

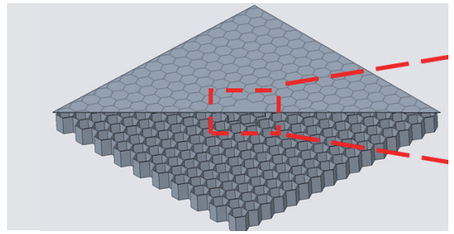
Application Case: Honeycomb Panel Inspection



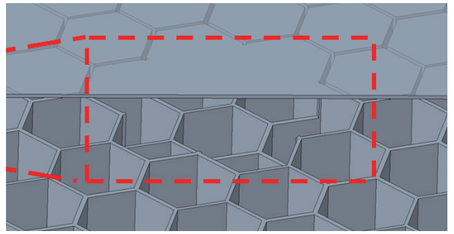
(a) Sample Picture



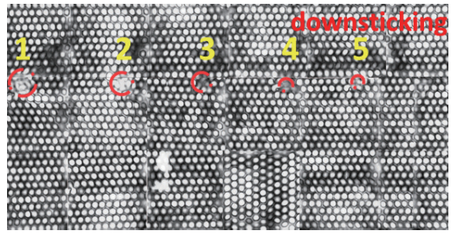
(b) Sample Design Drawing



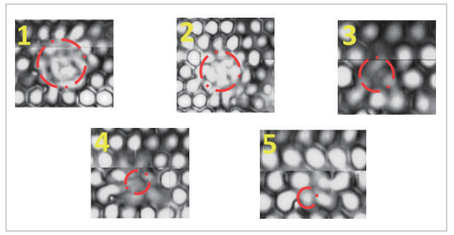
(c) Sample 3D Diagram



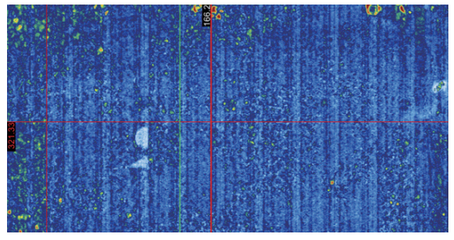
(d) Defect Diagram



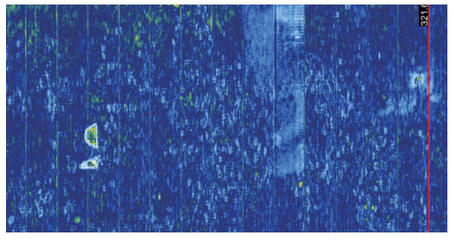
(e) Inspection Result by LURS-100



(f) Defect Amplification Inspection Result



(g) Inspection Result by 7.5 MHz Immersion PA probe



(h) Inspection Result by 20 MHz Immersion PA probe

Note

① Debonding inspection application. The honeycomb wall is cut off so that the honeycomb wall is 2mm shorter than the normal honeycomb wall, making it impossible to bond with the glue after processing.
②The lateral resolution of 7.5 MHz Immersion PA probe is 0.6 mm.
The lateral resolution of 20 MHz Immersion PA probe is 0.2 mm, and the lateral resolution of our LURS-100 is less than 0.1mm

High-end industrial intelligent infrared thermal imager series

DT-9897H series high-end industrial intelligent thermal infrared camera is WiSono Technology Co., Ltd independent design, research and development, production of high-end thermal infrared camera series products; With 160*120, 384*288, 640*480 a variety of high infrared resolution can be selected, temperature measurement range coverage is wider, AUF patented fusion technology, with WIFI and laser ranging function, is the preferred tool of infrared thermal imager in the field of power inspection and maintenance, petrochemical smelting, environmental protection and other fields.





