

PORT SECURITY & PORT CONTROL



DEFENSE & SAFETY

GREECE - CYPRUS - SERBIA - BULGARIA - UNITED KINGDOM - UAE

E: info@armour.gr | W: www.armour.gr

We are an international well established Defense and Security firm which is offering innovative concepts of national defense and private security solutions and policies with analytical expertise and a wide range of weapon systems for air, sea, and land based applications.

Our uniquely comprehensive security solutions are specifically tailored to engage the emerging needs of governments and private entities in the 21st Century and we are fully committed to providing innovative defense and security expertise with the utmost levels of professionalism and fidelity to ensure that all clients are presented with the most effective solution to any concern.

Our policy is always to act in each region and area through official authorized Companies and representatives that well know their Countries and their Countries needs.

Today, we meet its present client needs.

Tomorrow, our objective will be to win more new domestic and export business while remaining committed to total customer satisfaction with equal opportunities transparency and accountability in conducting its business!

The managing team

INTERNATIONAL ARMOUR Co.

DEFENSE & SAFETY

E: info@armour.gr

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www.international-armour.com

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UNGM MEMBER



Through our web pages (www.armour.gr) you can fully be informed about us, our partners, our products and our services.

CONFIDENTIAL

MARITIME CYBER SECURITY



CYBER SECURITY IN MARITIME

We are in Cyber Security Section

Specialists from law enforcement and other government and intelligence agencies, law firms, international auditing companies and management consulting companies.

Our industry-leading experts have written books and articles, taught difficult and highly technical courses, and testified in courts of law and other proceedings as expert witnesses.

Combine proven investigative methods and advanced technical expertise with deep insight into the integral role that humans play in every cyber event.



How we help

- Identifying and addressing weaknesses in technology systems and policies
- Responding to technical threats, including the human aspects of such
- Preparing for and succeeding in litigation
- Complying with relevant data protection and other regulatory requirements
- Safeguarding privacy and intellectual property
- Remediating intrusions and breaches
- Notifying, as necessary, affected entities and individuals

The diversity of our professionals enables us to bring to our cases complementary and sophisticated fact-finding skill sets and analytical methodologies.

Working seamlessly as part of a multidisciplinary team, we draw upon this knowledge to offer clients uncommon insight and superior outcomes.

Industry Depth Chart

SERVICES	WE	CYBER SECURITY FIRMS	PROFESSIONAL SERVICES FIRMS	HARDWARE MANUF/RERS	NETWORK PROVIDERS	DIY-IN-HOUSE
Cost Effective APT						
Detection of Unknown Binaries						
Rapid Deployment						
International Presence						
Information Risk Assessments						
Intrusion Experience						
Investigative and Forensic Experience						
Breach Notifications						
Insider Investigations and Due Diligence						
E-discovery Collection						
E-discovery Processing						
Data Recovery and Clean Rooms						

35+

Languages

25+

Countries

2k+

Employees



NATURE OF THE ATTACKS

Malware
Phishing
Spear Phishing
Application Attack
Brute Force
Denial of service
Network of protocol attack
Man in the middle
Theft of credentials
Known vulnerability
Other...



EXTENT OF THE ATTACKS



Financial Loss



Loss of
Corporate Data



IT System
Functionality



Shipborne
Systems
Functionality

EXECUTIVE SUMMARY

Advancement in broadband technologies and the move towards 'Big Data' and 'Ship Intelligence' could leave the maritime industry vulnerable to cyber-crime unless it develops a better awareness of ICT (information, communication technology) security and adopts best security practice.

Certainly there is the possibility for AIS, GNSS, ENC and ECDIS charts to disappear from bridge screens or be modified which can create a safety havoc, but the big issue today is that most adversaries want to obtain data for financial gain.

Payment systems can be easily penetrated using targeted phishing scams to raise fake invoices or even to change shipping manifests in order to transport illicit goods, drugs and weapons.

The loss of sensitive data through breaches in the system security is the single most important challenge that faces the maritime industry today.



Cyber attacks in oil and gas industry has an extreme increment year by year



Awareness on cyber security in maritime sector is growing!



In maritime industry attacks often remain in secret



Critical infrastructure & Cyber Security (HORIZON 2020)

[Read More About](#)

MARITIME SECURITY SERVICES

INTERNATIONAL ARMOUR

PREVENT & PROTECT

Maritime security has become an important requirement for merchant vessels in today's time.

Increasing shipping piracy threats have resulted in huge losses for shipping conglomerates around the world.

In order to tackle this problem successfully, many security Companies have started to provide maritime security services, which are custom made for the present modern piracy at sea.

Across the world, there are many such maritime security Companies which command a unique respect for the stellar security services they offer.

But, what is this that makes today a maritime security Company trustable?

What are the criteria that you must set in order to decide if this or that maritime security Company is good and effective in all your demands?

What you expect a maritime security Company to fulfill in order you feel safe and secure?

Maritime Security it is not just another business. Maritime Security it is based on knowledge, methodology, proved equipment, technology, accuracy, well trained personnel and high experienced managers in Defense, Security and Safety sectors.

With the aid of maritime protection offered under such qualifications, shipping conglomerates can be assured of plenteous security to its crew and cargo.

Oceanic navigation routes are necessary and cannot be done without. Since shipping piracy has become an unchecked evil in certain water parts and is spreading towards other oceanic networks, opting for maritime security services has become a choice that cannot be overlooked

Think well before you decide WHO will keep your property and your crew safe!

[Read More About](#)

MARITIME Security Services

Indonesian & Malaysian
waters are the world's most dangerous



We keep you safe and secure



250 Full PMSC Equipment (1000 Rifles at sea)

+300 Expertise Personnel in action

+100 Satisfied Clients (as of Dec 2016)

24/7 Service and Support



ACCESS CONTROL & CCTV SYSTEMS



RealPass-V

Passport Reader

Full-page Multi-functional e-Passport Reader

Suprema is a global leader in biometrics and securities technology.

By combining world renowned biometric algorithms with superior engineering, Suprema is able to continually develop and manufacture reliable industry leading products. Suprema's extensive portfolio of products include biometric access control systems, time & attendance devices, fingerprint/live scanners and embedded fingerprint modules.

Suprema is continuously expanding its presence within the biometric & ID solutions industries. Suprema is the only biometric specialist company listed among the world's top 50 security company.



Flexible System Operation and Management

The system can interwork with diverse database and software by using the software development kit that comes with the system, or by using software with report-generating options.



More Powerful Security

World best accurate fingerprint recognition technology



Efficient System Management

By using the TCP/IP-based Internet network, the work hour management and the human resources management can be handled easily at a central office



Flexible Scalability

The system can interwork with diverse database and software by using the software development kit that comes with the system

Suprema's Access Control Solution doesn't have space limitation utilizing a convenient TCP/IP-based Internet network, and can perfectly support diverse entry control functions, beginning from those of simple One-Door Access Control System to even more complicated network type Access Control System.

It is a revolutionary solution with powerful advantages including the affordable cost of Access Control System. While offering the same advantages of a fingerprint-based system, it is easier to install and connect wires compared to other existing RF card-based system, because it is built in a unique detachable structure.

Enhanced Access Control Module

Enhanced access control module of BioStar 2 includes number of key updates.

It now supports advanced access control features that allows designing of more complex solutions.

Improved usability allows simpler allocation of users into access groups and configuration of access level for quick deployment.

The module also provides import/export of user group and card IDs for extended user convenience.



Simple Biometrics

Simple Deployment of Sites

The Web-server architecture significantly reduces deployment time by removing the need for software installations in client workstations

Biometrics Ready

BioStar 2 seamlessly integrates benefits and convenience of biometrics into the platform for use with access control



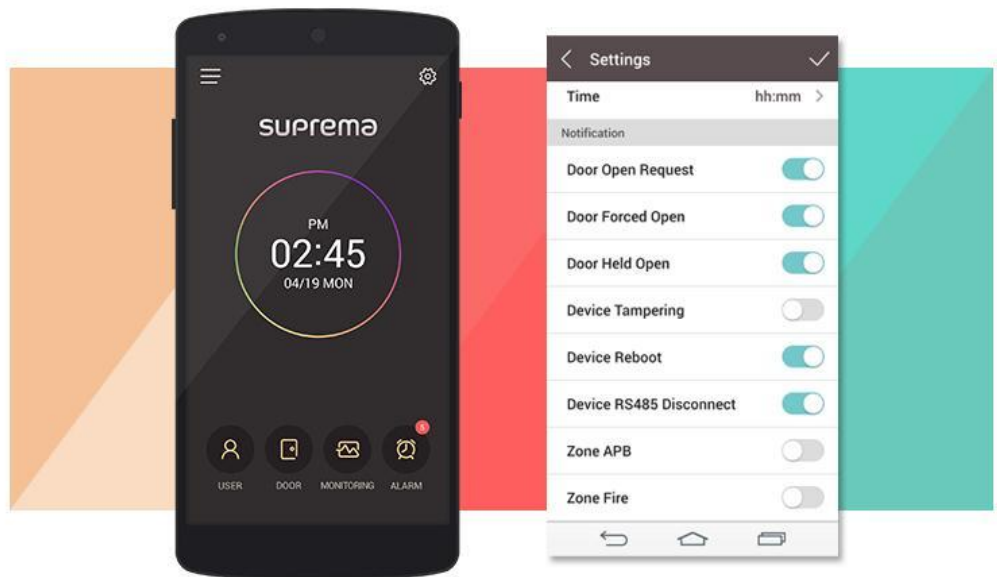
Real-time Monitoring

Monitor current system activities anywhere through the app and track system status. Filter is provided to efficiently sort data for follow up on past activities.



Live Notifications

Receive live notification and respond to requests or alarms quickly without accessing BioStar 2 via client. Following events can be notified through the mobile app.



Live Finger Detection

BioStation L2 features the Live Finger Detection 2.0 from Suprema.

The previous live detection technology analyzes the dynamically changing pattern, liveness feature and unnaturalness feature of live and new fingers.

Along with improvements to the existing algorithm, the new detection technology implements liveness decision engine using dual light source imaging. Using infra-red and white light, the engine blocks fake fingerprints made from numerous different materials.

Whatever you need for ACCESS, RECOGNIZION, MONITORING Control





Versatile Smart Card Features

BioStar 2 now allows management of card credential of users for versatile applications. Access on card or secure credential card mode is used to store selective information such as user information, fingerprint template, PIN, and access rules.

BioStar 2 also provides alarm and report on smart cards that aren't used for long time and offers simple deactivation methods for expired users.



BioStation A2



BioStation L2



BioStation 2



FaceStation



BioLite Net



BioEntry W2



BioEntry W



BioEntry Plus



Xpass



BioStation T2



BioStation



DM-20

Biometrics, Manage Rightful Identity

Biometrics leverage characteristics that are completely unique to a person, including fingerprint, face and vein, iris and voice.

The technology eliminates the need for technologies that leave us with 'suspect identity' -keys, passwords & PINs, while delivering greater security, assurance & convenience in an enterprise setting.

For turnkey solutions and suggestions, contact us!

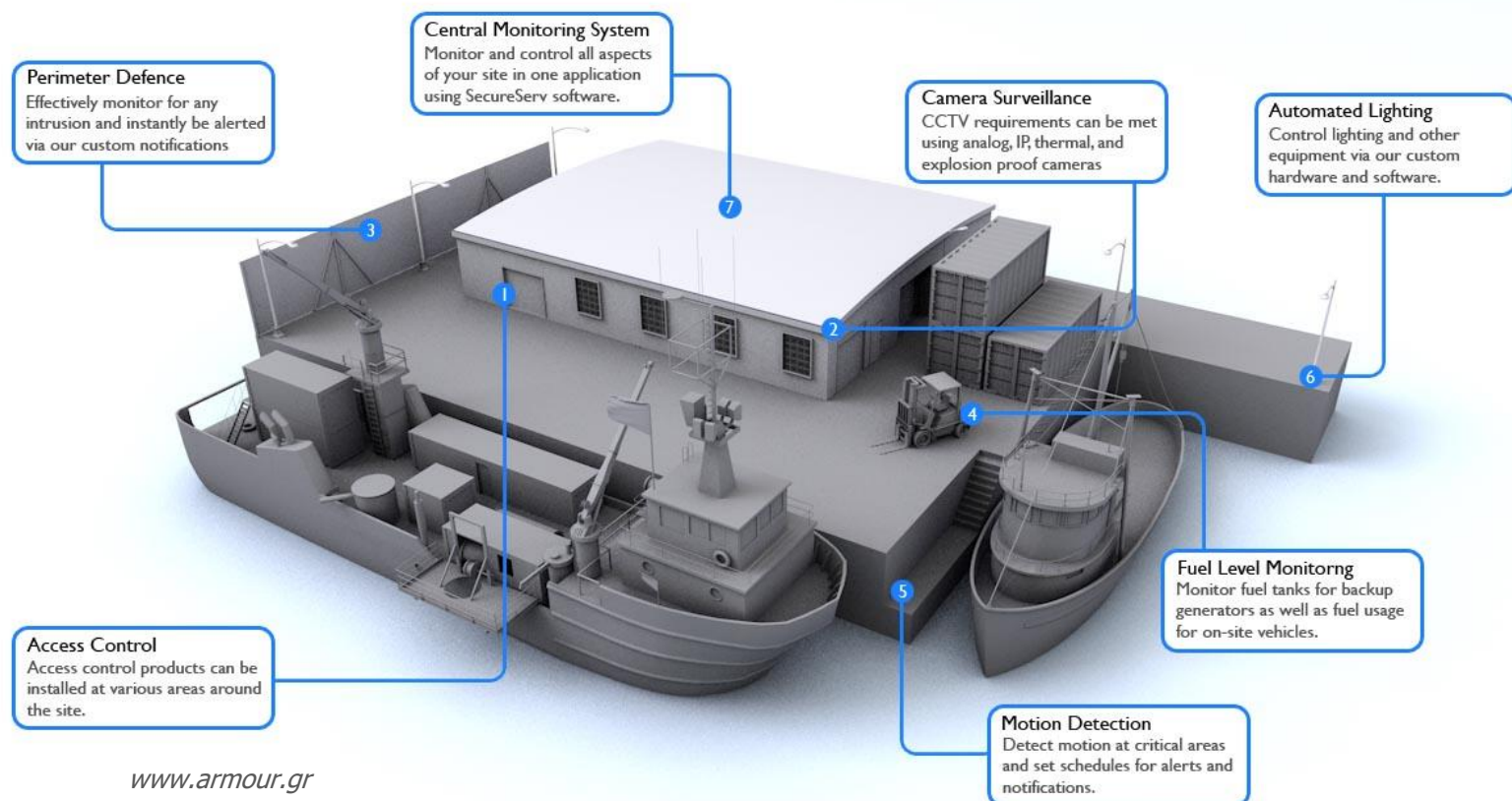


CCTV SYSTEMS

We import, trade and support High Technology Digital CCTV systems (image / voice) in order to be and not only to feel secure!

