

ZH480 CORONA DETECTION CAMERA

ZH480 UV Camera is a powerful dual-channel UV imaging equipment with a wide-angle and telephoto lens. It can accurately locate corona and arc, display and record the photon number of discharge. With a moderate spectral range, the camera can be used in the daytime under sunshine. It can realize the prospective and pre-maintenance inspection of electrical equipment such as substation, transmission and distribution line, generator and railway line. It can also be used in mining, petroleum, heavy industry, fire prevention, insurance, detection services and other industries. Using a high-performance UV detector and filter, it has high sensitivity and can detect weak UV signals. High precision image registration and fusion algorithm are used to obtain accurate location and clear images and videos.



ZH480 Key Features

Dual F.O.V Lens: 13.3*10.6°(Wide Angle)& 5*3.75°(Telephoto)

Convenient Field Inspection

An external wide-angle or telephoto lens is more than 500 g. You need turn it on and off for calibration after changing the lens. ZH480 doesn't need to change the lens on site, and can be easily switched by the menu, the overall weight is only 1.8kg.

High Cost-performance

A separate wide-angle or telephoto lens costs a lot. ZH480 adopts built-in dual F.O.V lens, and one camera serves for multiple purpose, which can greatly save your cost.

Wide scope of application

For a close target (substation), the whole component (such as bushing) needs to be imaged in a wide field of view. For long-distance target, you need a telephoto lens to clearly image the target. Traditional UV camera is hard to view the whole object in close range.

Efficient Inspection

The test area can be increased by 4 times at the same distance by using wide angle lens. The comprehensive inspection efficiency can be increased by 4 times with ZH480 dual F.O.V UV camera.

※ High Sensitivity Detector

High-performance no attenuation UV detector is very powerful for weak UV signal generated from discharge corona.

※ Accurate Photon Number

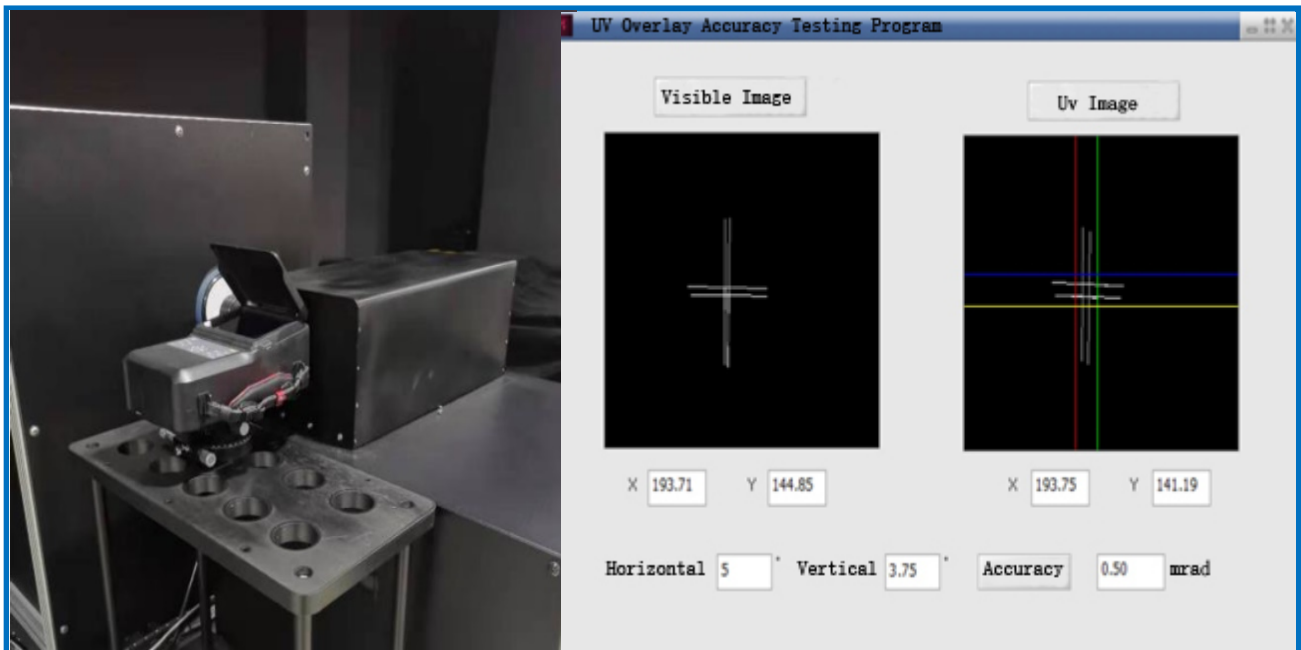
Up to 5 types photon counting boxes can be selected for quantitative analysis. Single or multiple areas corona photons counting.