DT-9897 series

Picture in picture function

640x480 TFT HD touch screen

Quick and convenient temperature measurement

AUF fusion function

WIFI transmission

50Hz image frame rate

Built-in LED light

Infrared resolution is optional

EMC
EN: 61326-1
EN: 61010-1

Product Features	
Thermal sensitivity: ⩽0.05℃ (30℃) / 50mK	3.5" HD TFT touch screen
Auto-traceable image annotation	Flexible manual zoom
Lens can be changed without calibration	Photo and video functions
High and low temperature automatic capture	Up to 1500℃ (9897H)
AUF infrared imaging and visible light automatic fusion patented technology	WIFI function
Anti-strong light laser ranging function	50Hz image frame rate
Rapid thermometry and imaging	Resolution 160*120, 384*288, 640*480
640*480 superpixel display function	Picture in picture, image fusion, AUF fusion

Widespread application	
Maintenance and overhaul of electrical equipment	Factory manufacturing site inspection and equipment maintenance
Daily maintenance of HVAC equipment	Petroleum, chemical and smelting fields
Transportation industry and automobile maintenance	Road traffic, bridge construction, rail transit
Construction application field	Electronic power manufacturing
Marine industry/agriculture/mining mining field	LED lighting, photovoltaic industry, etc
Automobile manufacturing, new energy and environmental protection industry	

Thermal imaging technology parameters		DT-9896	DT-9897	DT-9897H	DT-9898
Thermal sensitivity /NETD	<0.05°C @ +30°C (+86°F)/50mK				
Infrared resolution		160x120	384x288	384x288	640x480
Image frame rate	50Hz	√	√	√	√
Digital zoom	1-32x digital continuous zoom	√	√	√	√
Display screen	3.5"640x480 HD color TFT capacitive touch screen	√	√	√	√
Image display mode	Infrared image, visible image, picture-in-picture fusion function(visible and infrared image fusion)	√	√	√	√
Color palette	Iron red, rainbow, gray, white gray, blue red, hot and cold, feather red, tan, custom	√	√	√	√
Image adjustment	Manual/automatic/histogram	√	√	√	√
Range of measuring	Low range :-20°C to +150°C(-4°F to +302°F)	√	√	√	√
	High range :0°C to +650°C (+32°F to +1202°F)	√	√	√	√
	Ultra high temperature :-20°C to +1500°C				
Accuracy	±2°C(±3.6°F) or ±2% of the measured temperature, whichever is larger	√	√	√	√
Optical parameters					
Lens	Factory standard lens	9mm	22mm	22mm	22mm
Mode of focus	manual	√	√	√	√
Angle of view		29.8°x22.6°	24.6°x18.6°	24.6°x18.6°	24.6°x18.6°
Spatial resolution	(IFOV)	3.78mrad	1.15mrad	1.15mrad	0.77mrad
General parameters					
Emissivity	Adjustable from 0.01 to 1.0	√	√	√	√
Point analysis	3 movable points	√	√	√	√
Line analysis	2 (horizontal and vertical lines)	√	√	√	√
Region analysis	3 movable boxes (Max, min, mean)	√	√	√	√
High and low temperature detection and alarm	Automatically mark the highest temperature and lowest temperature in the area; Color and sound alarm	√	√	√	√
Isothermal analysis	Test high temperature, low temperature and temperature interval	√	√	√	√
Measurement correction	Emissivity, ambient temperature, reflected temperature, distance, relative humidity, temperature compensation				
Laser/light	Less than class 2/ white LED	√	√	√	√
Laser ranging	30m	30m	30m	30m	30m
Setting up commands	Unit, language, date, time, information	√	√	√	√
Language selection	English, Chinese, French, German, Spanish	√	√	√	√
Storage	16GB card is standard	√	√	√	√
Video Storage Format	Standard MPEG-4, 640x480@30fps	√	√	√	√
Image storage format	Standard JPEG with temperature data, can store more than 1000 images	√	√	√	√
Image storage mode	Infrared, visible light, image fusion	√	√	√	√
Visible light camera	5 million pixels	√	√	√	√
USB interface	USB-mini to transfer data between the device and the computer	√	√	√	√
Wi-Fi capability	Remote transfer of data and pictures to the phone via Wi-Fi	√	√	√	√
Battery	Rechargeable lithium battery	√	√	√	√
Output voltage	DC 5V	√	√	√	√
Mode of charging	Direct charge (power adapter)	√	√	√	√
Power management	Automatic shutdown	√	√	√	√
Product Information					
Dimensions of products	243x103 x160mm				
Weight	920g				
Packaging/Accessories	Emissivity, ambient temperature, reflected temperature, distance, relative humidity, temperature compensation				

