

# TrakkaCam® TC-300-SWIR Gen II



## A NEW GENERATION OF COMPACT HIGH-PERFORMANCE MULTI SENSOR SURVEILLANCE SYSTEMS

**Ideally suited for a variety airborne missions including fire detection and mapping, search and rescue, law enforcement, civil protection, military ISR and force protection, manned and unmanned platforms and installations.**

### TRAKKA SYSTEMS TC SERIES

The new TC series from Trakka Systems features advanced technology in an ergonomic industrial design that sets new standards for compact, high-performance, multispectral imaging in a non-ITAR, single-LRU configuration.

TC-300-SWIR Gen II's shortwave IR camera is uniquely suited to penetrate the most challenging atmospheric conditions such as haze, mist, fog, high humidity, rain, smog, and smoke, making it ideal for firefighting applications, and missions with degraded atmospheric conditions.

The EO/IR sensors are augmented with sophisticated image processing, allowing users to see through conditions such as fog, haze, low light, and total darkness. Image blending provides the ability to exploit imagery from the different sensors and extract details that would otherwise go undetected by a single sensor. A host of image processing features to improve operator performance and reduce workload, such as Moving Target Detection, are embedded right into the system.

The TC-300-SWIR Gen II enables operators and command centers to share mission-critical information in real-time while providing enhanced situational awareness via augmented reality overlays or pure synthetic views.

### KEY BENEFITS

- Performance better than 10" competitors, and approaching that of bigger systems, but at lower price / lower mass
- Advanced sensors, superior in size class:
  - Available with a full suite of 7 payload options: (HDIR, HDTV, HD SWIR, LP, LRF, A/T, IMU/GPS)
  - Continuous optical zoom on all imaging channels for maximum situational awareness
  - Open upgradeable architecture for incorporation of new technology sensors
- The advanced real-time digital HD image processing engine is embedded into the gimbal and requires no additional electronics unit
- Moving Target Indicator (MTI) is embedded directly into the system
- High performance 4-axis active gyro stabilization with integrated 6-axis passive isolation for superior image stabilization
- Fully integrated IMU/INS providing Geo-Location and Geo Hold, with easy Moving Maps integration
- Innovative and ergonomic system design provides flexible platform and installation options
- Compact Single-LRU configuration is easy to install, integrate and requires no junction box
- Non-ITAR exportable product
- RTCA DO-160 Tested for Environmental, Electromagnetic and Mechanical compliance, and capable of withstanding the harshest environments



# TC-300-SWIR Gen II

## GIMBAL SPECIFICATIONS

|               |                                                                            |
|---------------|----------------------------------------------------------------------------|
| Weight        | ~22 kg (48.5 lb)                                                           |
| Diameter      | 300mm (11.8")                                                              |
| Azimuth       | Continuous Azimuth                                                         |
| Elevation     | +30° to -120° Elevation (+90 Stow)                                         |
| Stabilization | 4 axis, active gyro-stabilization with integrated 6 axis passive isolation |

## THERMAL IMAGER

|                |                                                                                     |
|----------------|-------------------------------------------------------------------------------------|
| Type           | 3-5µm MWIR array                                                                    |
| Resolution     | 640 x 512 (only with 1280 x 1024 SWIR)<br>1280 x 720 (only with 640 x 512 SWIR)     |
| Fields of View | 25° to 2°, continuous zoom (640 x 512)<br>40° to 2.4°, continuous zoom (1280 x 720) |

## HDTV CAMERA

|                |                              |
|----------------|------------------------------|
| Type           | HD CMOS Global Shutter       |
| Resolution     | 2.37 MPixels                 |
| Fields of View | 35° to 1.3°, continuous zoom |
| LLTV Mode      | Yes                          |

## SWIR

|                |                                                                                          |
|----------------|------------------------------------------------------------------------------------------|
| Type           | InGaAs Photodiode Array                                                                  |
| Resolution     | 640 x 512 (only with 1280 x 720 MWIR)<br>1280 x 1024 (only with 640 x 512 MWIR)          |
| Fields of View | 47° to 7.0°, continuous zoom (640 x 512)<br>28.7° to 2.9°, continuous zoom (1280 x 1024) |

## LASER RANGE FINDER (OPTIONAL)

|                 |                                 |
|-----------------|---------------------------------|
| Classification  | Class 1, Eye safe               |
| Range           | 12km & 20km (options available) |
| Repetition Rate | Continuous or Single-Shot       |

| LASERS (OPTIONAL) | POINTER  | ILLUMINATOR |
|-------------------|----------|-------------|
| Type              | Class 3B | Class 3B    |
| Wavelength        | 830nm    | 860nm       |
| Output Power      | 200mW    | 480mW       |

## ELECTRICAL REQUIREMENTS

|                    |                                 |
|--------------------|---------------------------------|
| Max power          | 320W Maximum Power              |
| Steady State Power | 100W Steady State               |
| Input Voltage      | 22-36V Wide-Range Input Voltage |

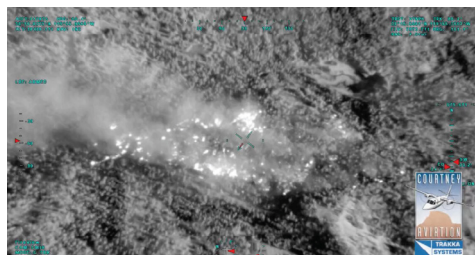
## OPTIONS

|                                  |                                                                                                                                                                                                                      |
|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Interface Types                  | SMPTE HD video outputs and H.264/H.265 over Ethernet (MISB 0601.7 Compliant), RS422, RS232                                                                                                                           |
| Functional Interfaces & Features | Auto Tracking, Geo-Location with integrated IMU/INS, Metadata, Moving Maps & Augmented Reality, Remote Control, Searchlight Slaving, Radar Slaving, AIS and other NMEA 0183 Interfaces, Data Links & Video Downlinks |

## ENVIRONMENTAL

|           |                                              |
|-----------|----------------------------------------------|
| Standards | MIL-STD 461, MIL-STD 810, RTCA DO-160, IP 66 |
|-----------|----------------------------------------------|

Note: All FOVs are 720p



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## FEATURES

- Moving Target Indicator (option)
- Object Tracking / Scene Tracking Modes (option)
- EO De-Fog (Haze Penetration) Processing
- Digital Contrast Enhancement
- Local Area Contrast Processing
- Edge Sharpening
- Image Noise Reduction
- Picture in Picture / Split screen
- 4x Electronic Continuous Zoom
- Graphical On-Screen Display for Intuitive Operation

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