OFIL SYSTEMS >>Makes UVisible

DayCor® ROM

AERIAL WIDE SPECTRUM INSPECTION SYSTEM

A powerful stabilized inspection system for high speed aerial scanning. DayCor® ROM consists of the most UV sensitive solar blind sensor in combination with an assortment of complementary optical sensors such as: IR, HD TV and frame cameras. ROM system uses a gyro stabilized gimbaled payload that matches most helicopters and aircraft mounts. ROM users benefit from multifaceted radiometric data that directs to existing electrical and mechanical imperfections. Inspection with ROM reveals unnoticeable cases of faults, design mistakes, aged and broken elements etc., that can otherwise be overlooked. ROM is efficiently used for scanning long OHT lines, reaching remote hard-to-get areas, covering large substations. ROM airborne system can be customized to match customers' special requirements.

- >> Outstanding high sensitivity to corona
- >> Outstanding video resolution
- >> Outstanding performance in high speed flight
- >> Outstanding combinations of HD sensors
- >> HD video recording and storage
- >> UV and IR radiometric readings
- >> GIS & auto tracking, Geo pointing & Geo Lock (optional)
- >> Gyro stabilized gimbaled payload
- >> Fit for most mounts configurations
- >> Fit for most sizes/types of payloads

HIGH SPEED UV INSPECTION

Designed for high speed flights, this elaborated system supplies crucial information in real-time. Furthermore, due to its highest sensitivity, the DayCor® camera enables detection and capture of distant corona without missing any occurrence of discharge.

FULL CONTROL

ROM is operated through a Hand-Control-Unit (HCU) that controls the Turret-Camera-Unit (TCU) and the mounted cameras.

DATA MANAGEMENT SYSTEM

An optional data management system can provide pinpointed information about the scanned grid, such as identity of each installation, past performance, past recorded events, known failures, routes, etc. Data is retrieved during flights and displayed synchronized with geographical and/or topographical maps.

EASY INSTALLATION & LOW WEIGHT

Gimbals are designed and manufactured using a lightweight structure and composite covers. Installation is simple and standard.

VIDEO RECORDING & STORING

The inspection routine is displayed and recorded with radiometric data of: corona, hot spots, GPS, date & time, pressure gauge, humidity indicator & text and or voice annotations and are stored onto a portable memory.

DAYCOR® TECHNOLOGY INSIDE

The embedded proprietary DayCor® technology ensures absolute solar blindness, as a prerequisite for corona inspection, and the highest UV detection precision [Registered Patent EP1112459B1].

STABILIZED PAYLOAD

A fully digital 4-axis active gyro stabilization system compensates for the aircraft movements and provides smooth stable imaging. ROM's payload is fit for installation in various locations on helicopters.

SUPERIOR PERFORMANCE

Using a HD corona camera with powerful zoom adds outstanding detection and resolution capabilities. The quality of the obtained recorded information is high, offering additional layers of details that contribute to a comprehensive understanding of the asset condition.

TECHNICAL SPECIFICATIONS (ACCOMODATED TO CUSTOMERS' REQUIREMENTS)

TCU - TURRET CAMERA UNIT & CONTROL UNITS (ACCOMODATED TO CUSTOMER'S REQUIREMENTS)	
Type	Four (4)* axis active steerable gyro-stabilized gimbal
Stabilization	<10 µRad
Dimensions	Ø 400 mm | Ø 300 mm
Weight	Less than 30 kg (66 lbs.) | 20 Kg (44lb) (depending on configuration)
Power Requirements	20-30 VDC, 300W
Environmental Specs	RTCA – DO160 G
Coverage Az | Coverage El	Full 360° Continuous | +20° to -120°
Hand Control Unit & Interface Unit	With TCU operation controls, power distribution, serial communication, video tracking & video overlay functions.
Storage and Operation Temp	Storage -20°C - 60°C | -4°F - 131°F Operation -15°C - 40°C | 5°F - 104°F
UV - VISIBLE BI-SPECTRAL HD CAMERA**	
Minimum Discharge Detection	1pC @ 15 meters (RWE certified: IEC 60270:2000)
Minimum RIV Detection	3.6dBµV (RIV) @1MHz @10m (RWE certified: NEMA107-1987)
Minimum Sensitivity to UV	$1.9x10^{-18}$ watt/cm^2
Field of View H x V	10° x 5.6°
Detector Life Span	No degradation
Focus	Manual & Autofocus, 3m to infinity
UV/Visible Overlay Accuracy	Better than 1 mRad
Zoom	2x Opt 6.25x Dig, synchronized, continuous
Video Standard	HD, 720p, 1280 x 720px
IR CAMERA (ACCOMODATED TO CUSTOMER'S REQIREMENTS)	
FOV	16°x 12°
Detector Array Size	1024x768 pixels
Thermal Sensitivity	Better than 50mK @ 30°C
Spectral Range	7.5-14µm
Digital Zoom	Yes
Focus	Manual & autofocus
Temp. Measuring Range	(-40 ... 1,200) °C, optional > 2,000 °C
Temp. Accuracy of Reading	+/-1.5°C, +/- 1.5% of reading
VIDEO CAMERA (ACCOMODATED TO CUSTOMER'S REQIREMENTS)	
Image Sensor	1/2.8 CMOS type
Picture Quality	2.38 Megapixels (PAL, NTSC)
Resolution	1920x1080p
Lens	30x Optical
Digital Zoom	12x (360x with optical zoom)
Min. Illumination	0.35 Lux (F1.6, ICR off); 0.095 Lux (F1.6, ICR on)
Viewing angle	63.7° (wide end) to 2.3° (tele end)
FRAME CAMERA (ACCOMODATED TO CUSTOMER'S REQIREMENTS)	
Detector	CMOS sensor
Resolution	36 mega pixels
Lens	AF DC Nikkor 135mm, FOV 15°x10°
Continuous Shooting	Up to 6 fps including GPS tagging
Focus	Autofocus
Focal Length	70-200 mm

* optional: Five (5) axis active steerable gyro-stabilized gimbal ** Optional: standard resolution UV camera