Optional lens



38mm Lens
RL-38



11mm Lens
RL-11

Packing fittings



Intelligent professional infrared thermal imager





DT-988
DT-988H
DT-9887
DT-9887H
DT-9888

Product Features

Resolution 160*120, 384*288, 640*512 optional	Photo and video functions
Thermal sensitivity: ≤0.05℃ (30℃) /50mK	High and low temperature automatic capture
50Hz image frame rate (9888 is 25Hz)	Up to 1500℃ temperature range
3.5 "HD TFT touch screen	AUF infrared imaging and visible light automatic fusion patented technology
Auto-traceable image annotation	WIFI communication function
Flexible manual zoom	Rapid thermometry and imaging
Lens can be changed without calibration	640*480 superpixel IPS display

Wide range of applications

Maintenance and overhaul of electrical equipment	Daily maintenance of HVAC equipment
Construction application field	Petroleum, chemical and smelting fields
Transportation industry and automobile maintenance	Road traffic, bridge construction, rail transit
Construction application field	Electronic power manufacturing
Marine industry/agriculture/mining mining field	LED lighting, photovoltaic industry, etc
Factory manufacturing site inspection and equipment maintenance	Automobile manufacturing, new energy and environmental protection industry

Picture in picture function

640x480 TFT HD touch screen

Quick and convenient temperature measurement

AUF fusion function

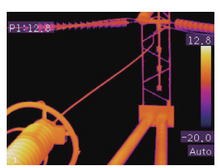
WIFI transmission

50Hz image frame rate

Built-in LED light

Infrared resolution is optional

EMC
EN: 61326-1
EN: 61010-1







DT-988/988H/9887/9887H/9888 series is a series of intelligent professional infrared thermal imager independently designed, developed and launched by WiSono Technology Co., Ltd. 160*120, 384*288.640*512 high infrared resolution can be selected, with 50Hz high infrared frame rate resolution, temperature imaging is more sensitive and clear; Double injection molding shell, IP54 waterproof and dustproof, strong and durable and can be applied to a variety of temperature measurement environment; A variety of communication functions, can timely record the temperature measurement of the scene, and save and analyze; Widely used in power construction and maintenance, electrical maintenance, rail transit, equipment failure repair, HVAC and other industries.

Thermal imaging technology parameters		DT-988	DT-988H	DT-9887	DT-9887H	DT-9888
Infrared resolution		160x120	160x120	384x288	384x288	640x512
Angle of view	29.8°x 22.6°	29.8°x22.6	29.8°x22.6	24.6°x18.5°	24.6°x18.5°	31.9°x21.7°
Spatial resolution IFOV	(IFOV)	3.33mrad	3.33mrad	1.15mrad	1.15mrad	0.89mrad
Thermal sensitivity NETD	<0.05°C @ +30°C (+86°F)/50 mK	√	√	√	√	√
Infrared image frame frequency	50Hz	√	√	√	√	25Hz
Mode of focus	Infrared image frame frequency	√	√	√	√	Fixed focal point
Factory standard lens		7.5mm	7.5mm	19mm	19mm	13.5mm
Display screen	3.5" HD color TFT Capacitive Touch IPS Screen (640x480)	√	√	√	√	√
Image display mode	Infrared image, visible image, picture-in-picture fusion function (visible and infrared AUF fusion)	√	√	√	√	√
Color palette	Iron red, rainbow, gray, white gray, blue red, hot and cold, feather red, tan, custom	√	√	√	√	√
Range of measuring	Low range: -20℃ to + 150c/ high range: 0c to + 650c High temperature: -20c to + 1500c	√	√	√	√	√
Accuracy	±2℃ or ±2% of the measured temperature, take the large value	√	√	√	√	√
General parameters						
Emissivity	Adjustable from 0.01 to 1.0	√	√	√	√	√
High and low temperature detection and alarm	Automatically mark the highest temperature and lowest temperature in the area	√	√	√	√	√
Laser/light	Less than class 2/ self-light LED	√	√	√	√	√
Setting up commands	Unit, language, date, time, information	√	√	√	√	√
Language selection	English, Chinese, German, French, Spanish	√	√	√	√	√
Point analysis						
Line analysis/area analysis	2 (horizontal and vertical)/3 movable boxes (Max, min, mean)	√	√	√	√	√
Isothermal analysis	Detect high temperature, low temperature and temperature range	√	√	√	√	√
Measurement correction	Emissivity, ambient temperature, reflected temperature, distance, relative humidity, temperature compensation	√	√	√	√	√
Storage	16GB card is standard	√	√	√	√	√
Video storage format	Standard mpeg-4, 640x480@30fps	√	√	√	√	√
Video Storage mode	Infrared, Visible light, Fusion	√	√	√	√	√
Image storage format	Standard JPEG with temperature data	√	√	√	√	√
Image storage mode	Infrared, Visible light, Fusion	√	√	√	√	√
Visible light camera	640x480 pixels	√	√	√	√	√
USB interface	USB-mini	√	√	√	√	√
WIFI communication						
Video output	Video streaming and picture delivery	√	√	√	√	√
Battery	Rechargeable lithium battery	√	√	√	√	√
Input voltage	DC 5V	√	√	√	√	√
Power management	Automatic shutdown	√	√	√	√	√
Operating/Storage temperature /Relative humidity	-20°C to 50 °C/ -40 °C to 70°C/10%RH to 90%RH	√	√	√	√	√
Protection grade/Fall resistant grade	IP54/2 m drop	√	√	√	√	√
Impact resistance/ Shock resistance	25g(IEC60068-2-29)/25g(IEC60068-2-6)	√	√	√	√	√
Product Information						
Dimensions of products	228 x 100 x 98mm					
Weight	520g					
Packaging/Accessories	Manual, Warranty card, Power adapter, Battery, Memory card, Cable, Tool box					