※ High performance Filter

High precision 240-280nm cutoff wavelength UV filter, which has excellent out-of-band rejection performance and will not be interfered by sunlight.

※ Accurate Positioning

High precision image fusion algorithm can accurately locate the corona position, the overlay accuracy is 0.5mrad.



※ Ergonomic Design

One press button, 64G TF card, 3 * 4.5 hours continuous operation; compact 1.8kg; portable and can be operated by one hand.

※ Multiple Configuration

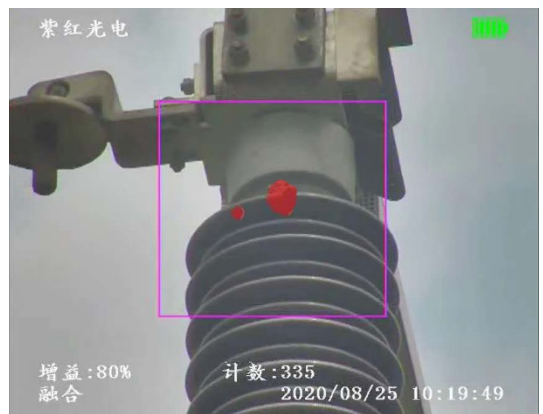
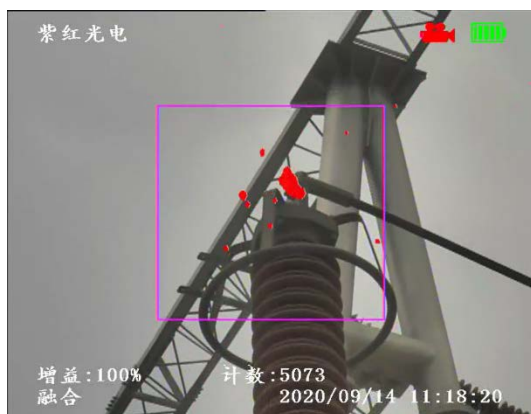
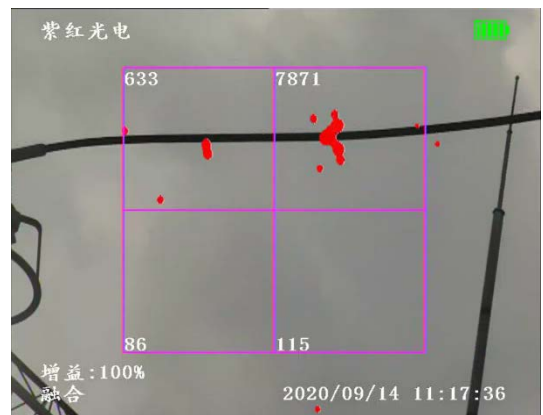
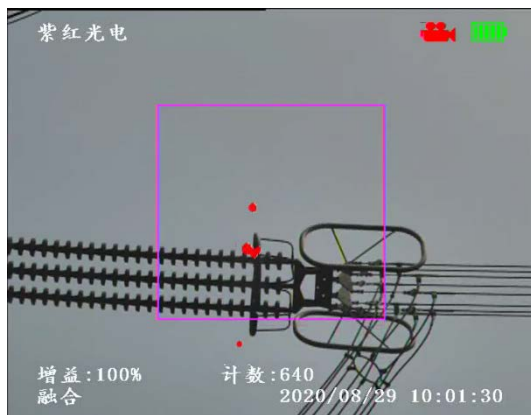
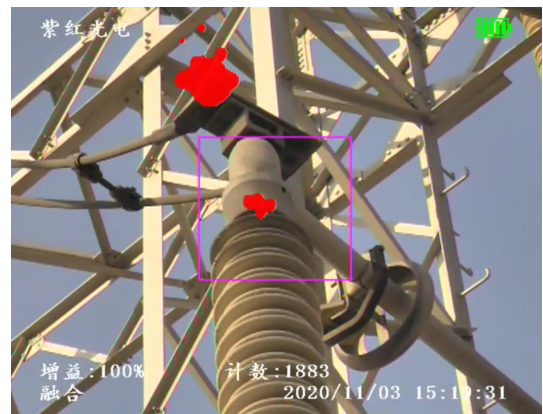
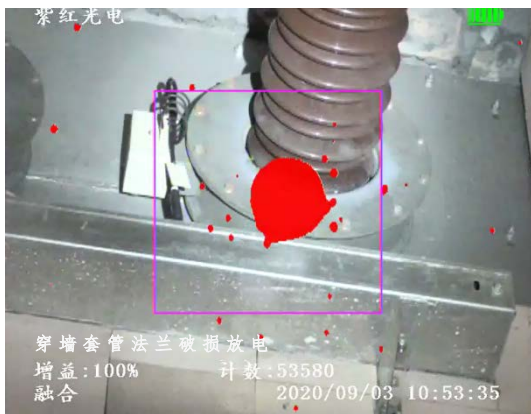
Standard configuration with 3 pcs batteries. Tripod, image report unit, temperature and humidity sensors, distance sensors, GPS etc are optional.