Designed and adjusted according your requirements, our systems can cover in full all your home/company needs, with transferring image and voice, in real time, wherever you are at any time (in your PC and or your mobile device).

Our specialists will record all your needs and will propose to you the most workable system that will fulfill your requirements.



LONG RANGE CONTROL CAMERAS



LRS long-range surveillance with laser illumination

Built for Border Control and Homeland Security

Features

- Camera zoom range 30mm to 1000mm (33×)
- Digital video output (Streaming IP)
- Laser illuminator bore-sighted to camera
- Fast Pan, Tilt, Zoom (PTZ) operation
- 808nm semi-conductor laser
- True day/night operation
- Wide temperature range, -40°C to +70°C
- Active back focus temperature compensation

The VISIX LR-1000- PTZi is an integrated, ruggedized, military grade, high-precision PTZi camera, with built-in laser illuminator.

The laser illuminator uses the same type of optics as the zoom lens for optimal field of view at all zoom settings.

The camera and laser unit are bore-sighted, ensuring optimal scene illumination regardless of distance to the object, making it ideal for day or night surveillance for border protection, costal protection, camp perimeter protection, homeland security, and critical infra-structure protection (CIP) applications.

Graphic Overlays

The VISIX LR-1000- PTZi system has a built-in graphic overlay generator that allows arbitrary graphic overlays to be inserted into the image output.

Typical overlays are text strings, showing azimuth, elevation, GPS data or hair crosses or other reticles.

Graphic overlays can be customized to suit specific user requirements.

VisiX LR-1000-PTZi

Optical system

The VISIX LR-1000-PTZi optical system has been developed specifically for use in long-range surveillance. It features continuous zoom, with a powerful zoom ratio of 30 to 1000 mm, plus auto-iris and focus adjustment from 3 m to infinity.

The "Auto-Focus on Demand" focuses the camera system automatically at the push of a button.

The lens design incorporates oil-free, low-friction surfaces with special coatings, high-speed motors with zero backlash and high-precision feedback potentiometers.

Fog penetration

The fog penetration function is designed to automatically increase visibility under conditions including fog, haze and fire smoke.

The camera continuously analyses the picture and once it detects a low-contrast condition, it will automatically enhance the contrast.

The Digital Noise Reduction (DNR) in the camera system is a function that analyses the video image and reduces noise, particularly in low-light conditions.

The analysis is based on a 2- and 3-dimensional algorithm

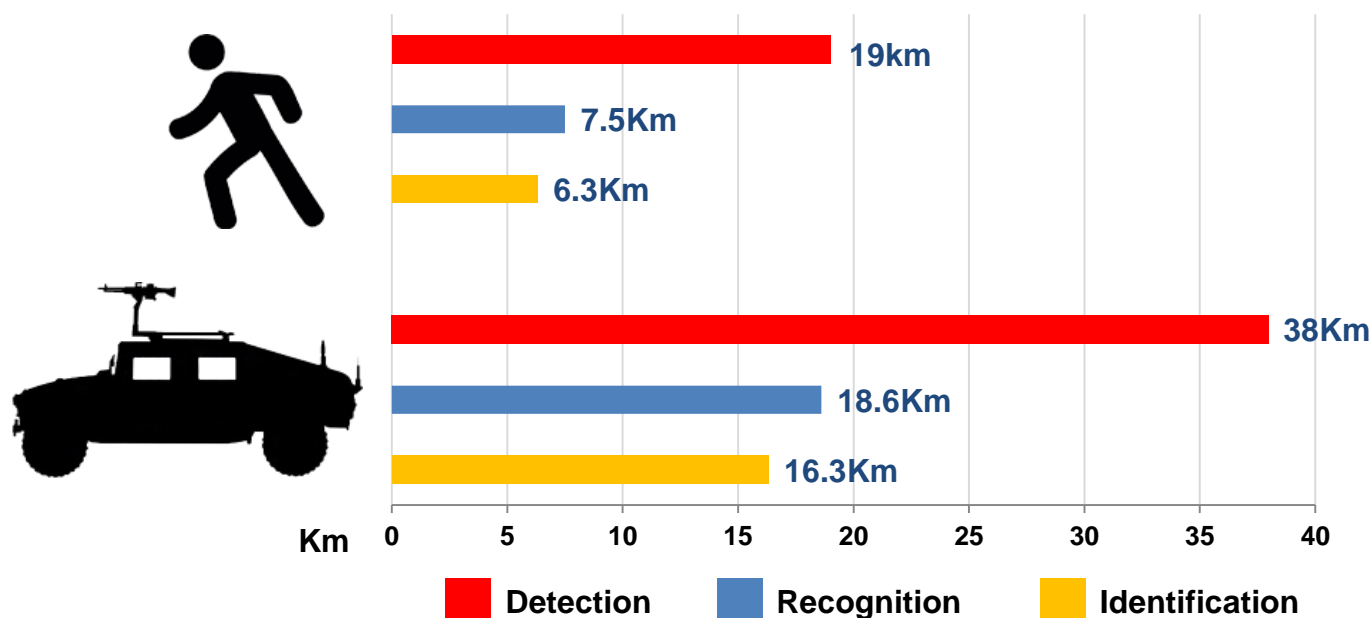
Easy installation and operation

The VISIX LR-1000-PTZi camera and laser unit has been developed for easy installation and operation in complex surveillance applications.

Video output is via IP and the unit is controlled via RS-485 with Pelco-D protocol.

The unit can also be controlled locally with keyboard and has an analogue video output.

Visual Range Performance



Conditions for SSIP CAM program: Contrast 30%, Over cast daylight, Sky ratio 3, Visibility 80km, 50% probability, NFOV 0,3° (H),

Dimensions Man: 0.45m × 1.7m. Vehicle dimensions NATO target 2.3m × 2.3m

TECHNICAL SPECIFICATIONS

Image system

Sensor High sensitivity 1/3" CCD sensor with complementary mosaic
Effective pixels (H × V) 976 × 582
Aspect ratio 4:3
Video output Video CVBS
Focal length / Horizontal field of view 30 to 1000mm zoom (33×) / 9° to 0.3°
System video resolution 540 TVL (15% video modulation, with lens)
Sensitivity 0,030 Lux, 25% video, F4.5
Spectral response Visible + Near-IR (Switchable IR-cut filter)
Signal to noise ratio > 52 dB, AGC off
Gamma correction 0.45 / 1.0
Focus range 3m to ∞ (Active back focus temperature compensation)
Image stabilization Optional

Laser illuminator

Laser type / optical power Laser diode / 8 W
Wavelength 808nm
Range > 6km
Divergence 9.3° to 0.37° (synchronous to the camera zoom)
NOHD 29m for wide beam, 239m for narrow beam
MTBF 10,000 hours @ 100% ≈ 3 years @ normal operation

Pan / Tilt

Speed, Pan (Azimuth) Maximum 60° per second, Minimum 0.03° per second - continuous speed at 25°
Speed, Tilt (Elevation) Maximum 60° per second, Minimum 0.03° per second - continuous speed at 25°
Position resolution 0.01°
Range of motion, Pan 365°
Range of motion, Tilt +40° to -45°
Gear head backlash None

Electrical specifications and functions

Video output Streaming IP (H.264 or MJPEG), Composite CVBS, 1 Vpp, 75 ohm
Commands/status IP Pelco-D Protocol

Mechanical

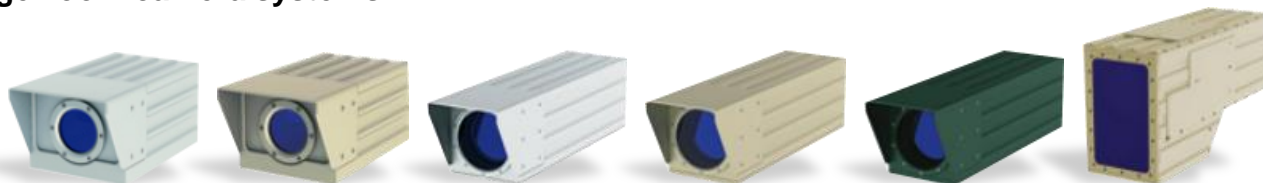
Overall dimensions - mm (W × H × L) 414 × 568 × 531
Mounting holes 8 × Ø13mm
Net weight 52kg

Environmental

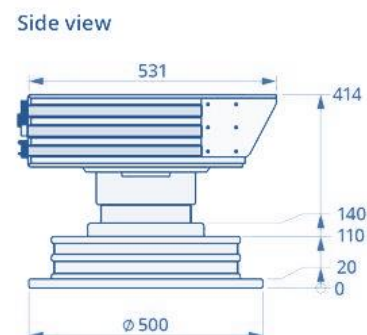
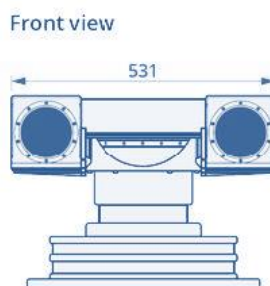
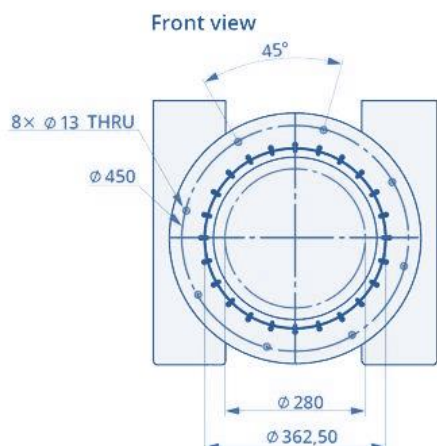
Operating voltage 24 VDC ±10% MIL-1275
Maximum current consumption Day: 1.5A + 2A for heater, Night: 6.5A + 2A for heater
Maximum current consumption, moving Day: 5.5A + 2A for heater, Night: 10.5A + 2A for heater
Connectors (power, control) In accordance with MIL 38999
Shock/vibrations Vibration 3.05 Grms and chock 11ms 30g
Operating temperature -40°C to +70°C
Storage temperature -46°C to +75°C
Surface treatment Chromit AL TCP / Painting
Protection IP 65
Bore-sighting retention ±0.2 mRad ≈ ± 2m @ 10km
Bore sight relation Camera/Laser ±0.5 mRad

VisiX LR-1000-PTzi

Visix LRC Family Comparison of key parameters for Visix family of medium-range and long-range zoom camera systems



PARAMETER	LR-165	LR-200	LR-375	LR-750	LR-1000 LR-1000-HD	LR-1000-DUO LR / SR
Resolution CCD (PAL)	976 × 582 px	976 × 582 px	976 × 582 px	976 × 582 px	976 × 582 px 1296 × 736 px	976 × 582 px
Video output	Composite video	Composite video	Composite video	Composite CVBS, 1 Vpp, 75 ohm	Composite video HD-SDI	Composite CVBS 1 Vpp, 75 ohm
Optical zoom range	5.5-165 mm (30×)	11-200 mm (18×)	15-375 mm (25×)	30-750 mm (25×)	30-1000 mm (33×)	30-1000 mm (33×) 14 mm
HFOV range	47° to 1.7°	32° to 1.9°	17° to 0.7°	9° to 0.4	9° to 0.3°	*
Detection distance (human)	8800 m	11000 m	15700 m	18000 m	19000 m 19900 m	*
Recognition distance (human)	2200 m	2900 m	4600 m	6400 m	7500 m 8500 m	*
Dimensions (W×H×L mm) Excluding connectors	120×123×341	120×123×341	148×156×530.5	148×156×530.5	148×156×530.5	157×236×436.5
Graphical overlays	Yes	Yes	Yes	Yes	No	Yes



- All cameras are available in white, beige, green and black
- -40°C to +70°C operating temperature range
- True Day to Night Mode (switchable color/mono + Near-IR)
- High speed motorised zoom with Autofocus-On-Demand
- Hermetically sealed protective housing • Highly accurate bore sight retention (line of sight stability)

HRC-SERIES CAMERAS

HRC SERIES

Long-range thermal imaging cameras for border and coastal surveillance applications

*Global Positioning System (GPS)
Laser Range Finder
Digital Magnetic Compass*

*Pan & Tilt providing
continuous rotation*

Thermal imaging HRC-S camera

Long range daylight camera (LR-TV)

TCP/IP compatible electronics

High-resolution, cooled (HRC) thermal security cameras provide TV-quality thermal video for long-range, 24/7 video security applications.

Using cooled InSb detectors sensitive to the MWIR waveband and with 640 × 480 resolution, these cameras can detect small targets from extreme ranges, making them the perfect solutions for applications with long perimeters – especially perimeters that can't be physically secured – and in situations that need as much warning of potential intrusion as possible. That's why FLIR's cooled cameras are the systems of choice for border security, port and coastal security, and offshore security around the world.

Flexible enough to provide both wide area coverage and long-range, high magnification performance, HRC provides a continuous zoom thermal optical telescope with 12.5:1 zoom ratio and a variety of optical packages.

Security operators can field HRC thermal security cameras as portable, stand-alone thermal video cameras, multi-sensor surveillance suites with long-range video camera and laser rangefinder on a pan/tilt mechanism, or integrate multiple sensor systems into a long-range, day/night video security network.

Features and Benefits

- Four thermal optical designs to choose from to give you the range and situational awareness you need
- Continuous optical & digital zoom for long reach without losing sight of intruders while zooming
- Unmatched image quality with FLIR's proprietary Tunable Digital Detail Enhancement (DDE)
- Long-range visible light camera, and ultra-lowlight sCMOS color camera options (MS configuration only)
- Network ready installation with FLIR's JPC module (MS configuration only)
- Serial control
- Composite video output for use with video management and display systems
- Threat geo-location capable with built-in digital magnetic compass, GPS, and laser rangefinder (MS configuration only)





FLIR Systems; One of the world leader in thermal imaging cameras

FLIR Systems is one of the world leader in the design, manufacturing and marketing of thermal imaging systems for a wide variety of commercial, industrial and government applications.

FLIR Systems' thermal imaging systems use state-of-the-art infrared imaging technology that detects infrared radiation - or heat - enabling the user to see in total darkness, in practically all weather conditions. We design and manufacture all of the critical technologies inside our products, including detectors, electronics, and special lenses ourselves.

Thermal imaging cameras like the FLIR HRC-Series create a virtual security fence and are finding their way into many security and surveillance applications.



Thanks to their ability to detect man-sized targets several kilometers away, they are extremely suited for border surveillance and coastal protection.

