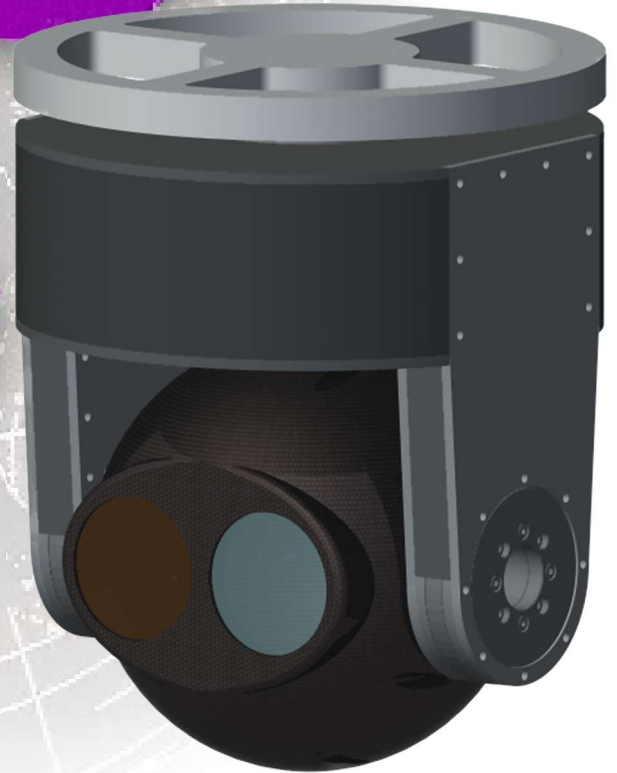


MMIS-20 Multi-Mode Imaging System

MMIS-20-D Features:

- Color 26x Zoom TV Camera
- Thermal Imager with Radiometric
- Head-Slaved Gimbal Controller Unit
- Easy-to-Use Hand Controller Unit
- Eye-Safe Laser Rangefinder
- CANaerospace Interface
- Embedded IMU



Overview

The MMIS-20 Multi-Mode Imaging System family is a light weight compact 9" class (20 cm), high resolution electro-optical (EO) Day/Night gyro stabilized gimbal system especially engineered from the ground up for the use on ultralight and LSA fixed-wing aircrafts and aerial-work helicopters, UAV's, land vehicles and marine patrol boats. The system can be used for various civil applications such as Civil Defence, Fire Fighting, Search and Rescue (SAR), Law Enforcement, Industrial and Agricultural applications to detect, identify/classify, and track targets/situations.

Multi-Sensor Architecture

MMIS-20 uses up to three modular camera channels: a FPA ALSi detector Thermal Imaging channel with athermalized lenses and radiometric values, a high resolution color CCD Daylight channel equipped with a x26 zoom lens, and a Night Vision Intensified CCD channel. A fourth sensor channel is reserved for non-optical payloads. The system is designed and constructed using fast-prototyping techniques, state-of-the-art components and technologies achieving a very effective cost/performance product. The MMIS-20 camera system is user friendly, very simple to operate and has minimal installation requirements.

FlexSENS - Future Proof

The FlexSENS Sensor Architecture is designed for future options such as multiple wavelength sensors, TV cameras (near-IR, b/w and color), eyesafe rangefinders and other payloads. Advanced electronics and the CANaerospace protocol give a clear growth path for performance enhancements through add-in circuitry. The FlexSENS architecture allows flexible and cost effective customer sensor-to-human interface integrations to reduce total cost-of-ownership (TCO).

Light Aircraft Applications

The MMIS-20-A is the entry-level analogue configuration model and includes a continuous 26x zoom color and lowlight day camera and is specially tuned for dual-crew (pilot and operator) fixed-wing ULM and LSA aircrafts. A thermal imaging camera can be incorporated for greater capabilities and functionalities. The MMIS-20-A is remotely controlled by a Hand Control Unit (HCU).



Aerial-Work Rotorcraft Applications

The MMIS-20-D, optimized for rotary-wing operations features state-of-the-art digital control of the system employing the CANaerospace protocol, internal IMU and pilot head-tracker for precise head-slaved camera positioning, target geo-pointing and payload stabilization. The MMIS-20-D is operated via the CANaerospace protocol using various Hand Controller Units (HCU), Head-Tracker Unit (HTU) or a data-link from a fixed or mobile remote ground station.

CANaerospace Control Interface

As standard on all A2TECH products, the CANaerospace command & control protocol allow plug & play connectivity for local or remote control. CANaerospace is an extremely lightweight protocol/data format definition which was designed for the highly reliable communication of microcomputer-based systems in airborne application via CAN (Controller Area Network).

Driven by
CAN
Aerospace

MMIS-20 Product Specifications

General Specifications MMIS-20-D

- System Type: 2-axis gyro-stabilized camera system
- Turret Size (H x W x L): TBDmm x TBDmm x TBDmm
- Turret Weight: < 8 Kg
- Azimuth Coverage: 360° continuous
- Elevation Coverage: +20° to -120°
- Slew Rate: up to 60°/sec
- Power Supply: 12 VDC to 36 VDC
- Power Consumption: max. 300W
- Operating Temp.: -20°C to +60°C
- Sensor Payload: Day/Night E/O; LWIR Thermal Imager
- Optional Sensors: NVI-CCD; Laser Rangefinder
- Environmental Certification: DO-160E
- Control: CANaerospace protocol
- User I/O Interfaces: Video Out 1, 2, 3; Control; USB
- Optional I/O Interfaces: GigE Vision; IEEE 1394

General Specifications MMIS-20-A

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- Operating Temp.: -20°C to +60°C
- Sensor Payload: Day/Night E/O
- Optional Sensors: LWIR Thermal Imager
- Control: Hand Controller Unit (HCU)
- User I/O Interface: Video Out 1,2; HCU

Daylight Image Sensor

- Picture Elements: 752 x 582 (PAL)
- Resolution: PAL 460 TL lines
- Lens: 26x optical zoom; 3.5 mm to 91 mm
- Field of View (H): 42° to 1.6°
- Digital Zoom: 12x
- CCD Sensitivity: 2.0 lux @ 1/50 sec (PAL)
0.14 lux @ 1/3 sec (PAL)
- ICR-ON Mode: 0.7 lux @ 1/50 sec (PAL)
0.05 lux @ 1/3 sec (PAL)
- Video Output: CVBS 1.0 Vp-p

Thermal Image Sensor

- Sensor Type: 384 x 288 25µm pitch FPA
- Wavelength: Uncooled 7-14µm A Si micro-bolometer
- Frame Rate: 50/60 Hz standard; up to 120 Hz optional
- Field of View: 35.6° x 27.1° (14.95 mm lens)
37.2° x 28.4° (14.25 mm lens)
15.6° x 11.7° (35 mm lens)
- Digital Zoom: 2x, 4x and 8x
- Calibration: Manual, Auto NUC or Radiometric
- Radiometric Value: Text Overlay on Video Output
- Video Output: CVBS 1.0 Vp-p

Laser Rangefinder

- Laser Type: Class-1 eyesafe laser
- Wavelength: 1550 nm
- Range Capability: up to 4.5 Km
- Range Resolution: +/- 5 m

Aircraft Interfaces:

- MMIS20A-FWEVK Fixed-Wing Evektor EuroStar/
SportStar Mount Kit
- MMIS20A-RWAS350 Rotary-Wing Eurocopter Ecureuil
AS350/355 Mount Kit



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