※ Expert Diagnostics

Provide professional test report from EPRI. Meet the 《Charged Device Technology Application Guidelines for UV Diagnostics》.

※ After-sales Service

1+1 year warranty; enough spare parts; Local after-sales engineers will be trained to provide locally and rapidly repairment.



ZH480 Technical Specifications

UV - OPTICAL PROPERTIES	
Spectral Range	240 ~280 nm
Minimum Discharge Sensitivity	1Pc/10m
Minimum RIV Sensitivity	3.6dB μ V (RIV) @ 10m
Minimum UV Sensitivity	2.0×10^{-18} Watt/cm ²
Focus & Focus Range	Auto, 3m ~ ∞
F.O.V	Switchable, 13.3 * 10.6° & 5 * 3.75°
VISIBLE - OPTICAL PROPERTIES	
Focus Range	3m ~ ∞
Minimum Visible Light Sensitivity	0.1 Lux
Focus	Auto
DISPLAY	
Modes	Combine(UV+VIS), UV only, Visible only
UV/Visble Overlay Accuracy	1 mrad
Type	5 inch color Transflective Sunlight readable LCD
Brightness	450 cd/cm ²
Resolution	736*576, 720P optional
Status Informatioon Display	battery, gains, counting number, date, focus
CONTROLS AND OPERATION	
Status Modes	real time, sleep, power off
Continuous Opereation	Continuous operation, no cooling system
Controls Command	One for One keyboard input
SAVE AND PLAYBACK	
Video	Provided
Still Images	Provided
Data Save	32G TF Card
Video Format	MP4
Stills Format	JPG
Playback function	Video and Still Images
CHARACTERISTICS	
Detector	Life without attenuation
Images fusion	images fusion algorithm
Colors	multiple colors selectable
POWER SOURCE	
Battery	Rechargeable batter
working hours	>4.5h
Adapter	DC14.8V 12W
ENVIRONMENTAL	
Storage and Operation Temp	-20℃ — +55℃
PHYSICAL PARAMETERS	
Dimensions L*W*H	24.4×13.5×9.6 cm
Weight	1.8 kg



ZH480-UAV

Drone Carried UV Camera



High Sensitivity



Out-of-band Rejection



Auto Report



High Efficiency



Compact Lightweight



Wide Application

ZH480-UAV Drone Carried UV Camera is configured with a special PTZ and UV imager host, combined with DJI PSDK development, fast docking with M300RTK, with good seismic resistance and stability. The flight testing is very convenient and can be performed day or night for precise positioning, display and photon counting. ZH480-UAV drone carried UV camera can be used for prospective and pre-maintenance strip testing of operating equipment on transmission and distribution lines and substations; it can also be used in railroads, petroleum, fire prevention, emergency rescue, inspection services and other industries.

Features

High Sensitivity Detector

Using high-performance UV detector, can detect the tiny corona discharge day and night.

Accurate Positioning

Adopt high-precision image fusion algorithm, accurately locating the discharge position, quantitative intensity.

One-man Operation

Adapt to DJI M300RTK, one-man operation while controlling the drone, PTZ and UV host

Highly Integrated Design

1280*720 HD UV and VIS images, host within 1kg, endurance up to 40 minutes

Counting Functions

Five counting modes: full/quad/large/medium /small, threshold alarm, accurate positioning discharge.