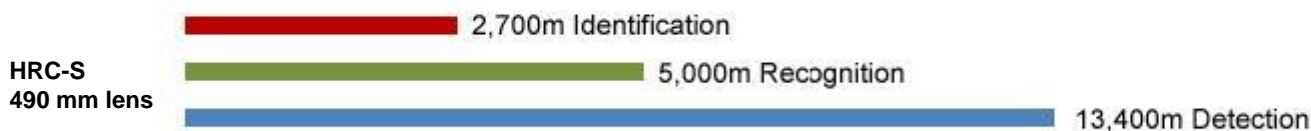
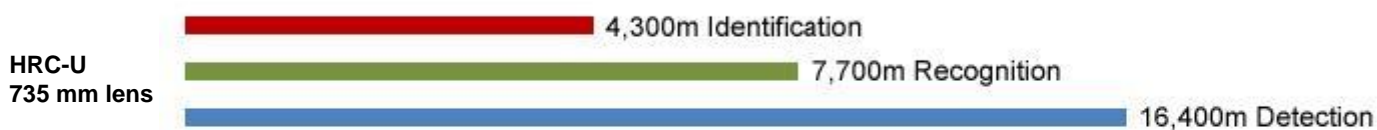
Protecting a country's borders is vital to its national security. It is however very challenging to detect potential intruders or smugglers in total darkness, in the most diverse weather conditions.

Thermal imaging cameras can help border control professionals to meet the demands they face at night and in other low-light situations.

Also ports and airports, nuclear plants, petrochemical installations,... are vulnerable to theft, or even worse terrorist attacks, and can be protected by using thermal imaging cameras like the FLIR HRC-Series.

SPECIFICATIONS

Detection, Recognition, Identification of a Human and Vehicle with 2.3m critical dimension target



Thermal imaging cameras for ultra long range surveillance applications with cooled detector



Cooled detector

The HRC-Series are equipped with a mid-wave, cooled detector. A thermal imaging camera with a cooled detector gives you the advantage that you can see and detect potential threats much farther away than with an uncooled detector. But there is more... Objects which are at a close distance can be seen with much more detail. You can see what people are carrying. There is no need anymore to send someone out in the field to take a closer look since small details can clearly be seen on the thermal image. According to his needs and preferences, the user can choose a FLIR HRC-Series that is either equipped with a cooled Indium Antimonide (InSb) or a cooled Mercury Cadmium Telluride (MCT) detector.



Crisp, high resolution thermal images: 640 x 480 pixels

All thermal imaging cameras are equipped with a cooled Mid-Wave InfraRed (MWIR) detector (InSb or MCT) that produces ultra-sharp thermal images of 640 x 480 pixels.

This will satisfy users that want to see the smallest of detail and demand the best possible image quality.

It allows the user to see more detail and detect more and smaller objects from a farther distance. Coupled with high sensitivity, the HRC-Series offer extremely long range performance and excellent image quality.



Four different versions available

- HRC-E: Equipped with a 22 x 275 mm lens.
It zooms between a 25° field of view and a 2° field of view.
- HRC-S: Equipped with a 39 x 490 mm lens
It zooms between a 14.1° field of view and a 1.1° field of view.
- HRC-U: Equipped with a 59 x 735 mm lens.
It zooms between a 9.4° field of view and a 0.75° field of view.
- HRC-X: Equipped with a 88 x 1100 mm lens.
It zooms between a 6.3° field of view and a 0.5° field of view.



Continuous optical and digital zoom on the thermal image

The HRC-Series thermal imaging cameras are equipped with powerful continuous optical zoom capability on the thermal image.

It offers excellent situational awareness but also the possibility to zoom-in, and see more detail, once a target has been detected. This way operators can see farther recognize more detail and react more quickly to security threats.

The advantage of continuously zooming compared to other systems that are using a rotating lens system is that there is no switch or swapping between the different images. You can gradually zoom in while keeping your focus all the time.

All systems are also equipped with an up to 16x continuous digital zoom



Advanced image processing

FLIR Systems has developed a powerful algorithm that helps to overcome the problem of finding low contrast targets in high dynamic range scenes.

Advanced Digital Detail Enhancement (DDE) assures clear, properly contrasted thermal images.

DDE delivers a high contrast image even in extremely dynamic thermal scenes. It provides high quality thermal imaging in any night- or daytime environmental conditions.



Auto focus

The HRC-Series contain an exclusive auto focus feature which delivers crisp, clear images at the press of a button.

Focus is kept while zooming in or out.

The system allows you to experience better situational awareness in the wide field of view, while maintaining detailed recognition capabilities in the narrow field of view.



Easy and fast to install

All cameras incorporate easily with common power and video interfaces found in existing and new security systems.

They can be easily integrated into any existing infrastructure providing early detection and visibility 24/7 all the year round.

The images from the 640 x 480 pixels detector can be displayed on virtually any existing display that accepts standard composite video.



Portability

All systems are configured to be either fixed mounted or field transportable for fast deployment.

They can be mounted on a standard tripod.

A single operator can set up the system in minutes, making it ideal for mobile operations and quick deployments.



Designed for use in harsh environments

All systems are extremely rugged.

Their vital core is well protected against humidity and water.

They all operate between -32°C and +55°C.

All HRC-Series are Commercially Developed, Military Qualified (CDMQ). They comply with various Mil-Std.



Multiple installation options

Various options exist to connect the HRC-Series and integrate them in your existing systems. All cameras can be configured for stand alone use, as part of a network or in a hybrid configuration with local and network based control:

- Serial Configuration: Simply connect the HRC-Series over serial to your remote control panel or use the Joystick Control Unit.

- TCP/IP configuration: all HRC MS cameras can be integrated in any existing TCP/IP network and controlled over a PC.

No need to put extra cables. Using this configuration, you can monitor all activity in a protected area over the internet.

Even when you are thousands of kilometers away.

RADARS



MILITARY RADAR

Understanding the nature of a threat is critical to intercepting and defeating it.

FLIR's ground surveillance radars let you know where detect and track multiple threat simultaneously at ranges beyond the fence line so security personnel can monitor and control their security zone by intercepting threats before they can complete their mission.

With next-generation “track while scan” capabilities in a ruggedized, mil-spec design, FLIR ground surveillance radars are exceptionally fast and have class leading target detection and acquisition performance

Ranger R5 PERIMETER SURVEILLANCE RADAR

Wide Area Surveillance for Desert Environments

The Ranger® R5 perimeter surveillance radar provides accurate, high resolution detection of vehicles and personnel. This ground-based radar is designed to meet the rigors of a desert environment, providing 24/7 security to ranges of up to 5000m.

The Ranger R5 perimeter surveillance radar scans a full 360 degrees every second effectively monitoring up to 78 square kilometers (30 square miles).

Multiple units can be installed with overlapping coverage areas to protect larger areas such as borders.

As part of the FLIR integrated product suite, multiple units may be networked with any or all of the full range of FLIR radars and imagers to conform to terrain profiles and secure areas inside and outside a perimeter.

Using the radars' advantage in detecting intruders, pan-tilt-zoom (PTZ) cameras can focus on their strength – identifying and assessing threats – for a more efficient and cost effective solution.

Also available models

- R5D (Dual Mode, Perimeter Surveillance Radar)
- R3 (High Resolution Perimeter Intrusion Detection)
- Ranger R3D (Switchable, FMCW & Pulse Doppler Mid-Range Ground Surveillance Radar)
- Ranger R2 (High Resolution Wide Area Surveillance)
- Ranger R1 Short-Range Ground Surveillance Radar)



FLIR RANGERTM

R6SS

Man Portable Electronic
Scanning, Long-Range
Ground surveillance radar

Man Portable Electronic Scanning, Long-Range Ground surveillance radar

The Ranger® R6SS is a man portable, ground-surveillance radar specifically designed to detect and track personnel and vehicles within a 10 kilometer range.

With its small size and lightweight, the Ranger R6SS has class leading target detection and acquisition performance in a man portable form factor.

Applications

- Force Protection
- Border Security
- Vehicle Dismount
- Artillery and Mortar Fire Correction
- UAS Detection

Key Features

- High Performance Ground Surveillance System
- Man Portable
- Built-in North Finding Capability
- Automatic Target Tracker
- Automatic Target Classification
- Low False Alarm Rate
- MIL - STD - 810G Qualified
- Built in GPS

Key Features

- High Performance Ground Surveillance System
- Man Portable
- Built-in North Finding Capability
- Automatic Target Tracker
- Automatic Target Classification
- Low False Alarm Rate
- MIL - STD - 810G Qualified
- Built in GPS



FLIR RANGERTM R20SS

Man Portable Configuration

The Ranger® R20SS is a ground-surveillance radar specifically designed to detect and track personnel and vehicles within a 30 kilometer range.

With its electronic scanning capability and fast refresh rate, the Ranger R20SS has class leading target detection and acquisition performance.

The Ranger R20SS Portable Kit allows the radar unit to be deployed in a man portable configuration

The Portable Kit creates a Fully Adaptive System for Minimal Operator Workload that is simple to set up and operate.

Equipped with persistent wide area surveillance, unmatched detection performance, high target geo-location accuracy, and all weather performance you will be able to detect and protect, borders, forces and equipment 24/7.

Applications

- Force Protection
- Border Security
- Vehicle Dismount
- Artillery and Mortar Fire Correction

Key Features

- High Performance Ground Surveillance System
- Man Portable, Total Kit
- Built-in North Finding Capability
- Automatic Target Tracker
- Automatic Target Classification
- Low False Alarm Rate
- MIL - STD Qualified



FLIR Ranger® R20SS

Solid State, Electronic Scanning, Long Range
Surveillance Radar

The Ranger® R20SS is a ground-based surveillance radar that provides fast detection and accurate target location within a 30 kilometer range.

Featuring advanced electronic scanning, the Ranger R20SS can cover an entire 90-degree area twice per second with low false alarm rates.

With both man-portable and vehicle mounted options, the Ranger R20SS is ideal for military vehicle applications

Accurate target location: The Ranger R20SS utilizes advanced tracking algorithms which enable fast detection and track initiation, resulting in highly accurate target location with a low false alarm rate. And by operating in the X-band, the Ranger R20SS is minimally affected by adverse weather or precipitation.

Next-generation track and scan capabilities: The Ranger R20SS provides fast 90-degree coverage using enhanced “track while scan” capabilities that cover an entire 90-degree area twice per second. When deployed with an optional pan/tilt device, the Ranger R20SS can provide 360-degree coverage.

Low SWaP applications: R20SS radar performs over land and over water allowing the use of a single radar for both applications.

The result is lower ILS costs and reduced training and spare requirements.

The low SWaP requirements minimize infrastructure costs in coastal applications. Its low weight and easy implementation make it an ideal candidate for military vehicle applications and deployable in a man-portable configuration.

As with the entire line of Ranger ground surveillance radars, the Ranger R20SS provides highly reliable system performance and 24/7 persistent surveillance, both within and beyond the fence.

FEATURES

- Optional pan/tilt device offers 360-degree coverage
- Low SWaP requirements minimize ILS costs, including reduced training and spare requirements
- Persistent wide-area surface surveillance 24/7
- Mil-spec design and qualification
- Easy sensor integration
- Performs over land and over water
- Low lifecycle cost

APPLICATIONS

- Border Security
- Coastal Surveillance
- Force Protection
- Industrial Facility
- Critical Infrastructure Security
- Air & Sea Ports
- Vehicle & Man-Portable Capabilities

LONG RANGE DRONES



Real-Time Stealth Monitoring With a Rugged, Long Endurance Tactical UAV

DT26M has been especially designed for reconnaissance and surveillance operations requiring high quality day/night video, discretion, robustness and compatibility with military standards in terms of encryption, and transmission.

The DT26M is equipped with a state of the art EO/IR Gimbal offering unrivaled image stabilization and advanced features such as video tracking with multiple object detection and super-resolution.

The DT26M is the perfect tool for long range & highly demanding surveillance operations.

- Intelligence, Surveillance, Reconnaissance (ISTAR)
- Day and night surveillance of critical areas (mission theaters, borders, industrial sites, remote dangerous areas)
- Large area surveillance (5000 ha/hour)
- Detection, Recognition & Identification (DRI)
- Tracking mobile targets (people, cars, boats, planes...) for long pursuit and over long distances (+50kms)
- Remote identification
- Real-time operations monitoring
- Patrol and convoy escorting
- Discrete surveillance operations (low visual and audible signature)

DT26M Long Range UAV



50+ km
COMMUNICATION
RANGE

150 min.
ENDURANCE

EO/IR Gimbal
UNRIVALED
IDENTIFICATION
PERFORMANCE

8 min.
DEPLOYMENT
TIME

4 kg
PAYLOAD
CAPACITY



Technical specifications

UAV

Endurance: 150 min

Wind Resistance: 75 km/h

Cruise Speed: 50 km/h

Communication link: Range 50 km
Encryption AES256
Agile Mesh multi-node Topology

Launch & Recovery: Catapult / Belly Landing (all terrain)

Set-up time: < 8 minutes

Weight: 15 kg

Options

Additional mapping payload : **RGB camera (up to 50 km² per flight)**



DT26M Long Range UAV



Technical specifications

EO/IR Gimbal

Gyrostabilized EO/IR video camera
Unlimited Pan & Tilt
x36 EO zoom
Digital IR Zoom
Angular resolution 25 μ Rad
Best in class Onboard Software Stabilization
Onboard image enhancement (Contrast, Shutter, Gain)
Videotracking
Geotracking
Mobile object tracking (up to 4)
"Click & Track" functionality
STANAG 4609 / STANAG 4586
ITAR Free



Go further and add advanced features to the gimbal: laser illuminator, super resolution, EO/IR fusion.

Do it all and map at the same time: add an RGB camera (up to 50 km² per flight).

Telecom accessories: mobile receiver and video terminal (ROVER) 5 km range.

