

DEFENSE & SECURITY

INTERNATIONAL
ARMOUR
GROUP TM

www.armour.gr



**TRAKKA
SYSTEMS**

TC300

The TC-300 is a compact, high performance, new generation single-LRU multi-sensor surveillance systems setting new standards for innovative ergonomic and industrial design. The system is comprised of a 300 mm gimbal, with digital 4-axis gyro-stabilization, and a payload suite of multi-spectral cameras and optional lasers.

Key Benefits

COMPACT SINGLE LRU DESIGN – meets customers' needs for simplified installation on their aircraft.

NON-ITAR PRODUCT - dual use classification of ECCN 6A003.b.4.a.

NEW-GENERATION COMPACT HIGH PERFORMANCE

MULTI SENSOR SURVEILLANCE SYSTEM

For air, sea and land missions including law enforcement, search and rescue, civil protection, military ISR and force protection, on a variety of manned and unmanned platforms or installations



TC300

The new TC series from “Company” Systems features advanced technology and ergonomic industrial design to set new standards for compact high performance systems in non-ITAR single-LRU configuration.

All systems can be interfaced with secure data link and moving map capabilities. These attributes enable operators and command centres to share mission critical information in real time whilst providing enhanced situational awareness via augmented reality overlays or pure synthetic views.

The EO/IR sensors are augmented with video processing enhancements allowing users to see through fog, haze and complete darkness. Image blending is used to exploit images from the different sensors to extract features that would otherwise go undetected by a single sensor.



TC300

Overview

AUGMENTED REALITY - Mission critical information, like street names and parcel information are blended with the video streams.

RECORDING CAPABILITY - The map data, videos and audio commentary are recorded onto the hard-disk.

DISPLAY CAPABILITY – The screen can be tailored to display different views; map only, picture-in-picture, video only, or split screen. Individual views can be duplicated on additional displays.

EXTEND OR DUPLICATE DISPLAY – The display can be duplicated onto another display or individual views can be extended.

CAMERA GEO POINTING - Ability to point and lock to geographical locations by clicking on the map, LRF, address or intersection or lat./long. input.

CAMERA REMOTE CONTROL – remote control of the gimbal, cameras, and lasers.

MAP VIEW - 3D map view displays aircraft position and flight path, and camera footprint.

POINTS OF INTEREST – The operator can drop and save points of interest on the map. **CAMERA AUTO TRACKING** - The operator can initiate auto tracking of an object by clicking on the video screen.

MAPS - Includes street maps, satellite views with continent-wide base data. Free integration of customer furnished maps.

ASSET IMPORT – asset data can be imported in various formats: shapefiles, KLM, CSV and other popular formats.

MEASUREMENT TOOLS - Offers ground measurement tools.

SPEED ESTIMATION – Provides speed estimation of moving vehicles.

VIDEO SNAPSHOT - Still image captures from cameras, with geo-referenced embedded data.

MISSION REPLAY SOFTWARE – missions can be replayed using “Company”'s standalone viewer software for post-flight analysis.

TC-300 OFFER

ITEM	QTY	Base System (A)	Unit Price
1	Up to 15	TC-300 w/1280 IR Sensor System	430. 000,00€
ITEM	QTY	System Options (B)	Unit Price
2	1	Knee Board Style Controller with Joystick	5.900,00€
3	1	Grip Style controller with Searchlight Controls	11.500,00€
4	1	Cable Kit	10.330,00€
5	1	Laser Ranger Finder - 20 Km	37.300,00€
6	1	NVG Compatible Laser Pointer	16.000,00€
7	1	NVG Compatible Laser Illuminator	25.000,00€
8	1	Video Auto Tracking	15.500,00€
9	1	Image Blending	2.690,00€
10	1	On-gimbal Video Recording & Snapshot	2.300,00€
11	1	Moving Target Indication	6.300,00 €
ITEM	QTY	Mapping / Display / Recording (C)	Unit Price
	1	TM-100 Map & Video Management System - Includes Mil-Spec Tablet PC	54.000,00€
12	1	TM-100 Map & Video Management System - Includes Mil-Spec embeded PC and Keyboard	82.000,00€
ITEM	QTY	O-Level Maintenance (D)	Unit Price
13	1	Drying Kit	6.100,00€
14	10	Desiccant Cartridge - recommend qty. 10/system	350,00 €
15	1	Desiccant Cartridge Maintenance Interval Extender	1.380,00
ITEM	QTY	Training (E)	Unit Price
16	1	Training at customer's facility.	15.550,00€
16	3	3 days training at customer's facility. Accommodation costs on buyer account	7.500,00€