Monitoring type infrared thermal imager
DT-971H/971S

Cloud sound technology DT-971H/971S online monitoring infrared thermal imager, through the network port and software analysis and operation platform, in the power equipment operation, border defense, fire scene and other fields, to provide more efficient and safe continuous monitoring thermal sensing temperature measurement imaging.

DT-971S





DT-971H

Product Features
100MBPS Internet speed
Composite video compensation (PAL or NTSC) on-line real-time monitoring
50Hz high frame rate security monitoring, temperature faster and more sensitive
Powerful data analysis software
Can set several different temperature values of the automatic alarm function
Enrich the available standard interfaces
Image optimization function, highlight target details, and be more easily identified and monitored
Lens: mark and 7.5mm(22/33mm optional)

EMC
EN: 61326-1
EN: 61010-1



RL-33
33mm Lens



RL-22
22mm Lens

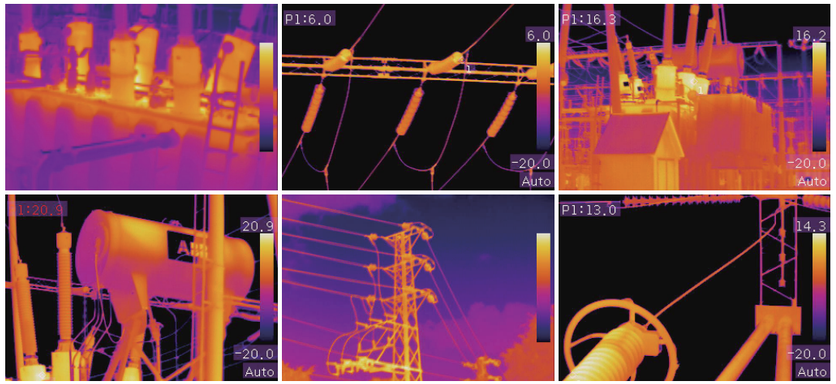


RL-7.5
7.5mm Lens

Thermal imaging technology parameters	
Thermal sensitivity NETD	<0.08°C @ +30°C (+86°F)/80 mK
Image frame rate	50Hz
Mode of focus	Manual
Distance of focus	7.5mm
Wavelength of operation	8~14 um
Resolution	160 × 120 pixels
Range of measuring	-20°C to +150°C (-4°F to +302°F 0°C to +400°C (+32°F to +752°F)
Accuracy	±2 ° C (±3.6°F) or ±2%, The Maximum
Optical parameters	
Angle of View (FOV)/ minimum focus distance	29.8°× 22.6°/0.2m
Spatial resolution (IFOV)	3.33mrad
General parameters	
Point analysis	Center point
High and low temperature detection	Automatically track the highest temperature and lowest temperature in the marked area
Emissivity	0.01 to 1.0 adjustable
Interface	Power supply, LAN, composite video
Video output	Composite video (PAL and NTSC)
Input voltage	9V to 12V DC
Connector type, video interface type	100Mbps，RJ-45，CVBS
Alarm output	2 Relay outputs
Optional lens	
11mm	FOV=20.6°×15.5°
22mm	FOV=10.4°× 7.8°
33mm	FOV=6.9°× 5.2
Product Information	
Dimensions of products	90x74x74mm(971H)/130x60x74mm(971S)
Weight	1000g
Packaging/Accessories	Thermal imager with lens,CVBS cable, network cable, packaging box