Transport solutions: rugged case

Services: warranty extension, training on-site

Options

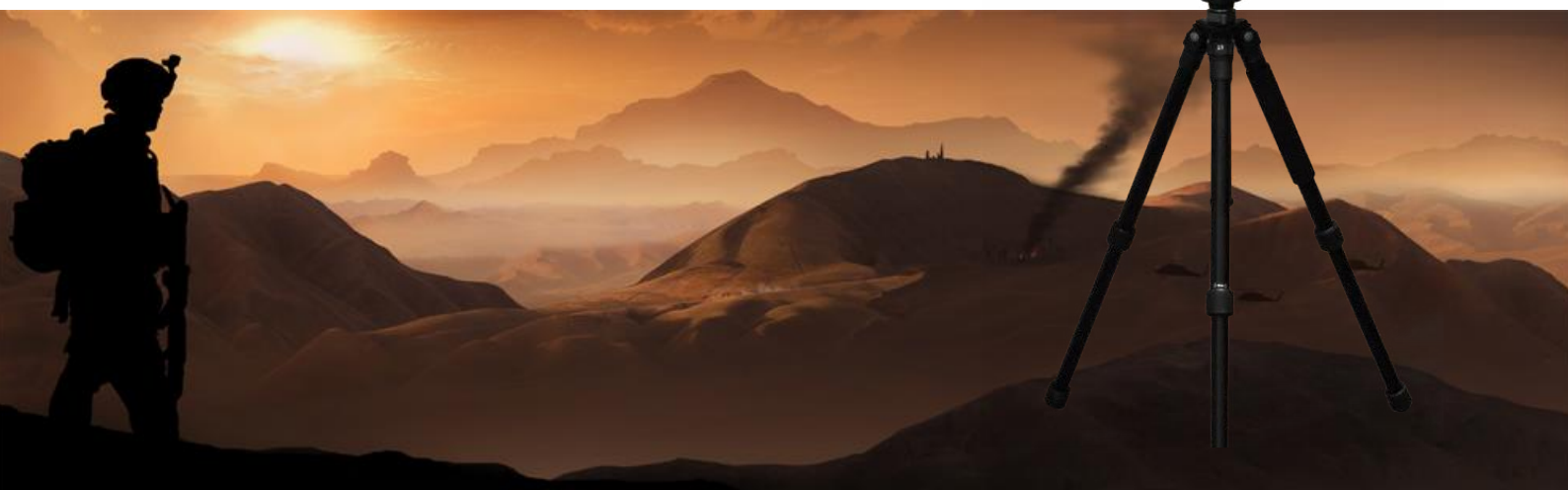
Laser illuminator
Super Resolution
EO/IR Fusion

Ground Control Station

High gain automatic tracking antenna
Rugged laptop
Advanced control software (including Simulator/Playback)

Options

Mobile receiver and video terminal (ROVER) : 5 km range



DT26M Long Range UAV



Features



DT26M UAV

Endurance:	2h30
Weight	11kg (4kg payload capacity)
Range per flight	Up to 150 kms
Communication link:	Range : + 50 kms Encryption : AES256 Agile Mesh multi-node topology
EO/IR Gimbal	Unrivalled DRI performance
Launch method / recovery	Catapult / belly landing (all-terrain)
Deployment	< 8 minutes
Wingspan / Length	3.3 m / 1.6 m
Cruise speed	50 km/h (27 kts)
Wind resistance	75 km/h (27 kts)
Flight altitude ceiling	Up to 5000 m ASL
Features	Developed with French Ministry of Defense All terrain technology – remote operability in unprepared areas 100% iTAR free Face-to-face training and engineering support included



Unrivalled EO/IR compact, high-end payload on a UAV

EO/IR video camera	Gyro-stabilized system – rotating and adjustable sensor
Zoom	EO : optical x 36 / LWIR camera with x2 zoom / click and track features
Resolution	25 μ Rad
Pan/tilt	Unlimited
Tracking	Geo-tracking & Pattern Video tracking Mobile objet tracking
Onboard image enhancement	Included (Contrast, Shutter, Gain)
STANAG	4609 / 4586

UX5 is a PROFESSIONAL UAV for SURVEY, MONITOR AND INSPECT



UX5

Endurance 50 Min
Weight 2.5Kg
Range 60Km
Pre-flight setup time 5 min



UX5 HP

Endurance 35 Min
Weight 2.9Kg
Range 60Km
Pre-flight setup time 5 min



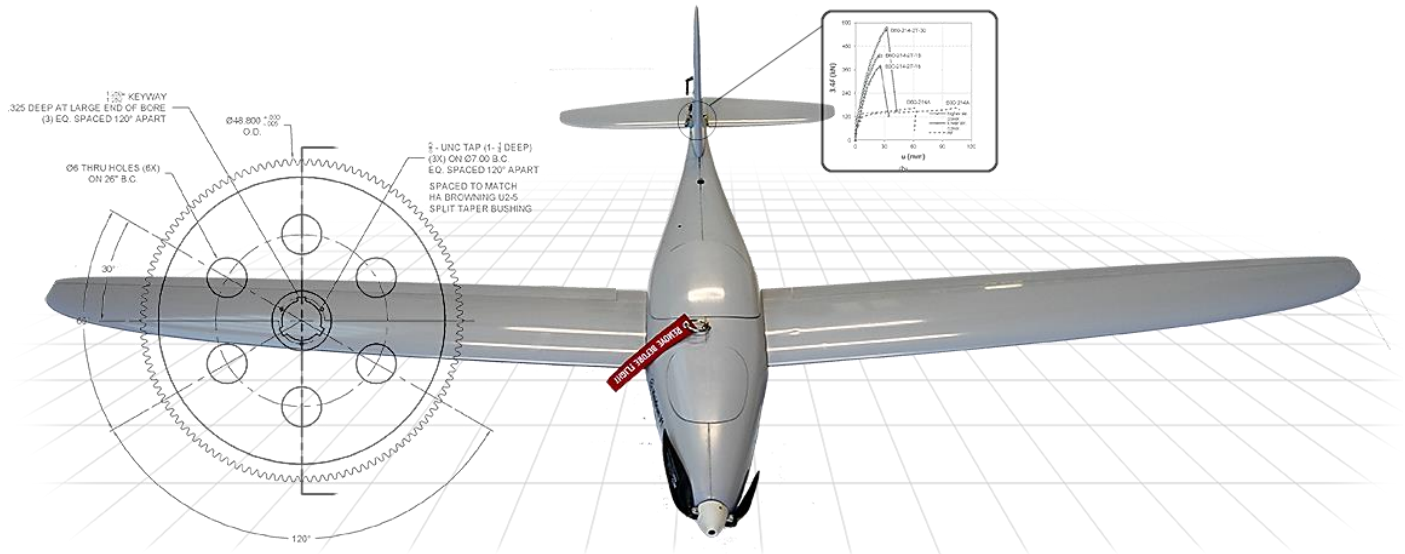
UX5 AG

Endurance 45 Min
Weight 2.5Kg
Range 60Km
Pre-flight setup time 5 min



SPECIAL DRONES

HEIDRUN V1 UAV FOR TACTICAL SYSTEMS



HEIDRUN V1 HIGH PERFORMANCE SCOUTING DRONE

Heidrun V1 is a portable, tactical Unmanned Aerial Vehicle primary for military use. The military drone is great for scouting and defence purposes.

The tactical drone is ultra mobile and can be rapidly deployed in the field to low-altitude drone reconnaissance or surveillance. It is operated by an easy-to-use touchscreen navigator with a precise GPS, or by joystick and a separate operated 2-axis stabilized gimbal system.

Besides being easy to use, the Heidrun V1 is a robust and powerful drone for recon and tactical solutions.

With 1.7 kg (without payload) and 1:30 hours flight time reaching 25 km range while providing Thermal & EO live-video feed, the tactical UAV is a high endurance and range aircraft.

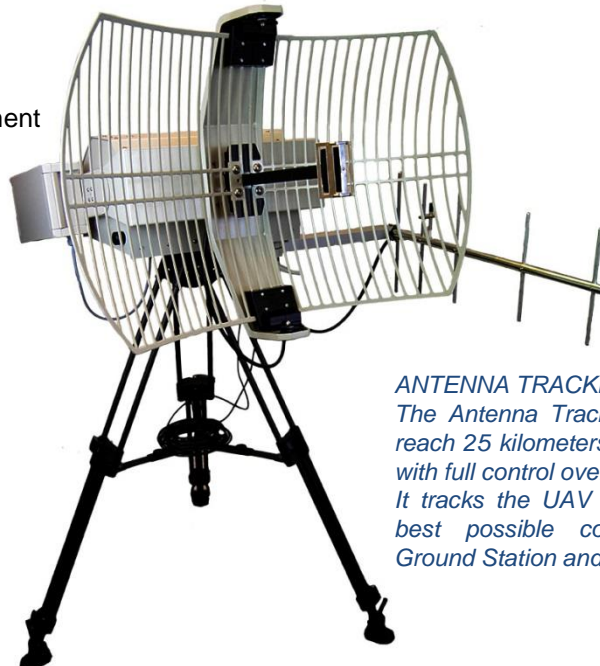
Heidrun V1 has a modular payload area, which can handle up to 600 g payload. Possibilities for customization and future sensor upgrades

MAIN BENEFITS

- Designed for Defense and Law Enforcement
- Dual camera (Thermal & HD)
- Encrypted (communication & video)
- Deployment time <5 min
- Flight Time 1:30 hrs
- Hand launched
- Deep-stall landing within 10×10 m
- Product liability
- 1 Year Warranty

Optional

- 2 Year Extended Warranty Care+
- 2 Year Service Plan



ANTENNA TRACKER

The Antenna Tracker makes it possible to reach 25 kilometers of live video feed along with full control over Heidrun V1. It tracks the UAV at all times creating the best possible connection between the Ground Station and Heidrun V1.

UAV FOR TACTICAL SYSTEMS



PAYLOAD & ACCESSORY OPTIONS

SKY-WATCH DUAL LENS GIMBAL

- Separately controllable gimbal
- 2-axis stabilized gimbal
- Resolution: 720x576 EO
- Resolution: 640x480 IR
- Zoom EO: 6.6 x optical zoom - 2 x digital zoom
- Zoom IR: 2 x digital zoom
- Weight: 160g
- HFOV : 31° WFOV – 4.7° NFOV – 2.3° DFOV
- Pitch FOV: -45° to +135°
- Roll FOV: -180° to +180°

SKY-WATCH ANTENNA TRACKER RIG

Antenna tracker for long range communication and live video feed. Range up to 25km.



UAV FOR DEFENCE

Time is essential during a military operation; the outcome can change within seconds, meaning the difference between life and death. In that respect, the defence drone Heidrun V1 is the perfect choice due to its abilities within scouting and reconnaissance.



UAV FOR EMERGENCY & RESCUE

Heidrun V1 is an ideal drone in case of disaster or emergency situations, such as tsunamis, earthquakes, and terror attacks. Rapid response and accurate real-time information from the scouting drone is crucial to save as many lives as possible and provide the necessary help.



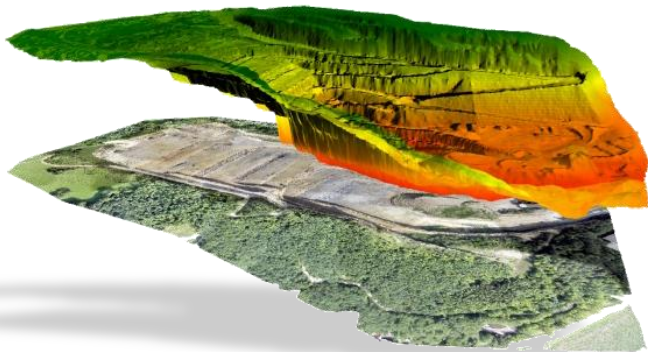
UAV FOR LAW ENFORCEMENT

For both law enforcement agencies and security forces, rapid response and versatility are the key to success because it provides a tactical advantage. The versatility of Heidrun V1 ensures that it can be used for a wide range of tasks.



UAV FOR NON-GOVERNMENTAL

Severe damage to infrastructures and high casualties caused by natural disasters call upon help from drone scouting and recon. Providing valuable information from areas which often are unmanageable, Heidrun V1 can be a vital part of saving lives.



LIVE MAPPING

The Heidrun V1 is a multipurpose UAV, which enables both live video feed and aerial mapping solutions/payloads, making the aircraft the perfect multipurpose UAV.

Sky-Watch recommends Agisoft Photoscan software to generate the proper map material

UAV FOR TACTICAL SYSTEMS



SPECIFICATIONS

DIMENSIONS	L x W x D	WEIGHT
Heidrun V1	1070mm x 1650mm x 170mm	1,100g (max 2,200g)
Heidrun V1 Transport cases (Pelicase 1740 x 2)	1122mm x 328mm x 308mm	12,200g
Heidrun V1 Ground station (toughbook x 2)	298,5mm x 191,8mm x 20,1mm	1,230g
Heidrun V1 Battery	140mm x 70mm x 40mm	580g
Heidrun V1 Payload capacity	N/A	500g
Heidrun V1 Payload - Colibri EO/IR dual mount	78mm x 53mm x 53mm	500g

VIDEO & TELEMETRY		
Receiver	Encrypted COFDM - supports SD to 1080p resolution	
Transmitter	Encrypted COFDM - supports SD to 1080p resolution	
Antenna type	RHCP circular polarized antenna	
Radio frequency	2,4GHz	
Transmission range	Up to 25km (requires additional equipment)	Line of sight
Transmission power	Up to 1,0Watt	

PERFORMANCE		
Max flight time	Up to 90min	
Ground Station battery time	Up to 480min standard	
Max speed (ground speed)	30m/s	108km/h
Max wind tolerance	12m/s	
Optimal cruise speed (ground speed)	17m/s	61.2km/h
Stall speed	8m/s	28.8km/h
Service ceiling	3500m ASL	11,483ft ASL
Maximum landing altitude	3000m ASL	9,843ft ASL
Maximum operating temp.	45Co	
Minimum operating temp.	-20Co	
Auto land battery voltage	12.7V	
Charger power supply	12V DC or 100-240V AC	
Heidrun battery voltage	14.8V	
Heidrun battery capacity	8750mAh	

CUMULUS - YOUR AGRICULTURAL DRONE



CUMULUS UAV



Cumulus V1 is a fully autonomous light weight drone for civil applications ranging from precision agriculture to accurate mapping and surveying.

Cumulus V1 is easily transportable and provides exceptionally large terrain coverage due to its 2 ½ hours flight time and 58km/h cruising speed.

The aircraft is made from the best carbon fiber and kevlar, which makes it one of the most robust UAVs on the market.

With its large payload capacity, the Cumulus V1 can handle a payload up to 500g with various possibilities for customization.

UNIQUE FEATURES

Hand launch and automated retrieval The Cumulus V1 can be launched by hand without any launching mechanism and retrieved by automated landing procedure.

Mapping The Cumulus V1 is made for mapping missions and has long endurance for greater coverage (40km²) - fast and effectively

Optional payload Modular payload options, ranging from RGB to Multispectral sensors. With its two sensors, multi-spectral and sunshine, Sequoia analysis plants' vitality by capturing the amount of light they absorb reflect.

Autonomous vertical landing Fully autonomous vertical landing without the need of any landing equipment or crane. The Cumulus V1 uses controlled deep stall for landing and a 10m x 10m landing area

High Precision Combining the flight performance and endurance of the Cumulus V1 with high precision PPK/RTK GPS, which means improved time-efficiency and higher output quality.

