

Applications in Power Grid

iTest S860 Acoustic Camera

- 128 MEMS microphones
- Locating defects (**electrical, vibration, leakage**)
- One-handed operation for flexibility
- 8 megapixel HD camera clearly shows defects
- Real-time display of the discharge level on screen
- Automatic determination of the type and severity of PD according to tested equipment
- Testing frequencies from 2kHz-65kHz
- Testing range from 0.3 m-100 m
- Photos and videos for recording abnormal spots



Why is acoustic imaging testing necessary?

The grid system has many devices and a complex structure. With the growth of equipment operation time, equipment gradually aging. It is easy to cause faults in equipment, resulting in large area blackouts, reducing the reliability of the entire grid and causing inconvenience to society.



How acoustic cameras detect power equipment?

Based on the anomalies localized on screen of the acoustic camera, which become more visible as the electrical equipment deteriorates. It also has a multi-point detection mode, which effectively covers every hidden area and improves detection efficiency.



How to determine defects?

If there are obvious acoustic signal on the equipment, this indicates an anomaly. The abnormal electrical equipment should be repaired or replaced according to the outage plan. If there are multiple anomalies, the defect is serious and needs to be repaired or replaced as soon as possible.



Can I see multiple anomalies on the screen?

Multiple partial discharge, abnormal vibration, or leakage can be displayed simultaneously

Methods for detecting live equipments

UV Camera, IR Camera, All-in-one PD detector

iTest S860 Parameters Advantages and Applications

Acoustic Parameters	
Acoustic Measurements	128 low-noise MEMS microphones
F. O. V.	70°
Dynamic Range	Up to 110
Bandwith	2kHz-65kHz, Adjustable
Frame Rate	25FPS
Measuring Distance	0.3 m-100 m
Functions	Power Grid Mechanical Vibration Gas Leakage
Physical & Battery Data	
Dimension	316mm×196mm×106mm
Weight	1.1kg
Battery Capacity	6700MAH@7.2V
Duration	3 hours
Charging	USB Type-C interface, , USB PD protocol
Power	Max. power 20W
Environment Parameters	
Operating Temperature	-10°C~+50°C, 10%-95% non condensing
Storage Temperature	-20°C~40°C
Charging Temperature	10°C~45°C
User Interface	
Screen	Size: 7", 1024 x 600; Color: 24-bit RGB; Brightness: 1000cd/m²
Input	Touch Screen
Video Resolution	1640×1234 VIDEO
Video Frame Rate	25 FPS
Image Frame Rate	30 FPS
Communication & Storage	
External Storage	64GB SD card
Internal Storage	8GB, Emergency storage only
Data Storage Format	.jpg & .mp4
Camera	
F. O. V.	70°
Focal Length	3.04mm (fixed)
Pixels	8 million
Built-in Battery	6Wh Lithium battery

Problems with usual testing method

Usual Method for Detecting PD: Difficult to locate the PD for open equipment.

Usual Method for Detecting Gas Leakage: IR camera are expensive with limited applications

Problems with usual method: It is difficult to locate the anomalies by usual method, and the positioning equipment are too expensive to use on a large scale.

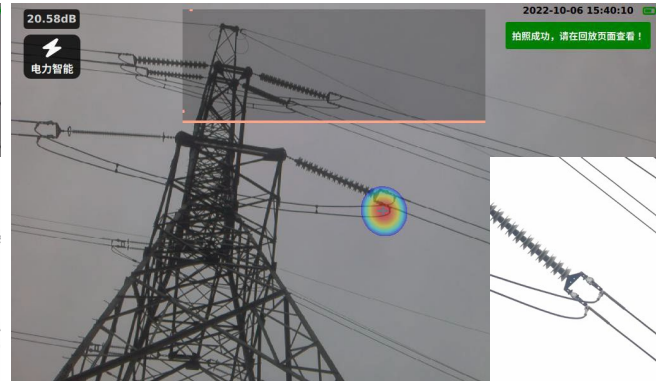
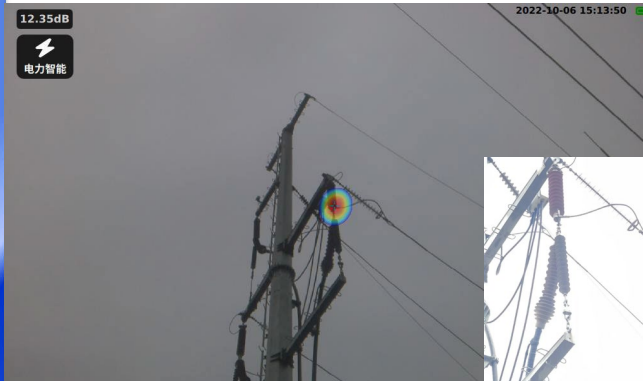
Precautions when using acoustic camera:

- Avoiding external noise interference during testing to prevent positioning deviations
- It is recommended that the multi-point positioning mode of the acoustic camera be switched on to prevent missing abnormal positioning points
- When testing, pay attention to safety and maintain a safe distance

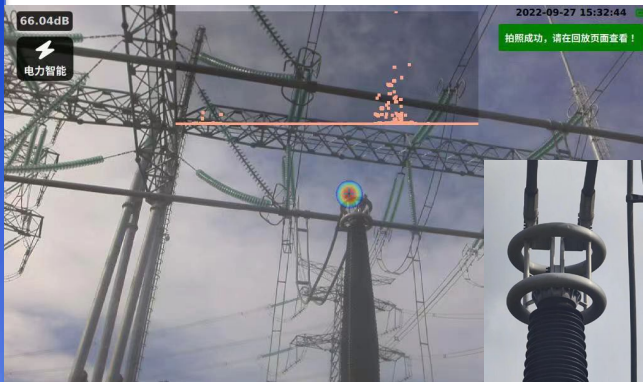


iTest S860 Defects Examples in Field Testing

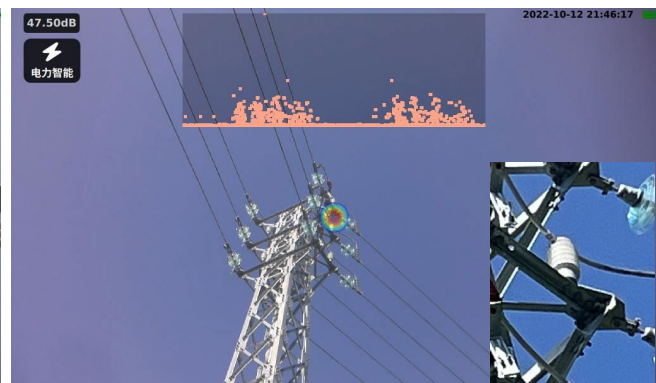
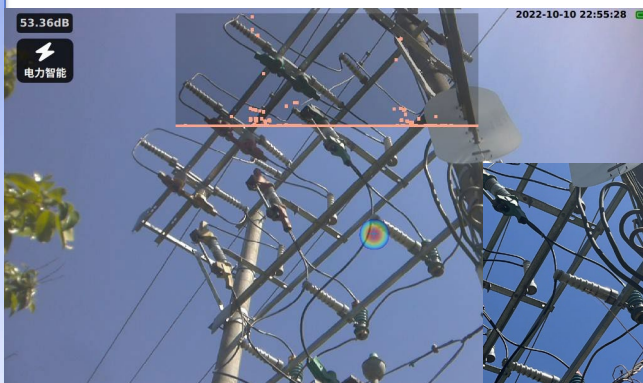
Examples on transmission lines




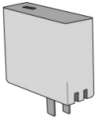






Examples in substations



Examples in distribution lines



iTest S860 Accessories in Protection Box

Appearance	Name	Clarification
	Host (1 unit)	S860
	Charger (1 pcs)	1 pcs of Power adapter for device charging
	Charging Cord (1 pcs)	Power cord for device charging
	Power Bank (1 unit)	Used as a backup power
	Protection Box (1 unit)	For storing the host and accessories
	USB reader (1 pcs)	For reading the collected data
	SD Card (1 pcs)	For data storage
	Wristband (1 pcs)	To prevent equipment from slipping