



## DayCor® LUMINAR HD

Handheld high definition corona camera

Luminar<sup>HD</sup> is a handheld corona camera enhanced with features that guarantee the highest sensitivity to UV, highest resolution and high quality recording. Luminar<sup>HD</sup> provides pinpointed and comprehensive data with information about the ambient conditions, fault location and corona strength. Findings are available in real time and displayed on a high definition LCD. Luminar<sup>HD</sup> assists inspectors investigate electrical faults and get a wider understanding of the asset condition. Luminar<sup>HD</sup> supports corona management and includes an interface to coronaWise software with auto-detect and data transfer. By using this camera, engineers benefit from immediate access to active faults. Additionally, the collected media can be used for analysis and trending. Luminar<sup>HD</sup> incorporates Ofil's benchmarked DayCor® proprietary technology ensuring daytime operation with the highest sensitivity to UV radiation of corona. Luminar<sup>HD</sup> is ergonomically designed and built for extended uninterrupted operation.

- » Highest sensitivity
- » Powerful zoom
- » Hi resolution TFT LCD
- » Recording & playback
- » HD 720p videos
- » Built-In GPS
- » Wi-Fi hot spot
- » LED & Backlit keyboard
- » Signals amplification
- » Noise reduction control

### SENSITIVITY IS THE KEY FACTOR

Corona can only be seen in daytime by a solar blind imager, but to be able to see UV photons, the corona elements, from afar and not miss any occurrence of corona, a hyper sensitive camera such as Luminar<sup>HD</sup> is required. To ascertain the performance of Luminar<sup>HD</sup> the camera has been tested and certified having a sensitivity of detecting as low as 1pC from a distance of 15 meters. Signal amplification and noise reduction contribute to better resolution and performance.

### SEE TO FORESEE - PREDICTIVE MAINTENANCE

Luminar<sup>HD</sup> is a HD video and stills recorder of corona events superimposed on visible imaging of their sources. The camera scores corona severity and indicates it on the output together with narration, ambient conditions and GPS. Luminar<sup>HD</sup> output is valuable to predictive maintenance, which relies on past performance evidence and documentation.

### DAYCOR® TECHNOLOGY INSIDE

Luminar<sup>HD</sup> is a high fidelity bi-spectral solar blind camera implementing Ofil's proprietary DayCor® technology [Registered Patent EP1112459B1]. Luminar<sup>HD</sup> offers over 3 hours ongoing continuous battery run time operation without overheating.

### PERFECTION IN EVERY DETAIL

Spanning from the spacious onboard function buttons with on/off backlight, through a pictorial menu, large adjustable TFT LCD, powerful LED flash light, preset profiles and more, up to the most elaborated detector, Luminar<sup>HD</sup> is dedicated to perfection. By achieving extremely ergonomic design and fortified detection power, Ofil enables you to enjoy a notably reliable product with excellent results.

### ALL IN ONE

Luminar<sup>HD</sup> is an outstanding testing equipment to enjoy under multiple conditions: whether indoors or outdoors, nearby or afar inspections, as a handheld unit or mounted, controlled locally or remotely. All features in one equipment, all requirements equally met. The powerful onboard LED takes care of dimmed working compartments, while full solar blind filter ensures full operation under sunny conditions. Powerful zoom, 1000 nits TFT LCD and HD video support resolving details of remote objects. Wi-Fi and Ethernet support controlling the camera remotely getting the output imaging onto an external monitor. Continuous operation without overheating and a rechargeable battery with extended lifetime helps accomplish efficient outdoor inspection.

# TECHNICAL SPECIFICATIONS

## UV - OPTICAL PROPERTIES

Minimum Discharge Detectionsc	1pC @ 15 m Tested & certified by Innogy SE-Eurotest Germany: IEC 60270:2000
Minimum RIV Detection	3.6dB $\mu$ V (RIV) @1MHz@10m Tested & certified by Innogy SE-Eurotest : NEMA107-1987
Minimum UV Sensitivity	2.05x10 <sup>-19</sup> watt/cm <sup>2</sup>
Fields of View	H: 10° - 1.6° V: 5.6°-0.9° Synchronized with visible channel, optic & digital, continuous
Focus	Full manual and auto focus for both channels
UV Zoom	2x Optical 6.25x Digital, Slaved to the visible channel
Spectral Range	240-280nm
UV Frames Integration	ON/OFF   ON: [Snapshot only   Amplification   False elimination filter]
UV Display Colors	Polychromatic: Red, Green, White, Black, Yellow