Detachable wings & tail For easy and compact transport, wings and tail can be detached

MAIN BENEFITS

Ruggedized

Versatile payload

Deployment time <5 min

Top speed 108 km/h (30 m/s)

Flight Time 150 min

Hand launched

Deep-stall landing within 10x10 m

Product liability

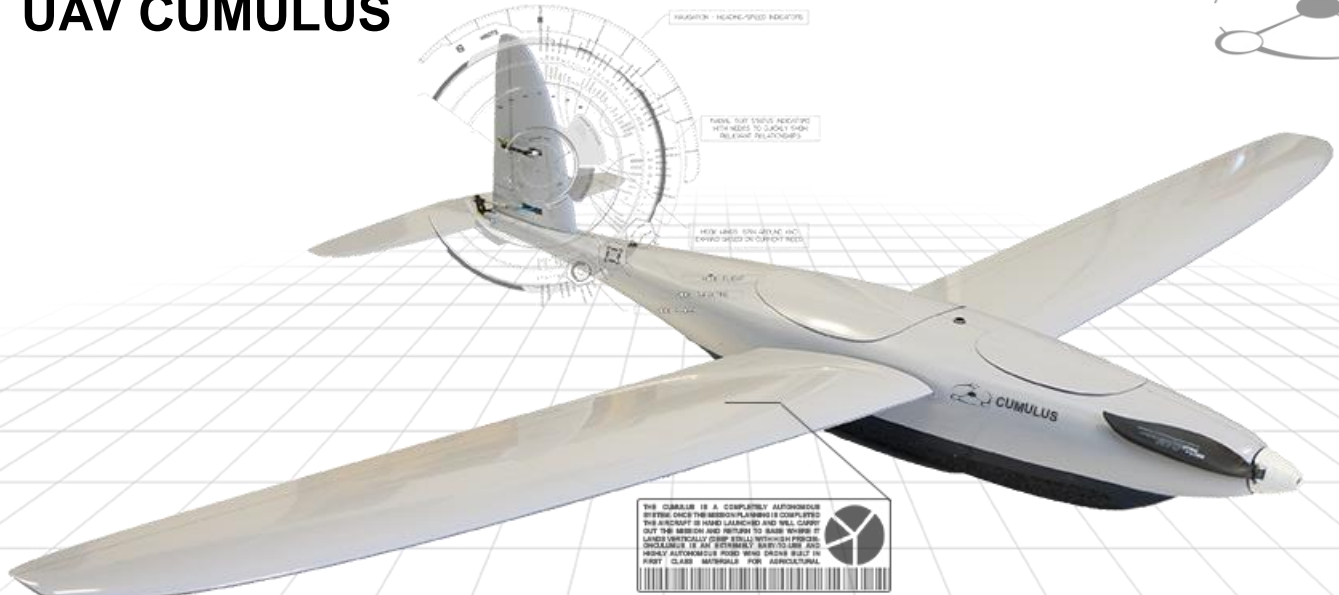
1 Year Warranty

2 Year Extended Warranty Care+ (optional)

2 Year Service Plan (optional)



UAV CUMULUS



SURVEYING & MAPPING

Time-saving and cost-effective GIS drone for gathering geo-referenced digital aerial images, which enables you to focus your energy on using and analyzing data, rather than working out how to gather it.



MINING

Worker safety is of paramount importance to anyone involved in mining industry. By allowing Cumulus to collect accurate spatial geographic data, the system can vastly reduce risk by minimizing the time staff spend on site.



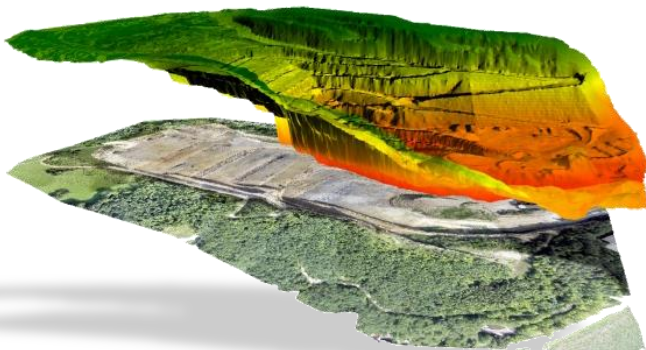
AGRICULTURE

Cumulus UAV provides the ability to optimize inputs and to drive down costs. Whole-field, in-season, current condition data is one of the most valuable pieces of information for farmers, which is exactly what Cumulus' GIS delivers.



NON-GOVERNMENTAL

Severe damage to infrastructures and high casualties caused by natural disasters call upon great organizations of volunteers who has devoted their own lives to save others. Areas are often large and unmanageable but the Cumulus V1 counteract this by aerial mapping from the sky.



MAPPING

The Cumulus is the perfect aerial mapping UAV, with long endurance and easy launch capabilities. Sky-Watch recommends Agisoft Photoscan software to generate the proper map material when you have collected your imagery.

UAV CUMULUS



SPECIFICATIONS

Autonomous flight	Hand-launch, autonomous flight and landing.
Fail-safes	Automatic return-to-home and/or emergency landing in case of critical battery status or lost connection.
Assisted manual control	Hand controller for flying or to adjust position, land or take-off; automated in-flight self stabilization.
Portability	Easy to carry, compact and light weight

DIMENSIONS	L x W x D	WEIGHT
Cumulus V1	1070mm x 1650mm x 170mm	1,100g (max 2,200g)
Cumulus V1 Transport cases (Pelicase 1740)	1122mm x 328mm x 308mm	12,200g
Cumulus V1 Ground Station (toughbook)	298,5mm x 191,8mm x 20,1mm	1,230g
Cumulus V1 Battery	140mm x 70mm x 40mm	580g
Cumulus V1 Payload capacity	N/A	500g

SUPPORTED MAPPING PAYLOADS		
Sony RX-100	20,2 MP	Daylight, RGB
Sony R10C	20,1 MP	Daylight, RGB
Parrot Sequoia	16 MP / 1,2MP mono band	Multispectral

TELEMETRY	
Module	Encrypted duplex communication
Antenna type	Omni directional vertical
Radio frequency	433 or 915MHz
Transmission range	Standard configuration up to 10km (Line of sight).
Transmission power	Up to 0,5Watt



UAV CUMULUS



SPECIFICATIONS

PAYLOAD OPTIONS

SONY RX-100 MAPPING/STILL PHOTO PAYLOAD

- 20,2 MP still photos
- Sensor: CMOS
- Sensor size: 116.16mm² (13.20mm x 8.80mm)
- f/1.8 (wide) / f/4.9 (tele) - f/11

SONY R10C MAPPING/STILL PHOTO PAYLOAD

- 20,1 MP still photos
- Sensor: EXMOR CMOS
- Sensor size: 357.28mm² (23.20mm x 15.40mm)
- Standard 16mm lens (20mm optional)

PARROT SEQUOIA MULTI-SPECTRAL PAYLOAD

16 MP RGB rolling shutter

- Definition: 4608x3456 pixels
- HFOV: 63.9
- VFOV: 50.1- DFOV: 73.5

4 bands separate

- Green (550 BP 40)
- Rouge (660 BP 40)
- Red Edge (735 BP 10)
- Near Infrared (790 BP 40)

4 camera mono-band 1,2MP global shutter

- Definition: 1280x960 pixels
- HFOV: 70.6
- VFOV: 52.6
- DFOV: 89.6

Sunshine sensor

- 4 spectral sensors with the same filters as the body
- GPS + IMU + Magnetometer
- SD Card

PERFORMANCE		
Max flight time	Up to 150 min	
Ground Station battery time	Up to 480min standard	
Max speed (ground speed)	30m/s	108km/h
Max wind tolerance	12m/s	
Optimal cruise speed (ground speed)	17m/s	61.2km/h
Stall speed	8m/s	28.8km/h
Service ceiling	3500m ASL	11,483ft ASL
Maximum landing altitude	3000m ASL	9,843ft ASL
Maximum operating temp.	45Co	
Minimum operating temp.	-20Co	
Auto land battery voltage	12.7V	
Charger power supply	12V DC or 100-240V AC	
Cumulus battery voltage	14.8V	
Cumulus battery capacity	8750mAh	
Nominal coverage (single flight)	3,5km ²	(120m alt. AGL.)
Maximum coverage (single flight)	80km ²	(2.500m alt. AGL.)
Dataset, absolute horizontal/vertical accuracy (no GCPs)		PPK/RTK edition accuracy (no GCPs) L1-module
Maximum landing area needed	10x10m	

SURVEILLANCE DRONES



HoverMast

The HoverMast product line comprises versatile tethered hovering platforms, field-proven in defense and military scenarios. With exceptional size-to-payload, HoverMast is operated from a variety of small vehicles or marine vessels. Hovering over its host vehicle, it receives and transmits ELINT and COMINT even while in motion, and supports stable real-time ISR in virtually all weather and light conditions.

The HoverMast platforms are completely autonomous, rising up to 150m within seconds, and secured by a cable providing an unlimited power supply and wideband data link. Free of air control regulations, and equipped with passive low-signature 24/7 operation, the HoverMast is immediately available for operation virtually anywhere and in any mission type.

The HoverMast's autonomous operation enables the operator to focus on the mission's success. At the push of a button, the aerial platform automatically exits its compact housing unit, extends its rotor arms and rises to the designated height, immediately beginning ISR activity. Its operation is hands-free, alerting the operator on substantial issues only, in which case the system lands automatically.

Applications

- Border control
- Anti-terror activities
- Battle information fusion
- Port security
- Federal & local law enforcement
- Cellular communication
- Mine control
- Mega event protection / Large event monitoring
- Special forces / Crowd control
- Infantry and naval operations
- Fire fighting missions / Forests Surveillance & Nature Reserves
- Urban warfare & Disaster area missions
- Communication in a variety of missions
- Critical infrastructure protection
- Electricity infrastructure monitoring
- Oil and gas pipelines and rigs
- Perimeter security for enterprises' critical infrastructure
- and many-many other





HoverMast

Unlimited Airborne Intelligence for Excellence in any Task. The HoverMast series offers one-of-a-kind aerial solutions for real time intelligence and communication, tailored to the needs of enterprises. Aquila solutions are based on tethered hovering platforms featuring unlimited power and operational time, as well as exceptional payload, visibility and mobility.

HoverMast caters to a variety of enterprise challenges, ranging from perimeter control, event management, communication and cellular applications for strategic facilities, oil & gas pipelines and rigs, traffic control, emergency response, firefighting, mines, forests and national parks, disaster areas and mass events.

Providing a complete solution, HoverMast brings not only top-level observation and surveillance capabilities, but also an effective communication tool for handling events. It enables immediate and continuous data transmission through a wideband link to any destination, setting up valuable communication between different teams to facilitate optimal handling of the event.

HoverMast's innovative patented technology is encased by an extremely simple and friendly user interface requiring minimal technical expertise. As a tethered platform, HoverMast is exempt from standard air control regulations requiring various licenses and restrictions on areas of activity.

These renders HoverMast immediately available for any task, virtually anywhere, including urban areas in the proximity of buildings.

HoverMast is based on the only tethered hovering technology that successfully operates world.

Strong technological core and a successful working units
Chosen as sole developer by IMOD, IDF, and other world leading forces
The only mobile tethered hovering platform in the world
Scalable and adjustable to any operational need

Platforms



DEFENSE MODELS

HoverMast 50 M - Excellent Size-to-Payload for Defense Applications
 HoverMast 100 M - Best Size-to-Payload for Defense Applications
 HoverMast 150 M - Greatest Height, Heaviest Payloads for Defense Applications
 HoverMast 50 MS - Stationary Defense Platform for Top Wind Endurance
 HoverMast 100 MS - Stationary Defense Platform with Top Size-to-Payload
 HoverMast 150 MS - Stationary Defense Platform for Ultra-Powerful Intelligence
 HoverMast 50 MN - Excellent Size to Payload for Defense-Related Marine Intelligence
 HoverMast 100 MN - Best-Size-to-Payload for Defense-Related Marine Intelligence
 HoverMast 150 MN - The Most Powerful Marine Intelligence for Defense Entities

ENTERPRISE MODELS

HoverMast 50 C - Excellent Size-to-Payload for Enterprise Applications
 Hovermast 100 C - Best Size-to-Payload for Enterprise Applications
 Hovermast 150 C - Greatest Heights & Power for Enterprise Applications
 HoverMast 50 CS - Stationary Enterprise Platform for Top Wind Endurance
 HoverMast 100 CS - Stationary Enterprise Platform for Best Size-to-Payload
 HoverMast 150 CS - Stationary Enterprise Platform for Ultra-Powerful Intelligence
 HoverMast 50 CN - Excellent Size to Payload for Enterprise Marine Intelligence
 HoverMast 100 CN - Best-Size-to-Payload for Enterprise Marine Intelligence
 HoverMast 150 CN - The Most Powerful Marine Intelligence for Enterprises



MILITARY

Armory Units
 Border Control
 Infantry Units
 Naval Ships



HOMELAND SECURITY

Police
 Fire Fighters
 Border Control
 Security Companies



CIVILIANS

News Agencies
 Power Supplies Companies
 Sporting Events
 Photographers
 Architects
 Agriculture



HoverMast

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- Urban warfare & Disaster area missions
- Communication in a variety of missions
- Critical infrastructure protection
- Electricity infrastructure monitoring
- Oil and gas pipelines and rigs
- Perimeter security for enterprises' critical infrastructure
- and many-many other





HOVERMAST AQUILA

Delivering The Leading Mobile Tethered Hovering Platform In The World

Whether your mission is locating illegal attempting to cross your border, crowd control at a political rally, or perhaps increasing security at your local electricity plant, HoverMast Aquila system, tethered hovering machine, combines engineering genius and innovative materials to provide exceptional observation and surveillance capabilities



DETECT MOVING
OBJECTS



COVER LARGE
AREAS



QUICK
DEPLOYMENT



SMALL
PLATFORMS



HIGH MOBILITY



ALL WEATHER



DAY/NIGHT



PASSIVE



AFFORDABLE



Hovering height Up to 100 m
Payload Up to 10 kg
Wind limit 30 Kt. plus gusts
Deployment time in seconds
Storage time in seconds
Operational time: Unlimited (Generator)

- E/O Triple sensor: IR, CCD, Laser
- Dual Channel Aerial Mesh

CONTROP
Turning Vision Into Reality



WITH T-STAMP C-ER BY CONTROP

- IR Camera with Cooled 3-5 micron Camera with x 6 Continuous Optical Zoom Lens
- CCD Day TV Camera with x 10 Continuous Optical Zoom Lens
- Laser Pointer



Can Detect a person from
4Km at night!



