

# CS 4425

## Border / Coastal Surveillance / Mobile Surveillance & Intelligence

c/w Non-Lethal Deterrent Laser Dazzler

CS 4000 Series



### Electro-Optical / Infra-Red camera system c/w NON-LETHAL DETERRENT Laser Dazzler

CURRENT SECURITY electro-optical infrared cameras are the new generation of rugged, compact, and low maintenance turrets for land-based missions. The **CS 4425** is a single payload integrating a **LWIR uncooled thermal imager**, **High-Definition Day/Low light camera** and **NON-LETHAL DETERRENT Laser Dazzler** for border, coastal surveillance, as well as mobile surveillance & intelligence, and critical infrastructure surveillance applications. It is controlled through IP network on board or remotely. This COTS system is built to MIL Std.

### APPLICATIONS

- Land Based Security
- Coastal surveillance
- Border surveillance
- Mobile Surveillance & Intelligence
- Critical Infrastructure Surveillance Applications
- Border Surveillance
- Port Security
- Facility Protection

### BENEFITS

- **Rugged, low maintenance** design
- **Zooms 16x** in Uncooled Thermal and 360x in HD day
- **Detects** a NATO target over 7km, night and day
- **Provides a clear, highly detailed image**, in HD day camera, even into the digital zoom range
- **Increases object detection** in low level of light with best of class low light sensitivity
- **Measures** the distance to target with the Integrated Laser Range Finder
- **Delays, denies, and defeats potential threat** with the high power non-lethal green Laser Dazzler, integrated into the payload for optimized convergence of sensors activity
- **Tracks** third party sensor targets
- **Video Tracking**
- **Streams H.264 (HD)** video with PiP or video streams and **communicates digitally** over IP network (Ethernet)
- **Outputs video in dedicated coax cable in SDI**
- **Enables Picture in Picture (PiP)** of two live video signal outputs (zoom synchronized or independent)
- **Single LRU** with no junction boxes or interface modules simplifies installations and retro fits, while reducing maintenance
- **Standard mounting and cabling** for all CS 4000 series enables ease of payload swaps and future upgrades
- **Designed to withstand marine environmental conditions** and proven by over 15 years and hundreds of successful operating installations worldwide

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# CS 4425

## SYSTEM FEATURES

UNCOOLED THERMAL CAMERA	THREAT CONFIRMATION & INTELLIGENCE
Sensor type:	LWIR
Spectral Range:	8 – 14 $\mu\text{m}$ Uncooled thermal imager
Resolution:	640x480 pixels
Field of View:	25°(wide) to 6° (narrow)
<b>Focal length:</b>	<b>26-105mm</b>
<b>f/stop:</b>	<b>f1.6</b>
Zoom:	7x continuous optical, 4x digital zoom
Frequency:	30 fps, full frame rate for export
Detection range <sup>1</sup> :	NATO target over 7km/ Human over 2km
HD DAY / LOW LIGHT CAMERA	
Sensor type:	1/2.8" CMOS
Field of View:	63° to 2.3° FoV in HD mode, 1080p30
Optical zoom:	30x continuous
Digital zoom:	12x continuous
Window coating:	Hydrophobic
LOW LIGHT HD CAMERA (FUNCTION)	
Sensor type:	1/2.8" CMOS
Low light sensitivity:	0.0015Lux in B&W mode
LASER RANGE FINDER	
Laser Safety Class	Class 1 Eyesafe
Measuring range:	5km (NATO target at 2400m)
Precision:	<1m
LASER DAZZLER	
Laser Power:	5000mW
Wavelength:	520 nanometers
Beam Diameter:	3 meters @ 500 meters (beam divergence 6 mrad in full angle)
RADAR, GROUND SIGNALS TRACKING & THE THIRD-PARTY SENSOR	
Slew-to-cue allows target detected from the Radar & Ground signals to be tracked automatically by the EO/IR. Interface between Radar, Ground signals over NMEA0183 communication standard in RS232 or RS422, through supplied Network Interface Box. GPS data is also fed through NMEA 0183 communication to register and display the position in Latitude, Longitude, Date and Time. Interface to other sensors as required.	
VIDEO TRACKING	
Automatic pursuit of an object of interest or threat selected on the display by the operator, without any continuous input. Both the infrared and day sensors automatically track the target, even with small obstructions in their path.	
CONTROLLER: HARDWARE OR GUI, IP BASED AND REMOTE-CONTROLLED SOLUTIONS	
<ol style="list-style-type: none"> <li><b>1. Video GUI</b> with optional USB joystick (two-button joystick or Rugged Rigid Grip)</li> <li><b>2. Control GUI (Graphical User Interface)</b>, either on <b>dedicated touchscreen</b> display (Panel PC) or as pop up window in PC; with optional USB joystick (two-button joystick or Rugged Rigid Grip)</li> <li><b>3. Protocol for interface to Command &amp; Control System</b></li> </ol> All controllers offer Built-in Test for remote diagnostic and are configured for optional additional controllers or remote control	
PAYLOAD SPECIFICATIONS	
System type:	Enhanced video stabilization
Pan Range:	Continuous 360° AZ rotation
Tilt range:	+/-90° elevation movement, including stow position
Colour:	Low Gloss Plastic Sand. Custom colour upon request.
SYSTEM INTERFACE	
Video format:	SDI
Video streaming:	H.264 in HD with PiP or 2 video streams
Data:	Radar cursor / ARPA target / AIS over NMEA 0183 via RS422 or RS232
Control:	Over IP network
ENVIRONMENTAL	
Ingress Protection Mark:	IP67
Compliant to:	MIL-STD 810 & MIL-STD 461
Operational temperature:	-20°C to +55°C
WEIGHT AND DIMENSIONS	
Weight:	≤32kg
Diameter payload <sup>2</sup> :	330mm
Height payload <sup>2</sup> :	521mm
POWER REQUIREMENTS	
Voltage:	24 to 36VDC
Max. Consumption:	330W
OTHER OPTIONS AND ACCESSORIES	

Other sensors: Contact us with your specific requirements.

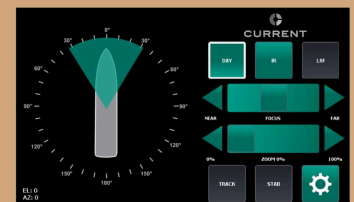
<sup>1</sup> theoretical calculation using Johnson's criteria & not accounting for atmospheric attenuation - <sup>2</sup> Larger movement space required



## CONTROL SOLUTIONS



### 1. Video GUI



### 2. Control GUI



### 3. Protocol for interface to Command & Control System



2-Button Joystick



Rugged Rigid Grip



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