## VISIBLE - OPTICAL PROPERTIES

UV/Visible Overlay Accuracy	Deviation < 1 miliradian
Minimum Visible Light Sensitivity	0.06 Lux
Video Standard	HD, 720p ,1280X720px
Fields of View	H: 10° - 1.6° V: 5.6°-0.9° Synchronized with UV channel, optic & digital, continuous
Focus Range	0.6m   1.96ft Automatic & manual
Visible Zoom	12x Optical, 12x Digital, continuous
UV & Visible Channels Display Modes	Combine UV & Visible, UV only, visible only

## DISPLAY

Type	Color, sun readable, TFT LCD
Brightness	1000 cd/m <sup>2</sup> , adjustable backlight
Resolution	WVGA, 800 x 480 pixels RGB
Size	5"
Tilting	Adjustable angles

## I/O & CONTROLS

Input	Audio, temperature & humidity sensor, Mini USB, Ethernet
Output	HDMI, Aux, 1GB Ethernet, Wi-Fi, Mini USB
Functions Activation	Keypad buttons with adjustable backlight, featured menu, remote control
GPS	Built-in, internal antenna
Text Editor	Built-in
Data Export	Ethernet, Video-out, micro SD card
Flashlight	Built-in, LED, 2 steps

## ENVIRONMENTAL

Storage and Operation Temp	-20°C up to +55°C   -4°F up to +131°F, fanless
IP Rating	IP 54, up to 90%, non condensation

## MEDIA CAPTURE & DATA STORAGE

Video & Stills Capture & Playback	Internal, gallery display & playback video, audio & still pictures
Video Format	MOV res. 720p
Stills Format	JPG
Audio	M4A\1099
Digital Storage	Memory flash card Micro SD

## PHYSICAL CHARACTERISTICS & POWER SOURCE

Weight	2.2 Kg   4.85 lb
Dimensions L x W x H	L29 x W13 x H11.7cm   11.4" x 5.1" x 4.6"
Nominal Power Consumption	15 Watts
Power Source	Rechargeable (int & ext) battery run time >3 hours, Universal AC/DC 9.5V adapter
Mounting Point	Standard 1/4" X20 thread tripod mount
LED Indicators	On\Off, sleep mode, recording mode, power source

## ACCESSORIES

Close-up Lens; coronaWise Software; Temp & Humidity Meter plug, Remote Control wired or wireless



Innovative Technologies  
An ISO 9001 : 2015 Company

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## DayCor® UVollé

SC/VC models | In/outdoors | Video & Stills Camera | Value for Price

DayCor® UVollé-C compact handheld UV corona cameras for daytime inspections of electrical apparatuses in/outdoors, with special emphasis on ergonomic design and ease of operation. UVollé family incorporates Ofil's solar blind bi-spectral UV-Visible DayCor® technology having the highest sensitivity to corona signals as well as perfect signals positioning. UVollé cameras are used for remote non-destructive testing of high & medium voltage apparatuses, for seeing pinpointed information about corona partial discharge, and for recording videos with corona discharge. UVollé corona cameras reveal and display, in real time on-the fly, existing voltage related faults.

Ofil offers two variants UVollé- SC & UVollé- VC. These variants differ in their ability to take videos or stills. All other characteristics remain similar.

Fit for predictive maintenance in electrical utilities, metal fabricators (FAB), heavy industries, mines, refineries, data centers, workshops, electrical contractors and owners of high and medium voltage assets.

### A CAMERA TO FIND FAULTS WITH

Discover unexpected faults and pinpoint their location. Find out in real time existing corona, known as the source for corrosive processes in insulation, metal fittings, concrete etc., radio interferences, audio noise and ultraviolet radiation

### SEE TO FORESEE - PREDICTIVE MAINTENANCE

Inspecting with UVollé supports predictive maintenance. UVollé scores corona severity and indicates it on the output. The recorded corona blobs and their count together with narration, ambient conditions and GPS that are added by a dedicated GTRH sensor are the results of inspections. Aggregates of corona occurrences constitute the history of inspections and the base for trending analysis.

### SMART CAMERA

Multiple options are available onboard such as controlling sensitivity in order to focus on the corona source; changing the color of corona in order to make it stand out against the background; count corona events; select focus mode and zoom; or change the camera default settings. Optional accessories include lenses, remote controls, GTRH sensor and external monitors.

- » Hi sensitivity to corona
- » Hi resolution TFT LCD
- » Recording & playback
- » Visible & UV zoom
- » Manual and auto focus
- » Light weight, slim
- » LED & Backlit keyboard
- » Extended battery run time
- » Temp. & humidity sensor
- » Indoors and outdoors camera

### DAYCOR® TECHNOLOGY INSIDE

UVollé is a solar blind bi-spectral UV-Visible camera that incorporates Ofil's exclusive proprietary DayCor® technology [Registered Patent EP1112459B1]. UVollé provides reliable accurate data, showing the original occurrences of corona anchored to the emitters, operating continuously without overheating.