Wave Relay Advantages

- Position Location for all Radios shared throughout the network.
 - Multiple Video Streams directly in real time.
 - Quickly integrates additional sensors to create a holistic view of the situation.
 - Enables all team members to actively participate in data gathering and distribution.
 - Constant mesh at up to 100m over comes obstacles or rough terrain blocking the line of sight.
-
- The operator can focus on the payload inputs
 - The system constantly monitors all systems and alerts the operator only when needed



AQUILA family products

	AQUILA-50	AQUILA-EXO	AQUILA-50S	AQUILA-100
	Mobile	Marine	Stationary	Mobile
Hovering Height (m)	50	50	50	100
Payload (kg)	6	6	6	10
Wind limit (kt)	25	25	30	30
Deployment time (seconds)	15	15	15	15
Redeployment time (seconds)	15	15	15	15
Operational time	Unlimited	Unlimited	Unlimited	Unlimited
Mobility	+	+	-	+
Remote operation	+	+	+	+

E/O PAYLOADS

		DST OTUS-135	DST OTUS-170	DST OTUS-205
				
Sensors	Day	SONY FCB-EX1020	SONY FCB-EX1020	SONY FCB-EX1020
	IR	Uncooled IR	Uncooled 320 IR	Uncooled 640 IR
	Laser	Range Finder	Range Finder	Range Finder
Gimbals		2	2	2
Weight (Kg)		2.4	2.4	2.7

NanoSAR	Wave Relay	AMMS	Cell Antenna
			
Synthetic Aperture Radar	ADVANCED MOBILE AD HOC NETWORKING	Acoustic Multi-Mission Sensor	Cellular Communication

AQUILA PRODUCTS TO MARKET

Applications

- Border control
- Anti-terror activities
- Battle information fusion
- Port security
- Federal & local law enforcement
- Cellular communication
- Mine control
- Mega event protection / Large event monitoring
- Special forces / Crowd control
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- Urban warfare & Disaster area missions
- Communication in a variety of missions
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- Electricity infrastructure monitoring
- Oil and gas pipelines and rigs
- Perimeter security for enterprises' critical infrastructure
- and many-many other



CIVILIANS

News Agencies
Power Supplies Companies
Sporting Events
Photographers
Architects
Agriculture



HOMELAND SECURITY

Police
Fire Fighters
Border Control
Security Companies



MILITARY

Armory Units
Border Control
Infantry Units
Naval Ships

INFRARED SURVEILLANCE DRONE



Huginn X1D UAV FOR LAW ENFORCEMENT

The Huginn X1D multi-purpose drone is extremely easy to use.

Designed for defense, law enforcement, and emergency management applications, its rapid deployment provides the operator with a tactical overview within minutes.

The Huginn X1D is a perfect tool for reaching inaccessible or high-risk areas and for providing situational tactical overview.

With a deployment time of less than one minute, the Huginn X1D is the perfect tool for reaching inaccessible or high-risk areas.

The infrared camera drone is a useful solution for surveillance and reconnaissance making it a great UAV for law enforcement.

The advanced avionics in the Huginn X1D have been designed with ease of use in mind, enabling the operator to focus on the task at hand.

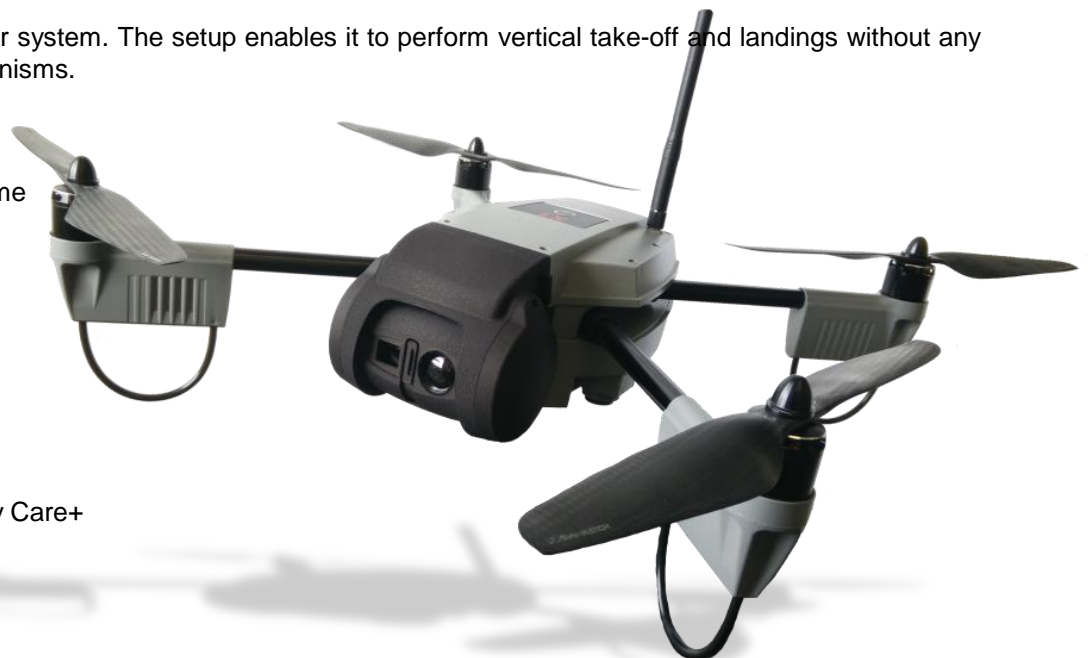
Huginn X1D is a quadcopter system. The setup enables it to perform vertical take-off and landings without any launching or landing mechanisms.

MAIN BENEFITS

- Fast decision making in time critical situations
- Cost effective
- Operational flexibility
- Reduced response time
- Product liability
- 1 Year Warranty

Optional

- 2 Year Extended Warranty Care+
- 2 Year Service Plan



UAV FOR LAW ENFORCEMENT



DEFENSE DRONE

During military operations where seconds can be the difference between life and death, the Huginn X1D are your trustful information source. The infrared camera UAV is a popular choice for law enforcement providing valuable data from high-risk areas and under difficult circumstances.



RUGGED UAV FOR EMERGENCY & RESCUE

In disaster or emergency situations, such as tsunamis, earthquakes, and terror attacks, rapid response and accurate real-time information is crucial to save as many lives as possible and provide the necessary help. Huginn X1D is easy to operate and able to monitor areas, in which it is impossible to gain access to without the surveillance UAV.



THE BEST DRONE FOR LAW ENFORCEMENT

Swift action in emergency situations and versatility are the keys to success for both law enforcement agencies and security forces. Huginn X1D's fast decision making and operational flexibility means that the UAV is suitable for surveillance and monitoring.



NON-GOVERNMENTAL UAV

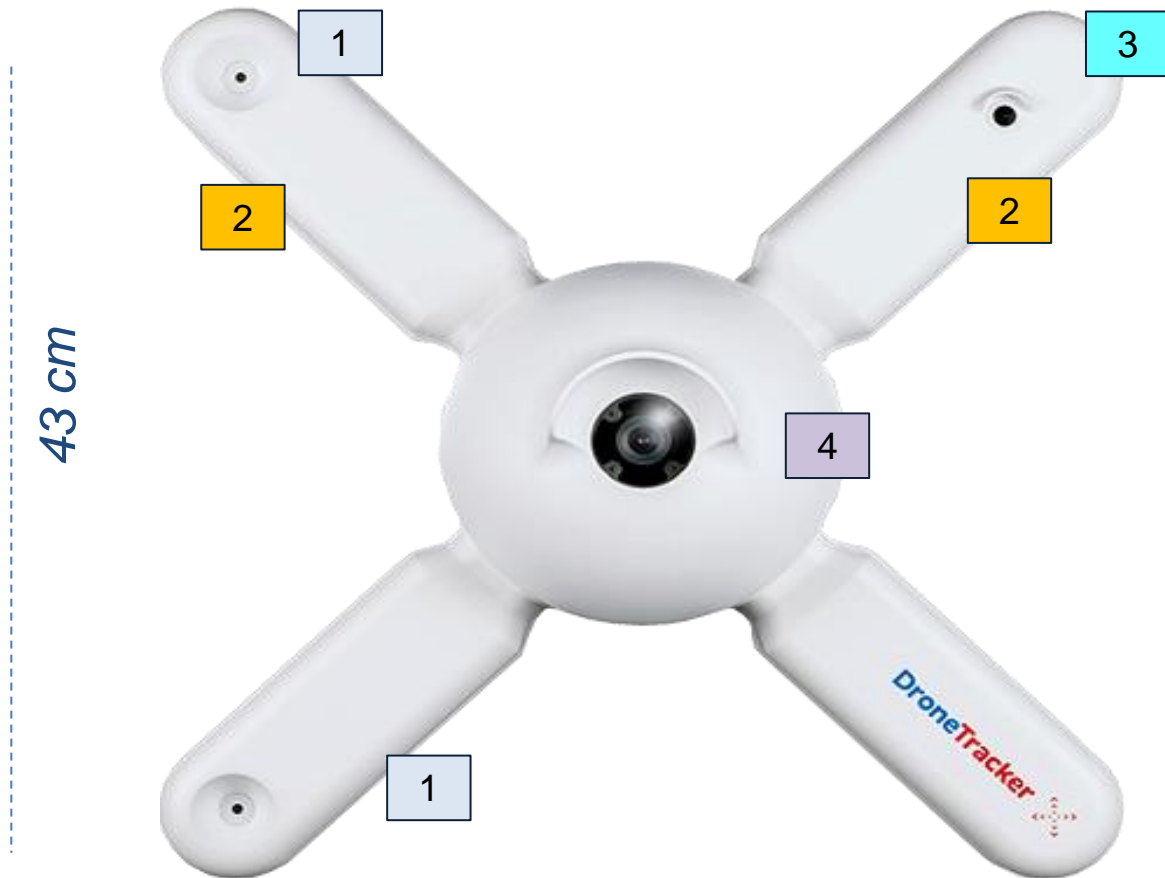
Natural disasters call upon great organizations of volunteers who have devoted their own lives to save others. With areas often too large and unmanageable, it has become a hard task to map the geographical extent of the situation, but Huginn's fast real-time overview and aerial mapping counteract this.

Combined, these features and the UAV's infrared camera make the Huginn X1D the total solution for a broad range of monitoring, surveillance and reconnaissance tasks.



DETECT & DEFEND DRONES

De-Drone Tracker



1

Audio / Ultrasonic - Acoustical sensors

Microphones have a reach of 50-80m. Civilian UAV's have typical acoustic characteristics that we use for their reliable detection.

2

WLAN

Wi-Fi sensor

An integrated Wi-Fi-sensor detects the WLAN signals of drones. It also allows to identify certain drone models and even single devices.

3

Near Infrared / Optical sensor (night)

The Drone Tracker can be equipped with an infrared camera. The data is interpreted by means of enhanced image analysis methods.

4

Video / 11°–76.4°

Optical sensor (daylight)

Each Drone Tracker is equipped with a daylight camera. We are using enhanced image analysis functions to analyze the live video feed.

De-Drone Tracker

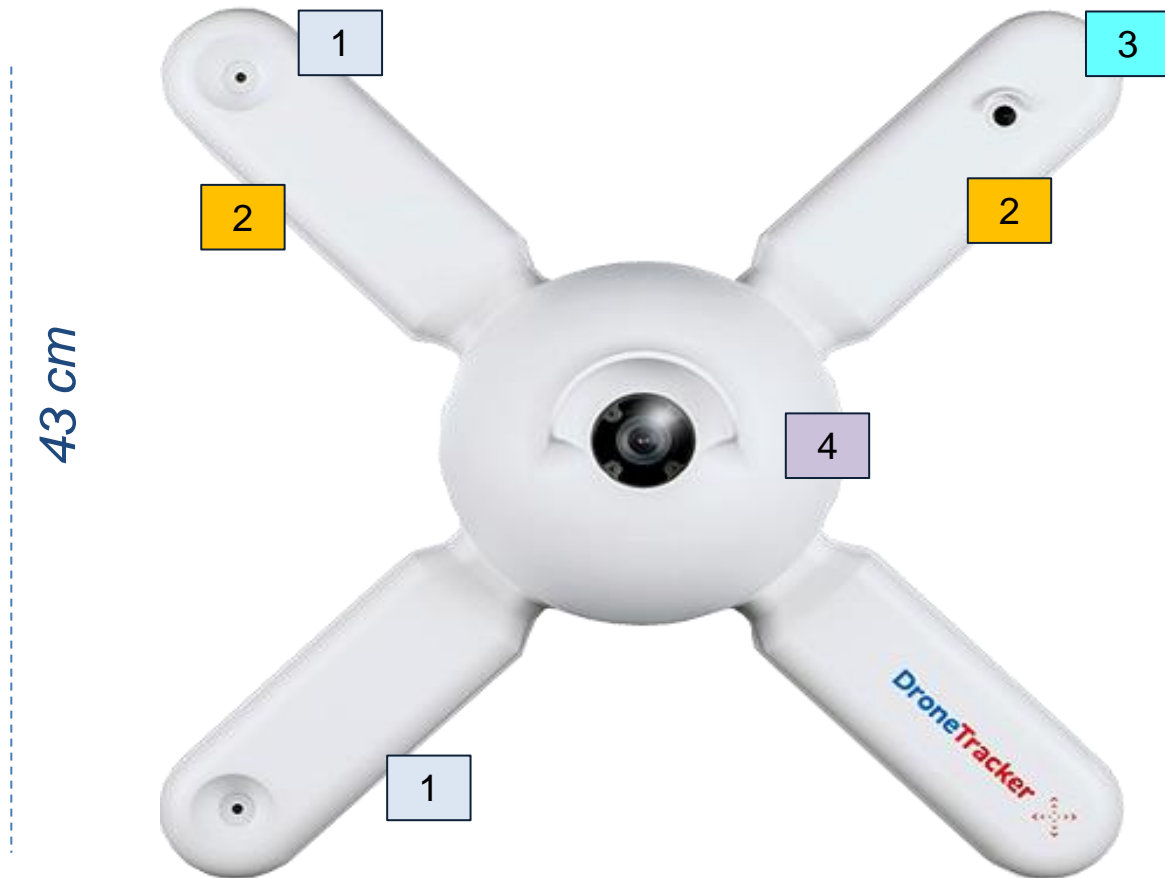
Technical Specs



Device Type	Multi-Sensor System
Audio	2x Audio / Audible Sonic & Ultrasonic / Spectrum 0 – 96 kHz
Video	1080p HD Camera / 10°-90° (selectable ex-works)
Wi-Fi	Omnidirectional Scanning (2.4 GHz ISM band and 5 GHz ISM band)
Infrared	Near Infrared HD Camera
Connectivity	via LAN in existing IT infrastructure
Power Supply	active PoE+ (802.3at) or passive PoE 24 V
L*W*H	17.3 x 17.3 x 6.46" (440 x 440 x 164 mm)
Range	up to 1,640 ft (500 m)
Temperature	-4 °F to +104 °F (-20 °C to +40 °C)
Software Configuration	via web interface
Software Updates	firmware and DroneDNA updates via cloud-based database connection
Alarm Notification	via software, SMS, email, network message (TCP/IP), SNMP, Pushover.net

Safe Detection with Multiple Sensors

A SAFE DETECTION SUCCEEDS ONLY BY USING DIFFERENT SENSORS



Drone Tracker Detects All Kinds of Drones in distance up to 600m.