Quality Service

1 year warranty, 24h response; UV imaging trainer and drone pilot licensed to work

Specifications

UV properties

Spectral Range	240 ~ 280 nm
Discharge Sensitivity	1Pc@10m
RIV Sensitivity	3.6dBμV (RIV) @ 10m
UV Sensitivity	$2.0 \times 10^{-18} \text{ watt/cm}^2$
F.O.V.	$12.6^\circ \times 7.2^\circ$, $5^\circ \times 3.75^\circ$
Focus	Auto, 1.5m ~ ∞
VIS Sensitivity	0.1 Lux

Display and output

Display Mode	UV、VIS、Fusion
Overlay Accuracy	$\leq 1\text{mrad}$
Display	M300/M350 flight control
Image	jpg
Video	AVI
Resolution	1280×720
Gain	0-100%
Photon Counting	5 modes, Full/Large/Medium/Small/Qaud
Status Information	Date、Time、Gain、Counting、Alarm
Alarm Threshold	Provided

Drone (Optional)

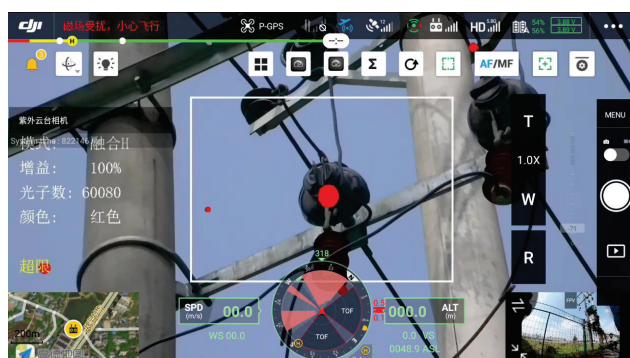
Slze	Unfold 810×670×430 mm、Fold 430×420×430 mm
Weight	3.6kg、6.3kg(With two batteries)
Maximum Load	2.7kg
Maximum Flight Altitude	5000m
Maximum Wind Speed	15m/s
Maximum Flight Time	55min
IP Rating	IP45

Environmental

Operation Temp	-20 - +55°C
Operation Humidity	$\leq 90\%RH$



Products



ZH480-ONL Online Corona Detection Camera



ZH480-ONL is a dual-spectrum integrated imaging system of UV and visible light, which can detect weak corona which has UV radiation of the partial discharge. It can conduct online real-time monitoring, quantitative indication, and intelligent analysis of HV electric facilities. Through the front-end, on-site inspection units with a control center, an on-line intelligent power facilities analysis system is constructed to effectively improve the operation safety, automation & intelligence level of the substation. It is an innovative technical means for the discharge monitoring of power equipment.

Advantages & Characteristics

- ✧ High sensitivity UV detector
- ✧ Accurate image fusion algorithm
- ✧ Accurate positioning
- ✧ High resolution visible camera
- ✧ 360° rotating high-precision pan-tilt Industrialized design, durable, stable
- ✧ Multi-screen for real-time monitoring
- ✧ Set the preposition of patrol inspection Unattended humanized control panel Multi-parameter control and
- ✧ Accurate UV photon counting
- ✧ Daytime usable, unaffected by sunlight
- ✧ One-line design of communication and control central remote signal transmission
- ✧ Powerful background analysis and diagnosis
- ✧ Integrated design for monitoring
- ✧ Early warning
- ✧ Lightning protection, interference prevention
- ✧ Grounding measures
- ✧ Accept customization
- ✧ No attenuation detector
- ✧ Digital image filtering and noise reduction



ZH480-ONL Corona Camera Core Unit

ZH480-ONL Online Corona Detection Camera Technical Specifications

Features of UV Camera	
Spectral Range	240 ~ 280 nm
Minimum Discharge Sensitivity	1Pc/10m
Minimum RIV Sensitivity	3.6dB μ V (RIV) @ 10m
Minimum UV Sensitivity	2.2×10^{-18} watt/cm ²
F.O.V.	Switchable, 13.3 * 10.6 & 5 * 3.75
Focus Range	3m ~ ∞
Focus	Auto
Variable Speed Pan-Tilt Features	
Horizontal Range of Motion	0° ~ 360° continuous rotation
Horizontal Speed	0.01° ~ 60°/S
Vertical Range of Motion	-75° ~ +40°
Vertical Speed	0.01° ~ 30°/S
Preset	Support 128 presets
OSD	Chinese and English menu, real-time display
Relay Output	4 ways
Angle Backhaul&Control	Real-time backhaul and control
Lens Control	Available, configure lens preset interface
Features of VIS Camera	
Imaging Device	1/4 inch SuperHAD CCD
Parameter of Lens	10x optical zoom
Minimum illumination	Chromatic color 2Lux, 0.004Lux; black&white 0.2Lux
Horizontal Resolution	Chromatic color 600TVL, black&white 700TVL
Electronic Shutter	1/100-1/10000s
Signal-Noise Ratio	52dB
Dynamic Detection	Available
Resolution	Effective pixel 736(H)x576(V)
Control Interface	Ethernet

Specifications are subject to changes without notice.