Refer to the NEXT PAGE for all item descriptions

Descriptions

ITEM	Reference	Description
1	TC-300 Sensor System	<ul style="list-style-type: none"> • 30cm (11.8") gyro-stabilized gimbal (TCU) • TCU includes the following cameras: <ol style="list-style-type: none"> 1) Thermal imager with continuous zoom optics 2) Color TV camera with continuous zoom optics • Operators Manual (in English language) • Reusable shipping container
11	IMU/INS	<ul style="list-style-type: none"> • Requires terrain elevation data from manual input, a moving map or the LRF to provide: <ul style="list-style-type: none"> o Geo-location; provides targets geographical position. o Geo-hold: capability to hold geographical locations.
12	KLV metadata	<ul style="list-style-type: none"> • H.264 Video over Ethernet with KLV Metadata.
13	Serial Interface	<ul style="list-style-type: none"> • RS-232/422 serial Interface for system data exchange with an external device (third party moving map/radars/remote computers/AIS/searchlights).
2	Remote Controller with Joystick	<ul style="list-style-type: none"> • For operator control of the gimbal and sensors.
3	Grip Style controller with Searchlight Controls	<ul style="list-style-type: none"> • NVIS compliant grip controller for operator control of the gimbal and sensors • A800 searchlight controls (Lamp ON/OFF, slave and zoom).
4	Cable Set	<ul style="list-style-type: none"> • HCU Coil Cord Cable • External Cable Kit – All cables 5 meters in length and terminated one end only • Includes Bulkhead connector kits for HCU, Power, Video and Comms cables • GPS antenna
5	LRF	<ul style="list-style-type: none"> • Provides accurate distance to target information. • Provides terrain elevation data to calculate geographical positions.
6	Laser Pointer	<ul style="list-style-type: none"> • Laser spot compatible with NVG devices.
7	Laser Illuminator	<ul style="list-style-type: none"> • Laser illumination compatible with NVG devices.
8	Video Auto Tracker	<ul style="list-style-type: none"> • Operator initiated automated tracking of moving or stationary objects.
9	Image Blending	<ul style="list-style-type: none"> • HDTV and IR videos are blended into a single image.
10	Recording & Snapshot	<ul style="list-style-type: none"> • On-gimbal video recording and snapshot mode.
11	Target Indication	<ul style="list-style-type: none"> • Automatic detection of targets displayed as visual cues on the image. • Selected target can be handed off to the video auto tracker.
12	TM-100 Map & Video Management	<ul style="list-style-type: none"> • Augmented Reality mapping software. • Gimbal, sensor and searchlight (if purchased) remote control modes. • Measurement and speed estimation tools. • Geo-referenced video snapshot mode. • Digital Video Recorder with Metadata (MISB0601 – Compliant). • Free integration of user maps and GIS data. • Includes up to 5 stand-alone replay licenses for installation on Windows based PCs. • Includes either A) MIL-SPEC PC and Airborne Keyboard, or B) MIL-Spec Tablet PC with touchscreen control. Option A requires installation of DVI compatible monitor.
13	Drying Kit	<ul style="list-style-type: none"> • Removes all moisture than may build up over time from TCU • Rejuvenates TCU Desiccant Cartridges for future use
14	Desiccant Cartridge	<ul style="list-style-type: none"> • Absorbs moisture and humidity from internal TCU cavity.
15	Desiccant Maintenance Interval Extender	<ul style="list-style-type: none"> • Desiccant piggy-back assembly. • Extends the interval between drying of the gimbal and the desiccant cartridges.
16	On-site Training	<ul style="list-style-type: none"> • On-site for three (3) days for operator and basic maintenance training of "Company" Systems equipment at customer's facility. Additional day required, if TM-100 is purchased. • Training shall be provided in English with a maximum of 5 students. • Price does not include travel and living expenses for "Company"'s trainer. These will be invoiced after the training.