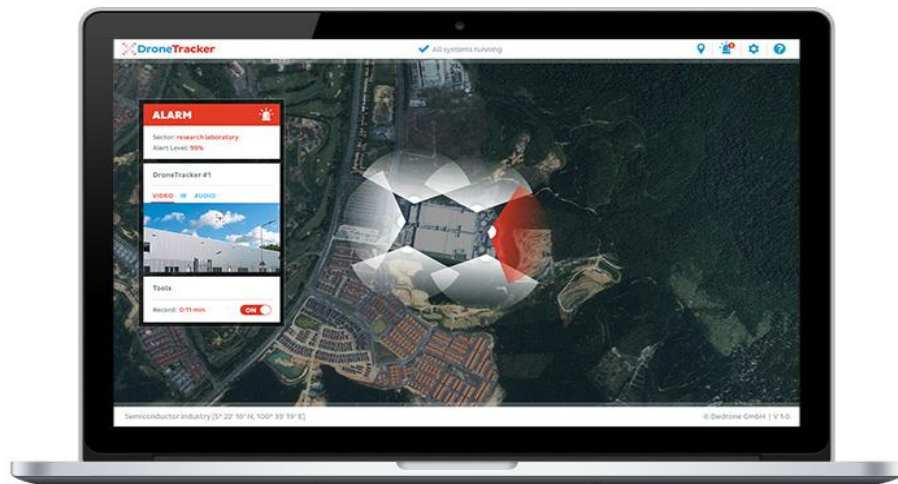
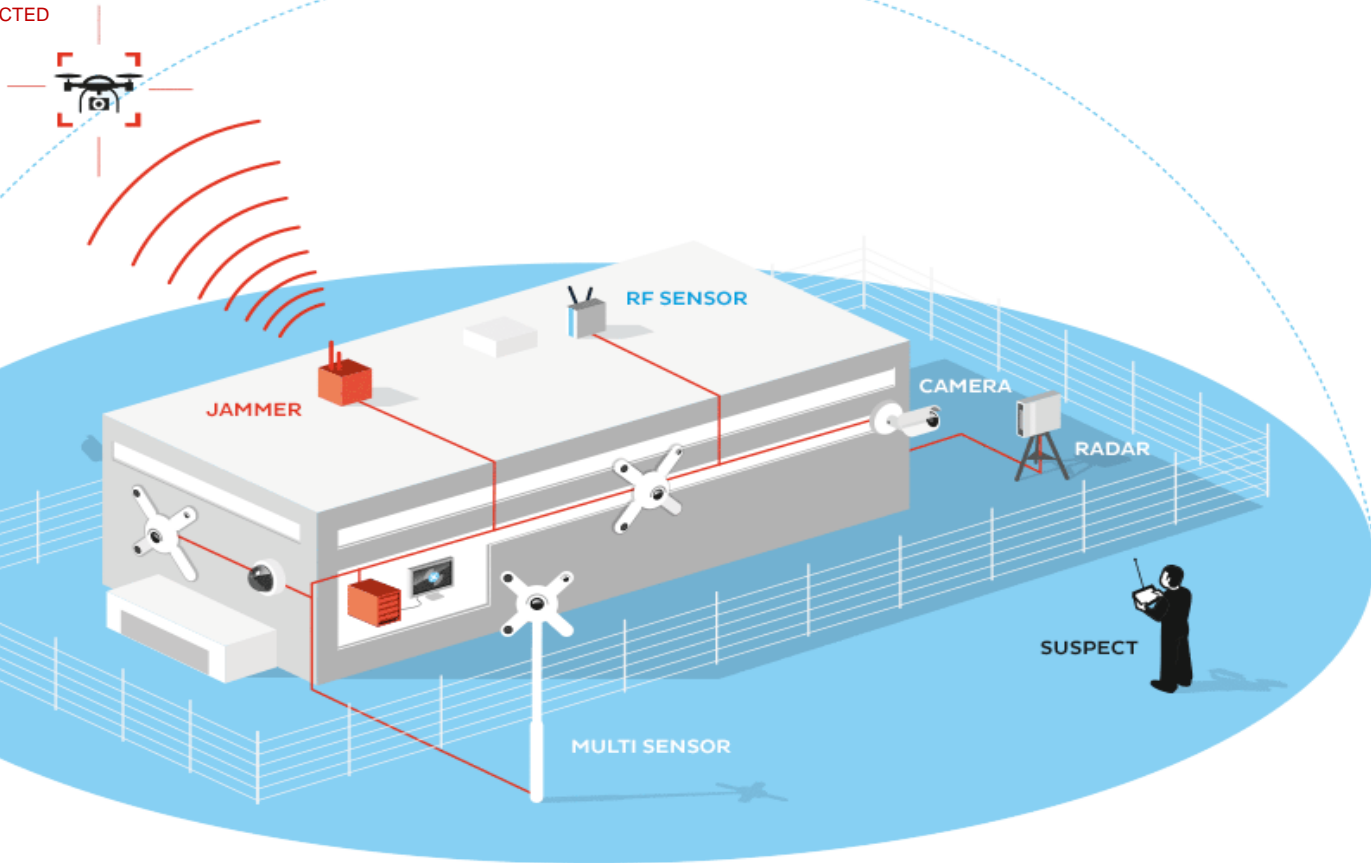


	Autopilot drone	Quiet drones (gliders)	Shape-changed drones
Frequency scanning only	No	Yes	Yes
Acoustic sensors only	Yes	No	Yes
Camera only	Yes	Yes	No
Multi-sensor system De-Drone	Yes	Yes	Yes

Safe Detection with Multiple Sensors

Get Our Professional Drone Detection Solution

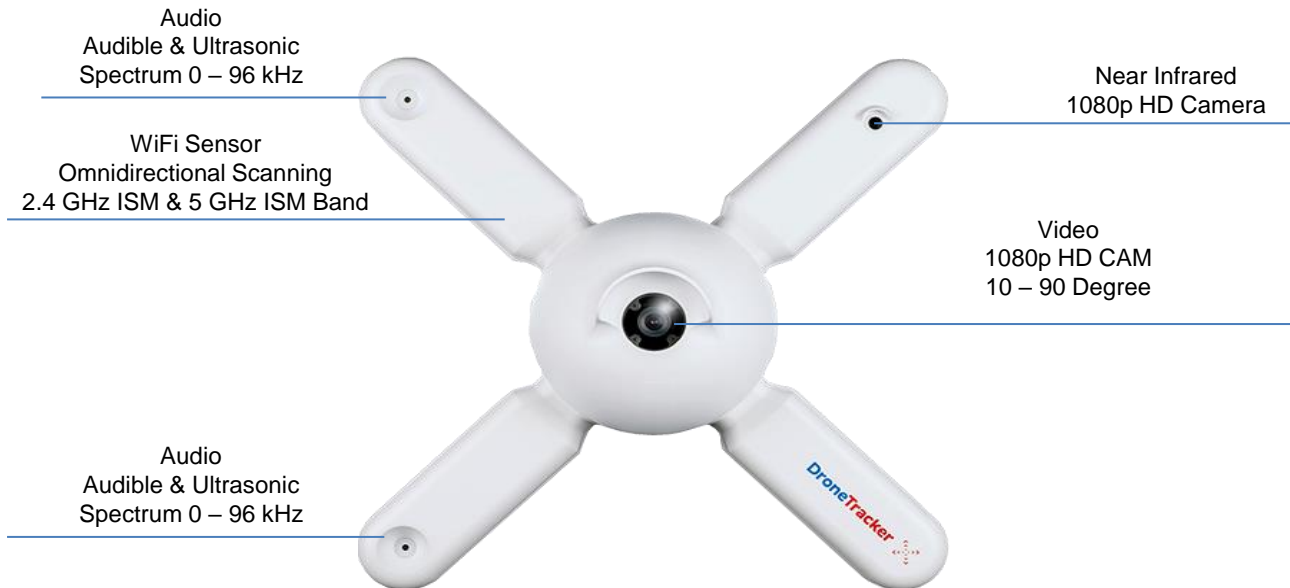
DRONE DETECTED



Software Specifications – Data Sheet Drone Trucker V2.0

Integration of Sensors

- Multi-Sensor (Wi-Fi, camera, infrared, microphone)



FEATURES

Device Type: multi-sensor system

Connectivity: via LAN in existing IT infrastructure

Range: up to 500 m (1640 ft)

Software Configuration: via web interface

Operation: via web interface

Software Updates: firmware and Drone DNA updates via cloud-based database connection

Alarm Notifications: via software, SMS, email, network message (TCP/IP), SNMP, Pushover.net



Width
164 mm (6,46")



Length & Height
440 mm (17,3")



Weight
3,8 kg (8,4 lb)



Active PoE+ (802.3at)
Passiv PoE 24 V



IP65

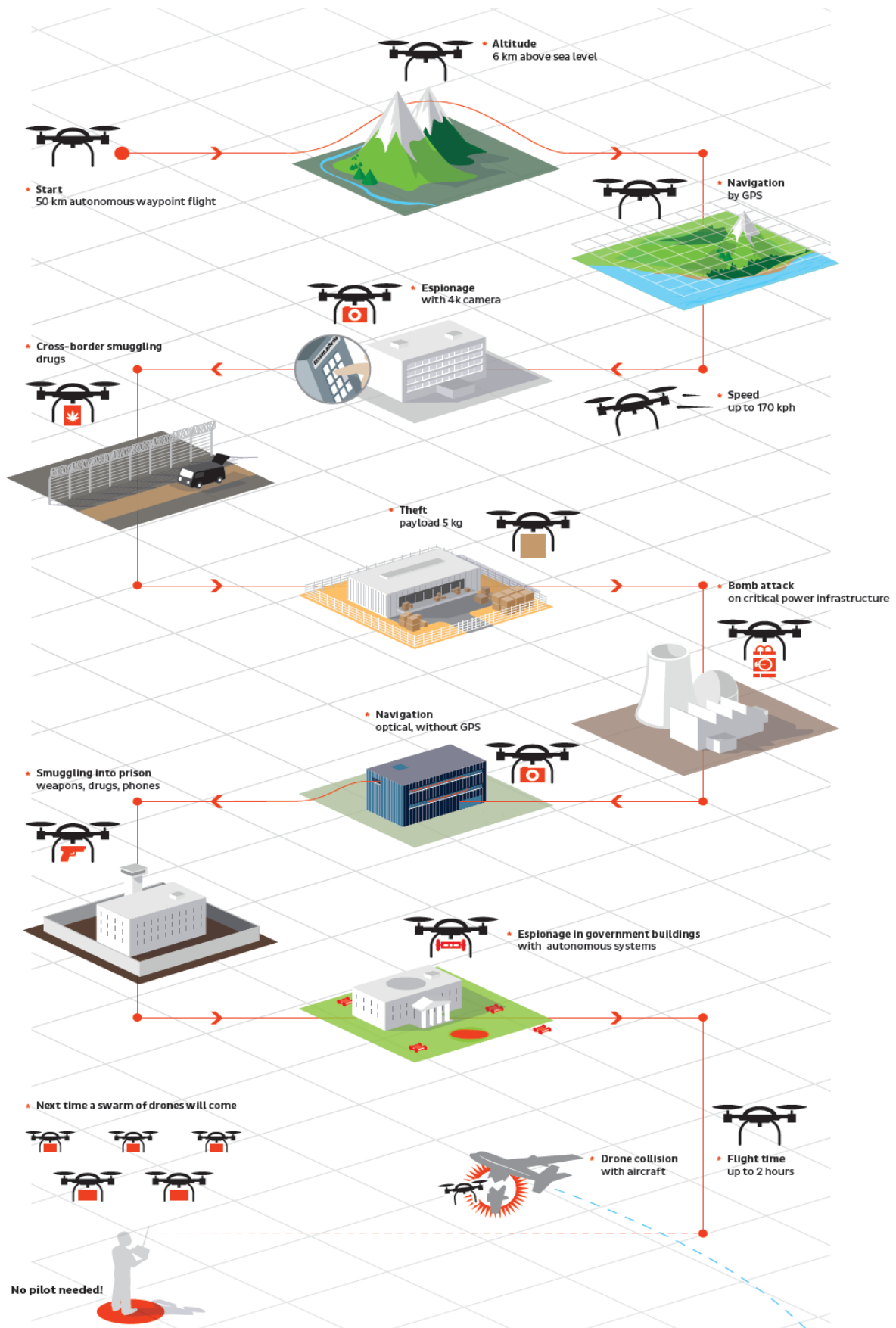


-20 °C to +50 °C
(-4 °F to +122 °F)



240 GB Memory

BAD DRONE RISING



Mobile System

L x W x H	27" x 20.8" x 14.41" (687 mm x 528 mm x 366 mm)
Weight	Approx. 81.6 lb (31 kg) exclusive DroneTracker Multi-Sensor and DT RF Sensor
Ingress Protection Rating	IP54 Battery charger: IP41
Operating Temperature	-4 °F to +104 °F (-20 °C to +40 °C)
Battery Type	Rugged lead acid battery (36 Ah) -> no dangerous goods
Battery Operating Time	Up to 12 hours with 2 PoE+ units
Battery Charging Time	Approx. 5.5 hours
Power Supply	active PoE+ (IEEE802.3at)
Connections	Battery-charging-connection, Router ADSL / UP connector, PoE+ connector 1, PoE+ connector 2, PC / Notebook connector
Switches	Start-Button (outside the case) Transportation main switch (inside the case)



DETECT



Detect - Track - Alert - Respond - Proof - Analyze

Contact us for more details

You can also be informed through our website
<http://www.armour.gr/detectdrone.php>

ANTI-DRONE RIFLE



Portable UAVs-Defender System

This Anti-drone weapon is designed to disable the hostile unmanned aerial vehicles (UAVs) , it can utilizes radio waves to take the hostile flying Drones down but without any damage to them.

Features:

With Light-weight less than 5 kilograms

1km effective distance

Overwhelming signals including 2.4Ghz, 5.8Ghz, GPS(USA), Galileo(Europe), Gallonass (Russia), Beidou (China)

Two mode options forcing drones to land or return to its point of origin.



