



DayCor® ROMLITE

Mini gyro stabilized gimbals | Multiple sensors

DayCor® ROMlite is a state of the art compact stabilized gimballed aerial inspection system. ROMlite hosts up to 4 optical sensors such as IR, UV, TV and LRF, collecting concurrently data by complementary technologies. This multi tasking system offers flexible combinations of selected high definition (HD) sensors, per mission and need. ROMlite utilizes a single cable of rugged fiber, connecting the turret to the airplane, ensuring vast bandwidth for faster and noise free bidirectional data exchange. Moreover, the media that streams from sensors is sharp, clear, and uncompressed. The combination of fiber optic gyros together with a high precision IMU ensures superior stabilization performance. Installation is easy and takes minutes. The dust-sealed self-closing connector provides IP65 standard while the glasses are anti-reflection treated for the collection of flawless media. ROMlite compact system can be fitted onto smaller helicopters, as well as small, fixed wing aircraft in multiple mounting configurations and is FAA or EASA approved.

HIGH SPEED INSPECTION MISSIONS

ROMlite utilizes supreme HD sensors whose output media is streamed over a fiber optic cable. The sensors selected enable high speed inspection and shooting on-the-fly without neither smearing nor missing important data, while the fiber optic channel ensures undelayed fast and flawless data transfer.

STABILIZED FLIGHT

Uniquely designed, the system deploys fiber optic gyros and a high precision inertial measurement unit, IMU, ensuring superior stabilization performance of much less than 10 microRad (rad).

GIMBAL REMOTE CONTROL

Both gimbal and sensors are being controlled by a single controller, with predefined buttons, multi-purpose rotating buttons and a joystick that adds additional multi purpose functions. A graphical touchscreen display assists operators see, in real time, the implemented sent commands and the gimbal position. Multiple users profiles enable fast switching between preset settings. The control unit is light weight, sensitive and ergonomically designed.

SUPERIOR PERFORMANCE

The special architecture of ROMlite allows streaming of

- » Fibre optic gyro & slip ring
- » 4 Axes active stabilization
- » 4 HD sensors - multispectral
- » User friendly customizable control
- » Single cable connection
- » FAA | EASA conformity
- » Easy & Fast installation
- » EMI immunity
- » Auto tracking
- » Fit smaller helicopters & fixed wing
- » Geo Lock & Georeferencing
- » RTCA DO 160G avionic std.

uncompressed lossless media. The use of geo referencing targets, moving maps, geo lock and high definition footage helps inspectors collect a comprehensive reliable and substantial information about the condition of the scanned assets. ROMlite is the perfect choice for best performance during aerial inspection routines.

EASY INSTALLATION & LOW WEIGHT

ROMlite turret is made of a lightweight carbon chassis, and uses a single cable to connect with junction control box (JCB). Mounting ROMlite takes minutes to accomplish. Installation is simple and standard.

VIDEO RECORDING & STORING

Throughout the flight videos from the sensors are displayed on a split-windows monitor and recorded onto a portable SSD. Recordings may include radiometric readings of: corona strength, hot spots temperatures, GPS, date & time, pressure gauge and humidity. Audio narration & annotations can also be added.

DAYCOR® TECHNOLOGY INSIDE

ROMlite offers inspectors a unique solution for corona detection with Ofil's exclusive DayCor® EYE, the most sensitive UV camera for daylight operation. Ofil's embedded DayCor® technology adds the ability to spot invisible voltage related faults. .

TECHNICAL SPECIFICATIONS (ACCOMMODATED TO CUSTOMERS' REQUIREMENTS)

TCU - TURRET CAMERA UNIT & CONTROL UNITS (ACCOMMODATED TO CUSTOMER'S REQUIREMENTS)

Type	Four (4)* axis active steerable gyro-stabilized gimbal
Stabilization	<10 µRad, Fiber optic IMU
Weight	Approx. 25Kg (55lb) (depending on configuration)
Power Requirements	22-34 VDC, 200W max (excluding auxiliary equipment)
Environmental Specs	RTCA – D0160 G
Coverage Az Coverage El	Full 360° Continuous +15° to -185°
Gimbal Remote Control - GCU	One unit for the gimbaled turret and sensors with integrated 7" high resolution touch screen, extra fine tuning knob and preset setup profiles
Storage and Operation Temp	Storage -20°C up to 60°C -4°F up to 140°F Operation -20°C up to 55°C -4°F up to 131°F
Connections	Single rugged hybrid fiber glass cable (Turret to JBX) to helicopter
Frontal Area	1.45 sq ft

ROM-EYE HD UV - VISIBLE BI-SPECTRAL CAMERA

Minimum Discharge Detection	1pC @ 15 meters (DIN EN 60270 (VDE 0340):2001-08)
Minimum RIV Detection	3.6dBµV (RIV) @1MHz @10m (NEMA107-1987)
Minimum Sensitivity to UV	1.9x10 ⁻¹⁸ watt/cm ²
Field of View H x V	H: 10° - 1.6° V: 5.6°-0.9° Synchronized with UV channel, optic & digital, continuous
Detector Life Span	No degradation
Focus	Auto focus, 3m to infinity
UV/Visible Overlay Accuracy	Better than 1 mRad
Video Resolution & Interface	HD (1280x720p), HDMI

IR CAMERA (ACCOMMODATED TO CUSTOMER'S REQUIREMENTS)

FOV	16°x 12°
Detector Array Size	1024x768 pixels
Temperature Resolution @ 30°C	< 0.02K (*)
Spectral Range	7.5-14µm
Digital Zoom	4x
Focus	Manual & auto focus
Temp. Measuring Range	(-40 ... 1,200) °C (*)
Temp. Accuracy of Reading	+/- 1.5°C (0..100°C) or +/- 1.5% (*) (<0 or >100°C)
Dyn. Range	16 Bit
Output	1920x1080p @ 30 fps & full raw data (GigE) for radiometric analysis

VIDEO CAMERA (ACCOMMODATED TO CUSTOMER'S REQUIREMENTS)

Image Sensor	1/2.8 Exmor R CMOS type
Resolution	1920x1080p
Lens	30x Optical Zoom, f=4.3 mm to 129mm (tele) F1.6 to F4.7
Digital Zoom	12x (360x with optical zoom)
Min. Illumination	0.01 Lux (shutter speed 1/30 s)
Viewing angle	63.7° (wide end) to 2.3° (tele end)

LRF (LASER RANGE FINDER)

Eyesafe Laser Class 1, 1.55µm LRF; Multi-target detection (5); Range: 5km; Resolution: 0.1m

(*) Depending on Model