### PRACTICAL AND TECHNICAL

Inspectors expect to get more, fast, simple and clear. UVollé is built for inspectors, offering simple intuitive operation, user friendly interface, fast response, clear results of corona events. Turn on, aim, shoot and store. No calibrations nor any further adjustments are needed throughout its life.

### INDOORS AND OUTDOORS

A sun readable LCD with brightness control supports outdoor operation, while backlit keyboard and a powerful LED flashlight fit indoors shady conditions. Dynamic FOV with manual and auto focus match indoors inspections of nearby objects as well as outdoor inspection of remote objects. Long battery runtime support outdoor activity and AC/DC inlet is handy for indoors. Ongoing operation without overheating supports both indoors and outdoors, ensuring stable availability.

SC	VC	TECHNICAL SPECIFICATIONS	
<b>UV - OPTICAL PROPERTIES</b>			
√	√	Minimum Discharge Detection	1 pC @ 12m (tested by Innogy SE-Eurotest Germany: IEC 60270:2000 )
√	√	Minimum RIV Sensitivity	3.6 dBμV @ 1MHz @ 10m (tested by Innogy SE-Eurotest : NEMA107-1987)
√	√	Minimum UV Sensitivity	2.6x10 <sup>-18</sup> watt/cm <sup>2</sup>
√	√	Spectral Range	240-280nm
√	√	Detector Life Span	No degradation
√	√	UV Frames Integration	On   Off
√	√	Focus type	Slaved to visible
<b>VISIBLE - OPTICAL PROPERTIES</b>			
√	√	Minimum Visible Light Sensitivity	0.1 Lux
√	√	Spectral Range	Visible range, Full color
√	√	Focus Range and Type	0.9m   1.9ft to infinity, manual & auto (0.5m   1.6ft w/ close-up lens)
√	√	Zoom	10x Optical, 12x Digital
<b>IMAGING PERFORMANCE</b>			
√	√	Field of View (HxV)	6,4° x 4,8°
√	√	Focus	Full manual and auto focus for UV and visible channels
√	√	UV Zoom	3 steps
<b>DISPLAY</b>			
√	√	Image Modes	Visible/UV/Combine
√	√	UV/Visible Overlay Accuracy	Deviation < 1 miliradian
√	√	Display	4.3" Transflective sun proof color LCD (800X480 pixels), 600 cd/m <sup>2</sup>
√	√	Status Indicators	Battery, Memory, Gain, Counting, Date, Selected functions, Focus, Inspection mode , corona color, GPS (access.), Temp & Humidity(access.)
√	√	User Configuration Settings	Corona color (White, Red , Green, Yellow, Purple ) Time, Sleep Mode, LI, LCD Parameters
<b>CONTROL &amp; OPERATION</b>			
√	√	Working Modes	Real time, standby, off
√	√	Continuous Operation	Unlimited. No overheating
√	√	Control Inputs	Keypad hot keys & menu
√	√	Mounting Point	Standard 1/4" x20 thread tripod mount
√	√	Flashlight	Built-in, LED 2 steps
<b>MEDIA CAPTURE &amp; STORAGE</b>			
	√	Video Capture & Playback	
√	√	Stills Capture & Playback	
√	√	Digital Storage	Removable SD card
	√	Video Format	AVI
√	√	Stills Format	BMP
	√	Audio	External microphone
<b>OUTPUT INTERFACES</b>			
√	√	Video Out (NTSC, Standard), GPS, Temp & Rel Humidity Meter	
<b>POWER SUPPLY</b>			
√	√	Battery type	Li-Ion
√	√	Battery Run Time	4 hours
√	√	External Supply	DC 9V
√	√	Nominal Power Consumption	6,5-10.5VDC, 10 Watts
<b>COMMUNICATION</b>			
√	√	Interface	RS232
<b>PHYSICAL CHARACTERISTICS</b>			
√	√	Size (LxWxH)	29x13,6x8,5 cm   11,4"x5,4"x3,3"
√	√	Weight	1.39Kg   3lb
<b>ENVIRONMENT</b>			
√	√	Operating & Storage Temp Range	-20°C up to +55°C   -4°F up to +131°F
√	√	Encapsulation	IP54
<b>ACCESSORIES</b>			
Close-up & Wide FOV Lenses; CoronaWise SW; Temp.& Rel Humidity Meter; GPS; Wired Remote control; Insepection Guide			



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