

HPD5000X

Portable Partial Discharge Detector



Focusing on designing and manufacturing portable HV test equipment.

PD detector, HV Switchgear analyzer, CT/PT analyzer, Micro-ohmmeter, Capacitance & Dissipation factor tester.

HANDY

Electrical Instruments Professional Manufacturer

Portable Partial Discharge Detector

HPD5000X

HANDY



Features

- Ultra-high frequency (UHF) method for GIS PD detection.
- TEV coupler for Switch cabinet PD detection.
- Ultrasonic PD detection by acoustic and contact sensor.
- High frequency current transformer (HFCT) for HV cable PD detection.
- Infrared camera for abnormal thermal pattern awareness.
- Ozone and nitrogen oxides gas detection.
- Vibration analysis for machinery.
- Acoustic image camera for PD source visualization.
- External expansion port for future upgrades.

Specifications

UHF Measurements

Bandwidth	300 to 1500MHz
Selective Frequency Filter	High-pass, Low-pass, Band stop, All-pass
Sensitivity	1.8V/m
Dynamic Range	65dB

HFCT Measurements

Bandwidth	3 to 30MHz
Anti-interference Filter	10MHz, 17MHz, 24MHz
Sensitivity	2pC
Dynamic Range	80dB
Linearity Error	$\leq \pm 5\%$
Impedance	$\geq 10\Omega$

TEV Measurements

Coupling Bandwidth	3 to 100MHz
Dynamic Range	80dB
Linearity Error	$\leq \pm 1\%$
Coupler Capacitance	50pF

AE Measurements

Bandwidth	20 to 200kHz
Dynamic Range	100dB
Linearity Error	$\leq \pm 7\%$
Sensitivity	-67dB@40kHz



UHF antenna



HFCT sensor



Ultrasonic sensor



Gas sensor



Vibration sensor



Mobile pouch



Specifications

Acoustic Sensing	
Microphone	40 Digital MEMS
Frequency Range	5k to 60kHz
FoV	63°
Frame Rate	25FPS
Thermal Camera	
Pixel	256*192
FoV	51°
Frame Rate	30FPS
Temperature Accuracy	±3℃
Temperature Range	-10 to 50℃
Visual Camera	
Pixel	48MP
FoV	79°
Gas Sensing	
Detectable Gases	O ₃ , NO, SF ₆
Sensitivity	0.1ppm (O ₃), 1ppm (NO), 0.1ppm (SF ₆)
Display	
Size	5.46"
Brightness	1100 Nit
Resolution	1080*1920
Frame Rate	60FPS
Main Unit	
Size	200*110*52mm
Weight	950g
Battery Types	Li-Po
Battery Capacity	35Wh
Battery life	6hrs
Wireless Transmission Box	
Size	105*70*35mm
Weight	240g
Battery Capacity	10Wh
Battery life	6hrs
Operation Enviroment	
Operating Temperature	-10 to 50℃
Extreme Temperature	-20 to 60℃
Operating Humidity	≤90%RH

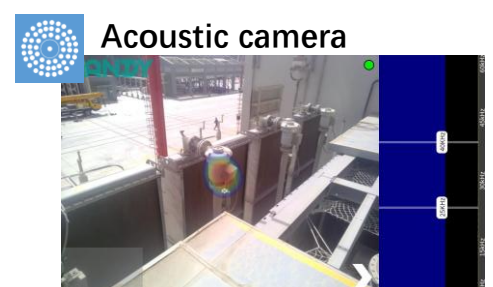
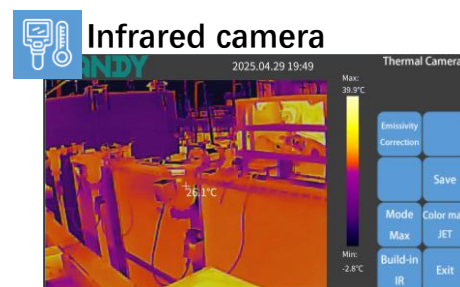
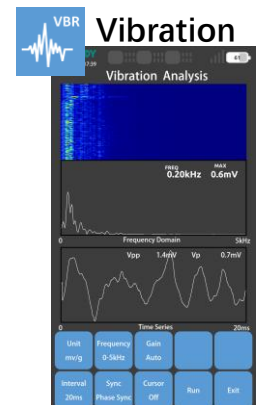
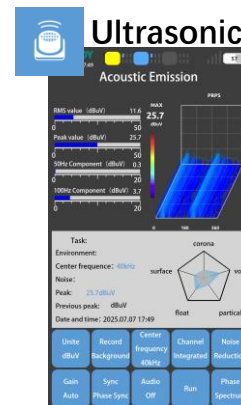
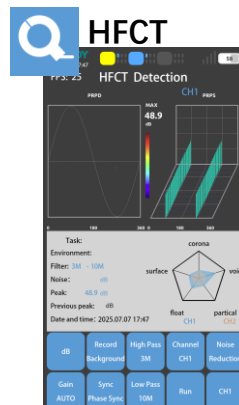
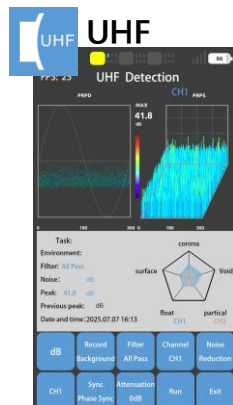
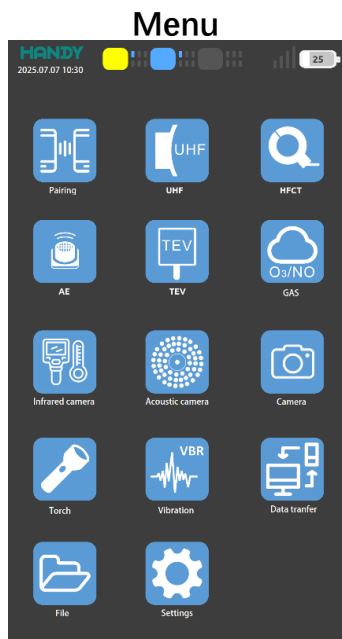


Applications

- Transformers
- Gas Insulated Switchgear (GIS)
- Power Cables
- Switchgear
- Other Equipment

The HPD5000X is an integrated inspection device that combines **PD detection**, **infrared thermal imaging detection**, **acoustic imaging detection**, and **ionized gas detection**. Its built-in acoustic imaging camera is based on the principle of microphone array beam forming, used to locate open discharges, compressed gas leaks, vacuum system leaks, noise sources, and more. The acoustic imaging camera is equipped with a visible light camera and an array microphone, allowing the overlay of sound source heat maps onto real-world images to pinpoint sound sources. For gas detection, the device can measure the concentration of gases such as ozone and nitrogen monoxide produced by discharges, enabling the identification of partial discharges from a chemical perspective.

Interfaces



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