TC-300 Specifications

Gimbal (TCU)	
Size	30 cm Ø (11.8") x 40.9 cm H (16")
Number of axes	4 (2 outer and 2 inner)
Weight	<20 kg (44 lbs)
Power requirements	+22 to +30 VDC
AZ coverage	360 degrees continuous
EL coverage	+20° to -120°
Environmental standards	MIL-STD-810 / RTCA-DO-160G
Video output standards	HD-SDI (SMPTE 296M/ SMPTE 274M)
Video output frame rate	25 / 30 fps
Video streaming	RTSP, RTP/IPv4, UDP
	Adjustable resolution and bit rate control
Video streaming compression	H264/MPEG-TS
Video streaming interface	10 Base-T/100 Base-TX Ethernet (RJ-45)
Serial Interfaces	RS-232, RS-422
KLV Metadata	MISB standard 0601.7

HD Color TV Camera	
Sensor type	Global shutter CMOS
Number of Pixels	2064 x 1544
Horizontal Field of view	
720p	24.9° to 0.63° continuous zoom
1080p	36.6° to 0.95° continuous zoom
Digital Zoom	Up to 4X

Infrared CameraA	
Detector size	1280 x 720 pixels
Detector technology	Cooled, focal plane array
Spectral wavelength	3-5µm
Field-of-view (Horizontal)	40° to 2.4° continuous zoom
Digital Zoom	Up to 4X

Laser Range Finder	
Classification	Class 1 eye safety
Maximum Range	20,000 meters
Accuracy	±5 meters
Maximum measurement rate	1 Hz

	Laser Pointer	Laser Illuminator
Classification	Class 3B	Class 3B
Wavelength	830 nm	860 nm
Power	<80 mW	450 mW

TC-300 Tablet Specifications

System		
CPU	Intel i7 processor	
RAM	32GB	
Storage	1 TB Flash	
Display	14" LED-backlight screen with capacitive touch, sunlight readable	
Display Resolution	1920 x 1080	
Network Interface		
WLAN	Wi-Fi 802.11ac, 2.4GHz/5Ghz dual band	
Bluetooth	Bluetooth 4.0 LE	
I/O Ports		
HDMI	1	
USB	USB 3.1 x 1 and USB 2.0 x 2	
Headset Jack	1	
SD Slot	1 micro SD card slot	
Ethernet	RJ45 Connector for Ethernet x 1	
Mechanical		
Dimensions	35.1 x 24.4 x 2.95 cm (13.8" x 9.6" x 1.16")	
Weight	1.95 kg (4.3 lbs)	
Environmental		
Vibration and Shock	MIL-STD-810G	
EMI/EMC	MIL-STD-461F	
Water Resistance	IP65	
Regulatory	FCC Class B, RoHS compliant	
Operating Temperature	-20°C to 60°C	
Humidity	0-90% non-condensing	
Power Adaptor		
Input Voltage	12-32 VDC	
Output Voltage	19 VDC @ 6.5 amps	
Input Cable Length	3m (120")	
Output Cable Length	91cm (36")	
Dimensions	14 x 7.9 x 2.8cm (5.5" x 3.1" x 1.1")	
Weight	862 grams (1.9lbs)	

TC-300 Embedded PC Specifications

System		
CPU	Intel i7 processor	
RAM	32GB	
Storage	1 TB, 2.5" SSD x 1, removable	
I/O Ports		
DVI	DVI-D	
USB	USB 2.0 x 2, USB 3.0 X 2	
Serial Interfaces	RS232 x 2, RS422 x 2	
Ethernet	RJ45 Connector for Ethernet x 2	
Mechanical		
Dimensions	20.32 x 24.4 x 15.24 cm (8" x 9.5" x 6")	
Weight	5.67 kg (11.5 lbs)	
Environmental		
Vibration and Shock	MIL-STD-810G	
EMI/EMC	MIL-STD-461F	
Water Resistance	IP65	
Regulatory	FCC Class B, RoHS compliant	
Operating Temperature	-20°C to 60°C	
Humidity	0-90% non-condensing	
Power	18-36 VDC	
Power Adaptor		
Temperature	-40°C to +55°C, Operating	
Altitude	15,000 ft.	
Humidity	5% to 95% Non-condensing	
Vibration, Shock, Crash	MIL-STD-810G	
EMC	MIL-STD-461	
IP Rating	IP66	

INTERNATIONAL ARMOUR
DEFENSE & SAFETY
1173 Amfitheas Avenue
17563 Athens, Greece
T: +30 211 2213528E:
info@armour.gr
www.armour.gr



UNGM MEMBER



ICoC
SIGNATORY