PD30 DR (Drone)

Drone Solution Partial Discharge Acoustic Camera

Substation failure can cause severe outcomes, including injury or fatality, creating outages and halting production.

Overhead cables, switchgear, electrical tower, etc., are not easy to test during routine maintenance. It is always harsh for electrical professionals to overcome the field environment. The issue is how to fight with the weather and the dangerous working conditions. But if problems occur, Partial Discharge (PD) causes flashover and loss. It will damage the High Voltage switchgear and cabling and cost many repairs, replacements, and production halts.

PD-30 DR (DRONE) is an intelligent drone solution with a PD acoustic camera, DJI PSDK development and fast docking for M300 RTK drone: excellent anti-interference and stable performance for all-weather in live detection. Self-developed gimbal adapted to drone communication, highly integrated design. It can help with pre-maintenance of power equipment such as transmission, distribution and railway lines, petrochemical, forest fire prevention, emergency rescue, industrial, inspection services, and other applications.

It is lightweight (980g) with a noise reduction algorithm to reduce the noise. Also, the PD's time domain features and PRPD spectra will be displayed in real-time on the drone's remote control. The camera runs a rapid multi-target scanning and high detection efficiency. It can accurately locate Partial Discharge at all times to display and record. Its Drone operation is very convenient and cost-effective for HV facilities maintenance.



Features

- Lightweight design weighs only 980g
- One of a few acoustic cameras to carry on drones:
- Metal material + unique noise reduction algorithm to reduce the noise
- Full coverage of 2KHz ~ 65KHz, automatic adjustment of detection frequency band
- Time domain features and PRPD spectral of PD displayed in real-time on the remote control
- Rapid multi-target scanning and high detection efficiency

PRECAUTIONS AND EXAMPLES

What are the advantages of **PD30 DR**?

- **High Efficiency:** 62° large F.O.V., 25FPS refresh rate, high inspection efficiency.
- **Direct View:** It works with highly precise algorithms, accurate positioning of PD, and real-time image return.
- **Intelligent**: Offline PD type identification, real-time PRPD spectra, intelligent diagnosis of PD.
- **High Noise Immunity:** Anti-noise algorithm + Metamaterial + Noise reduction structure.
- **High Adaptability:** Adapted DJI M300RTK, PSDK development, single person operation.
- **After-sale Service:** We provide a 2-year warranty, after-sales service, quality spare parts and a professional team to provide online training and consultation support.

Examples of Transmission Lines



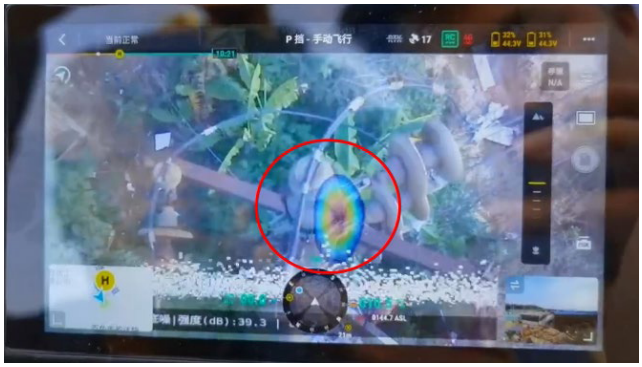


Examples of Distribution Lines (Lead Wire)





Examples of Distribution Lines (Porcelain Insulator)





TECHNICAL SPECIFICATIONS

ACOUSTIC PARAMETERS

Acoustic Measurement	64 Low-noise MEMS Microphones
F.O.V.	70°
Dynamic Range	>120dB
Bandwidth	2kHz ~ 65kHz, Adjustable
Range Adjustment	Automatic
Frame Rate	25 FPS
Measuring Distance	0.3m ~ 100m
Test Objects	Distribution Line Transmission Line Substation

PHYSICAL & BATTERY DATA

Dimension	186mm x 186mm x 55mm
Weight	980g
Port	USB Type-C, USB PD Protocol

BATTERY DURATION

Duration	Duration of Drone Flight

USER INTERFACE

Input Device	Remote Control
Resolution	1640 x 1234 Video
Video Frame Rate	25 FPS
Acoustic Image Frame Rate	30 FPS

COMMUNICATION & STORAGE

External Storage	Remote Control
Internal Storage	1640 x 1234 Video
Data Storage Format	JPG / MP4

CAMERA

F.O.V	70°
Focal Length	3.04mm (Fixed)
Pixels	8 Million

ENVIRONMENT PARAMETERS

Working Condition	-10°C ~ +50°C, 10% ~ 95% Non-condensing
Storage Temperature	-20°C ~ 40°C

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