



GSG-11 : LONG RANGE GYROSTABILIZED GIMBAL

THE MOST POWERFUL POD OF THE MARKET !

FEATURES

For all manned or unmanned airborne platforms [UAV, Helicopter..]

- Ultra HD 4K
- Color & Night vision long range [very low light : NATO night level 5/6] + Infrared HD
- Full 3D situational awareness
- Multispectral image sensor fusion
- IP video & meta data streaming
- Embedded image analysis [target tracking, human body detection, vehicle pattern detection]
- Fast & accurate dual axis motorization (direct drive)
- Quick deployment & maintenance
- Low price, interoperability and flexibility of the solution
- Low logistic footprint

APPLICATIONS

- Surveillance (situational awareness)
- Research & tracking
- Fire fighting
- Crisis management
- Protection of sensitives sites and events
- Law enforcement



SENSORS

- Thermal MWIR 3-5µm
- Color visible
- SWIR
- EBCMOS (very low light)

OPTIONS

Human machine interface control

[by Extrem OWL : optical see through helmet mounted sight and display]



PAYLOAD SPECIFICATIONS

SENSOR #1 : THERMAL MWIR 3-5µm

- MCT NOXANT NOXCORE VISION
- Resolution : 640 x 512 | 1280 x 720
- Cooling by Stirling engine
- Continuous optical zoom
- Fields of view : 3° to 30°
- Magnification : x10

SENSOR #2 : COLOR VISIBLE

- 12 Mpixel SONY-IMX253 sensor
- Resolution : 4112 x 3008
- Pixel : 3.45µm
- Continuous optical zoom
- Fields of view : 1.5° to 30°
- Magnification : x20

SENSOR #3 : SWIR

- Resolution 640 x 480 | 1280 x 720
- Fields of view : 1.5° to 30°
- Magnification : x20

SENSOR #4 : NIGHT VISION

- 4 Mpixel EBCMOS PHOTONIS
- Visible & near Infrared
- Continuous optical zoom
- Fields of view : 1.5° to 30°
- Magnification : x20
- Sensitivity : 100µlux

SYSTEM SPECIFICATIONS

Turret - Camera Head Unit (CHU)

- 11 Kg / 24 lbs (including all imagers & projector)
- 254mm (D) x 310 mm (H) / 10"(D) x 12.2"(H)

Processing Unit (PU)

- 6.5 Kg / 14 lbs
- 270mm (W) x 335mm (L) x 100mm (H)
[10.6"(W) x 13.2"(L) x 3.94"(H)]

Interfaces (on Processing Unit)

- Digital video outputs : 2 x 3G-SDI, 1 x HDMI (HDMI connector)
- Digital video inputs : 8 x 3G-SDI
- Analog video outputs x 2
- Aircraft link : 8 x ARINC429 inputs, 6 x ARINC429 outputs, 1 x ARINC708 (radar)
- Control & Status : 3 x Ethernet (RJ45 connector), 3 x USB3.0 OtG (micro-AB type connector)
- Fiber Optic link to the Turret - Camera Head Unit

Environmental

- MIL-STD-810F, CE/FCC

Stabilization

- Active line of sight stabilization : typically 3milli degree (52 µrad) (depending on aircraft mechanical calibration)
- 3 rotation axis passive vibration damping

Steering

- User and/or image analysis controlled
- Yaw and Pitch axis
- Azimuth/Yaw/Pan/Z coverage : +120° to -120°
- Elevation/Pitch/Tilt/Y coverage : -110° to +15°

Storage

- Embedded solid state disk (1Tbyte)
- video, metadata recording and replay

Laser range finder

- Wavelength 1550 nm eye-safe
- Range 50m to 20km
- Repetition frequency 1 Hz

Laser display and graphic illuminator

- Color RGB
- 100W light power output
- Graphical beam angle : 50° x 50°
- Used as search light or linked with image analysis

Functional features

Image analysis

- Pattern recognition
- Moving target detection
- Target tracking (user pointed or by recognition)
- 3D scene reconstruction (SLAM)

Image processing


- Multispectral image fusion
- Dynamic range enhancement (local tone mapping)
- Image sharpening
- Noise Reduction

Options

- Geolocation with inertial sensor (IMU)
- Interface to aircraft instruments
- Remote Control (Enhanced Cursor Control Device - ECCD on ARINC429)
- Radar (high resolution proximity)
- Wireless data and video link to ground station

Power Supply

- 28VDC nominal (from 16 to 80 VDC)
- PU : 55W average, 80W full range image analysis, 100W max
- CHU : 60W average steady state, 200W maximum
- Power continuity backup : 100ms@150W
- Turret-CHU is powered through processing unit
- PU and CHU power supplies are isolated (from vehicle power supply and from each other)

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