Online monitoring and warning system for infrared thermal imager

WiSono Technology Co., Ltd infrared thermal imaging online monitoring and warning system, adapt to the complex weather conditions in the long distance, ultra-long distance detection and monitoring, this series of infrared thermal imaging monitoring with continuous optical, electronic automatic zoom, high resolution and other superior features, in the rain, fog, snow, haze, darkness and other extreme weather can carry out the tracking and detection of suspicious behavior.



Product Features	
All weather 24 hours online monitoring	Line access, real-time transmission
The data is collected and processed centrally	Rich and practical analysis software
Automatic warning and positioning	Subregional monitoring

Technical Specifications					
Model number	CAM80	CAM160	CAM384	CAM640W	CAM979
Thermal imaging technology parameters					
Resolution	80x80	160x120	384x288	640x480	160x120
Thermal sensitivity NETD	<100mK	<80mK	<60mK	<50mK	<80mK
Image frame rate	50Hz				
Mode of focus	Manual				
Distance of focus	9mm	7.5mm	22mm	38mm	7.5mm
Wavelength of operation	8-14um				
Field of view/minimum focal length	17x17°/0.5m	29.8x22.6 /0.2m	24.6x18.6°/0.2m	24.6x18.6°/0.3m	29.8x22.6°/0.2m
Spatial resolution	3.78mrad	3.33mrad	1.14mrad	0.45mrad	3.33mrad
Temperature measuring range	Two gears -20~150°C 0~350°C	Two gears -20~150°C 0~400°C			
Accuracy	±2°C(+3.6F) or ±2% of the reading, The Maximum				
Image display					
Image display mode	Infrared only image				Infrared images and visible images
Color palette	Color palette Iron red, rainbow, gray, white gray, tan, blue red, hot and cold, humidity				
Infrared lens	9mm	7.5mm 11mm 22mm 33mm	11mm 22mm 38mm	50mm 75mm 100mm 40-160mm	11mm 22mm 33mm
Data communication interface					
Interface	USB, Composite video				Composite video
USB	Remote control				
Joint	Network interface				100Mbps，RJ-45，H.264
Video output	PAL/NTSC				
Alarm output	2 Relay outputs				
Class of protection	IP65			IP67	
External power supply	AC220V@50Hz / DC9V-12V				



Optional lens



DT-CH11



DT-CH12



DT-CH16



DT-CH18

Zoom lens Technical specifications (optional)				
Model number	DT-CH11	DT-CH12	DT-CH16	DT-CH18
Focal length (mm)	50mm	75mm	100mm	40-160mm
Aperture of light	F1.0	F1.0	F1.0	F1-F1.2
Spatial resolution (milliradians)	0.34	0.23	0.17	0.43-0.11
Horizontal field of view (degree)	12.4	8.3	6.3	15.5/3.9
Vertical field of view (degree)	9.3	6.3	4.7	11.6/3
Full field of view (degrees)	15.5	10.5	7.8	19.3/5
Minimum focusing distance (meters)	1	4	5	6
Detector resolution (pixels)	640x480	640x480	640x480	640x480
Pixel spacing (micron)	17	17	17	17
Focus form	Manual	Electric	Electric	Electric
Performance of sealing	IP67	IP67	IP67	IP67
Operating temperature	-40°C-60°C	-40°C-60°C	-40°C-60°C	-40°C-60°C
Weight	420g	760g	1.9Kg	5.6Kg
Product Information				
Dimensions of products	195×115 ×83mm			
Weight	1000g			
Packaging/Accessories	Thermal imager with lens,USB cable,CVBS cable, packaging box			