Jammer Specifications

Voltage: 12V
Runtime: 35-40 min (Continuous working)
Max distance: Up to 1km
Jammer frequencies:
WIFI:2.4Ghz-2.5Ghz; 5.725Ghz-5.825Ghz;
GNSS: 1.56Ghz-1.61Ghz;
Body Weigh: 4.8KG (Including Battery)
Body Dimension: L890xW380xH140mm

Warranty: 2 Years

Antenna Specifications

Antenna Gain 8dB
V-Plane: 60 degrees
Environment Operating temperature: -10°C to + 50°C

Battery Specifications

Built-in Lithium Battery 12V,10Ah
Operating Temperature: -10°C to + 50°C



DRONE CAMERAS

FLIR *VUETM PRO*

Thermal Camera for sUAS



FLIR VUE PRO™

Thermal Camera for sUAS



Drone Thermal Imaging

Imagery optimized for airborne operations in a wide variety of environment.



On-Board Recording

Records digital thermal video and stills to an on-board microSD card



Easy Installation

Accepts 5VDC input power and outputs analog video



PWM Control

Configure and control the camera in the air with up to four PWM inputs



Easy Set-up & Configuration

Mobile app (iOS and Android) and built-in Bluetooth makes camera set-up a snap



MAVLink Interface

Trigger automated image capture and geo-tag images for mapping & survey missions

Designed for professional use, FLIR Vue Pro is more than a thermal camera, it is a thermal measurement instrument and data recorder that adds tremendous value to your sUAS operations and services.

FLIR VUE PRO™

Thermal Camera for sUAS



Model Number	Vue Pro 640	Vue Pro 336
Thermal Imager	Uncooled VOx Microbolometer	
Resolution	640 × 512	336 × 256
Lens Options (FOV for Full-Sensor Digital Output)	9 mm; 69° × 56° 13 mm; 45° × 37° 19 mm; 32° × 26°	6.8 mm; 44° × 35° 9 mm; 35° × 27° 13 mm; 25° × 19°
Lens Options* (FOV for NTSC Analog Output)	9 mm; 62° × 49° 13 mm; 45° × 35° 19 mm; 32° × 24°	6.8 mm; 44° × 33° 9 mm; 34° × 26° 13 mm; 24° × 18°
Spectral Band	7.5 - 13.5 μm	
Full Frame Rates	30 Hz (NTSC); 25 Hz (PAL) <i>US only, not for Export</i>	
Exportable Frame Rates	7.5 Hz (NTSC); 8.3 Hz (PAL)	
Physical Attributes		
Size	2.26" × 1.75" (57.4 × 44.4 mm) (including lens)	
Weight	3.25-4 oz (92.1 – 113.4 g) (configuration dependent)	
Precision Mounting Holes	Two M2x0.4 on each of two sides & bottom One 1/4-20 threaded hole on top	



Vue Pro MODELS

336x256 Resolution with 6.8mm Lens
 336x256 Resolution with 9mm Lens
 336x256 Resolution with 13mm Lens
 640x512 Resolution with 9mm Lens
 640x512 Resolution with 13mm Lens
 640x512 Resolution with 19mm Lens

FLIR VUE™ PRO

Thermal Camera for sUAS



Image Processing & Display Controls

Image Optimization for sUAS	Yes
Digital Detail Enhancement	Yes - Adjustable in App
Scene Presets & Image Processing?	Yes - Adjustable in App
Invertable Image?	Yes - Adjustable in App
Color Palettes	Yes - Adjustable in App and via PWM
Zoom	Yes - Adjustable in App and via PWM

Interfacing

Input Voltage	4.8 - 6.0 VDC
Power Dissipation (peak)	2.1 W (3.9 W)

Environmental

Operating Temperature Range	-20°C to +50°C
Non-Operating Temperature Range	-55°C to +95°C
Operational Altitude	+40,000 feet

Power/Video Module (Optional Accessory)

Input Power Range	5 VDC – 28 VDC
Reverse Polarity Protection?	Yes
Analog Video Output?	Yes
HDMI Output	1280 × 720 @ 50hz, 60hz

ZENMUSE

GET CLOSER, SEE MORE



INTEGRATED ZOOM

SPECIFICATIONS



Sensor	CMOS, 1/2.3" Max Pixels: 12.76 M, Effective Pixels: 12.4M
Lens	3.5x Optical Zoom, 22–77mm Equivalent F2.8 (Wide) - F5.2 (Tele), FOV 92° (Wide) - 35° (Tele)
Photo Resolutions	•4:3L: 12M, 4000x3000 •16:9L: 9M, 4000x2250
Video Resolutions	UHD: 4K (4096x2160) 24/25p 4K (3840x2160) 24/25/30p 2.7K (2704x1520) 24/25/30p FHD: 1920x1080 24/25/30/48/50/60p
Video Quality	Superfine, Fine, Normal
Photo Formats	JPEG, DNG, JPEG+DNG
Video Formats	MOV, MP4
Video Repair Feature	Supported
Working Modes	Capture, Record, Playback
Still Photography Modes	Single shot, Burst shooting: 3/5/7 frames, Auto Exposure Bracketing (AEB): 3/5 bracketed frames at 0.7EV bias, Time-lapse
Exposure Mode	Auto, Shutter
Exposure Compensation	±3.0 (1/3 increments)
Metering Mode	Center-weighted metering, Average metering, Spot metering (Area option 12x8)
AE Lock	Supported
Electronic Shutter Speed	8 - 1/8000s
White Balance	Auto, Sunny, Cloudy, Incandescent, Neon, Custom (2000K–10000K)
ISO Range	•100 - 3200 (video) •100 - 1600 (photo)
Video Captions	Supported
Anti-flicker	Auto, 50Hz, 60Hz
PAL/NTSC	Supported
Supported SD Cards	•MicroSD (SD/SDHC/SDXC) •Max. Capacity: 64 GB, Class 10 or UHS-1
Supported File Systems	•FAT32 (≤ 32 GB) •exFAT (> 32 GB)
USB Port	USB 2.0 Host/Device

ZENMUSE



4K
VIDEO

16.0
MP

4/3
MFT

3-AXIS
GIMBAL

INTEGRATED ZOOM

SPECIFICATIONS

ZENMUSE X5

General	Dimensions	120mm (W) x 135mm (H) x 140mm (D)	136mm (W) x 125mm (H) x 131mm (D)
	Weight (Standard Lens, Balancing Ring, Lens Hood, Micro SD Card Included)	526 g	583 g
	Static Output Power	8 W	19.5W
	Peak Output Power	13W	25W
	Operating Temperature	32° to 104° F (0° to 40° C)	32° to 104° F (0° to 40° C)
Camera	Lens	Replaceable lens M43 mount supporting auto-focus DJI MFT 15mm f/1.7 ASPH * Panasonic Lumix 15mm f/1.7 * Olympus M. ED 12mm f/2.0 Olympus M.Zuiko 17mm f/1.8 * Olympus M.Zuiko ED 14-42mm f/3.5-5.6 EZ *	Replaceable lens M43 mount supporting auto-focus DJI MFT 15mm f/1.7 ASPH * Panasonic Lumix 15mm f/1.7 * Olympus M. ED 12mm f/2.0 Olympus M.Zuiko 17mm f/1.8 * Olympus M.Zuiko ED 14-42mm f/3.5-5.6 EZ *
	Supported Lenses	(photography only) Olympus M.Zuiko 25mm f1.8 Olympus M.Zuiko 45mm f1.8 (photography only) *Requires a balancing weight	(photography only) Olympus M.Zuiko 25mm f1.8 Olympus M.Zuiko 45mm f1.8 (photography only) *Requires a balancing weight
	Sensor	4/3-inch CMOS sensor	4/3-inch CMOS sensor
	Effective Pixels	1600 M	1600 M
	Max Resolution	4608x3456	4608x3456
	ISO Range	100~25600	100~25600
	Electronic Shutter Speed	8 to 1/8000 s	8 to 1/8000 s
	Field of View (FOV)	15mm/ f1.7 : 72° 12mm/ f2.0 : 84°	15mm/ f1.7 : 72° 12mm/ f2.0 : 84°
	Still Photography Modes	Single shot Burst shooting: 3/5/7 frames Auto Exposure Bracketing: 3/5 bracketed frames at 0.7EV bias Time-lapse (5/7/10/20/30 sec)	Single shot Burst shooting: 3/5/7 frames Auto Exposure Bracketing: 3/5 bracketed frames at 0.7EV bias Time-lapse (5/7/10/20/30 sec)
	Video Resolution	UHD: 4096×2160 (24/25p); 3840×2160 (25/30p); FHD: 1920×1080 (24/25/30/48/50/60p)	UHD: 4096×2160 (24/25p); 3840×2160 (25/30p); FHD: 1920×1080 (24/25/30/48/50/60p)
	Max Video Bitrate	60 Mbps	2.4Gbps (Average: 1.7 Gbps)
	Supported File Formats	FAT32 / exFAT Photo: JPEG, DNG Video: MP4, MOV (MPEG-4/AVC/H.264F)	FAT32 / exFAT Photo: JPEG, DNG Video: MP4, MOV (MPEG-4/AVC/H.264F), JPEG-Lossless(RAW)
	Supported Storage Devices	Class 10 or UHS-1 or above Micro SD cards Max capacity of 64 GB	Class 10 or UHS-1 or above Micro SD cards with Max capacity of 64GB SSD with Capacity of 512GB (ZENMUSE X5R)
Default Lens	Name	DJI MFT 15mm f/1.7 ASPH	DJI MFT 15mm f/1.7 ASPH
	Focal length	f=15 mm (35 mm film camera equivalent: 30 mm)	f=15 mm (35 mm film camera equivalent: 30 mm)
	Aperture type	7 diaphragm blades/circular aperture diaphragm	7 diaphragm blades/circular aperture diaphragm
	Maximum aperture	F1.7	F1.7
	Minimum aperture value	F16	F16
	Lens construction	9 elements in 7 groups (3 aspherical elements)	9 elements in 7 groups (3 aspherical elements)
	In focus distance	0.2 m to ∞ (from the focus distance reference line)	0.2 m to ∞ (from the focus distance reference line)
	Mount	Micro 4/3	Micro 4/3
	Field of View (FOV)	72°	72°
	Max. diameter	Approx. 57.5 mm	Approx. 57.5 mm
	Overall length	Approx. 36 mm	Approx. 36 mm
	Mass	Approx. 115 g	Approx. 115 g
Gimbal	Model	Zenmuse X5	Zenmuse X5R
	Angular Vibration Range	±0.02°	±0.02°
	Mount	Detachable	Detachable
	Controllable Range	Pitch: -90° to +30° Pan: ±320°	Pitch: -90° to +30° Pan: ±320°
	Max Controllable Speed	Pitch: 120°/s Pan: 180°/s	Pitch: 120°/s Pan: 180°/s

COASTAL BOATS



Military – Police – Work



PRO:ZERO 7.5m FRB



This boat has been designed to meet the requirements for patrol / SAR and customs service boats.

Benefits by being significantly lighter than market average is lower fuel consumption. Supporting the great and proven sailing capabilities.

The boat has been built to meet the requirements from the MCA MGN 280 for small commercial vessels.

PRO:ZERO 7.5m FRB

Design: 2014 | 5000-01-03

Length overall: 8,20m

Beam overall: 2,96m

Daft (full load): 0,54m

Engines: Double outboard petrol

DIMENSIONS:

Length, Overall: 8,20 m
Length hull: 7,26 m
Beam Overall (with fender): 2,84 m
Beam (without fender): 2,34 m
Draught (lightweight): 0,45 m
Draft (full load, hull): 0,55 m
Freeboard Amidships(full load): 700 mm
Freeboard–Bow (full load): 990 mm
Height above waterline (frame top): 2,03 m
Height keel-console top (transport): 2,35 m
Displacement Light weight aprox. (d=0.45 m): 1.650 kg
Displacement Full load aprox. (d=0.55 m): 2.600 kg
Crew: 2
Capacity : 4 Passengers
Maximum Load: 400 kg

OPERATIONAL FEATURES:

Speed (max): 40 kt
Speed (cruise): 25 kt
Fuel capacity: 360 L

HULL, DECK AND SUPERSTRUCTURE:

The boat is unsinkable.
The boat is made of a combination of glass and carbon fiber as sandwich construction with PVC as core material.
This core material acts as a natural buoyancy reserve material, due to its lightweight and zero water-absorption.
Moreover, the sandwich construction avoids the use of internal stiffeners, increasing the usable space.
The hull has a 100 mm width stainless steel plate over the keel for landing protection.

FENDER: The fender is made from Hypalon and has 5 independent compartments with pressure relief valves.

The fender has attached in its most outwards part a hard rubber strip for additional protection. Moreover, it has an external and an internal lifeline and 6 paddle holders in the topsides. Fender system absorbs major impacts and retains integrity and shape.
ProZero fender's profile gives substantially more interior room than a comparable RIB.

SECURITY EQUIPMENT:

1 x self righting system with inflatable bag, CO2 bottle and firing system in the transom.
1 x manual bilge pump
2 x life buoys, one of them with buoyant line
1 x SOLAS life raft class B for 6 persons
1 x electrical emergency pump in bilge
3 x fire extinguisher at the steering console
1 x medical First Aid box
6 x lifejackets

DECK:

Deck is self-bailing.

Deck has a non skid finish and 6 lashing points, 2 in the bow and 4 in the aft.

Bow cover for increased weather protection.

Stowage for mooring equipment in the bow area.

Storage space below deck in the front area.

Steering console with windscreen, handrails and wide enough for two persons, with storage space inside.

2 x storage lockers in the aft in both sides of the engines well.

6 x shock absorbing seats of which the 4 placed in the aft are detachable.

2 x stainless steel towing eyes in the transom.

1 x stainless steel towing eye in the bow.

1 x Foldable diving ladder in the transom.

4 x aluminum mooring cleats.

1 x airlead in the bow.

1 x Samson post in the bow.

1 x A-Frame in the aft with a self righting device and an electronics platform.

ENGINES, propulsion, STEERING & MANOUVERING 2 x outboard petrol engines

TANKS: 2 x independent 180 L petrol tanks made in stainless steel.

ELECTRICAL SYSTEM & LIGHTING:

All electrical wiring in marine cable.

Shore power with control lamp, marked fuses, earth connection and 20 m shore cable.

Isolation transformer with earth plate for protection of galvanic corrosion.

12-volt electrical system.

3 x 12-V outlets, 1 on the console and 2 on the A-Frame

Main switches with separate battery systems for start, navigation and consumption.

Battery charger with indicator.

Navigational lights.

2 x floodlight on the aft deck.

2 x searchlights on the A-Frame

1 x blue rotating law enforcement light

NAVIGATION & ELECTRONIC EQUIPMENT:

1 x radar

1 x echo sounder

1 x RayMarine C125 Chart Plotter

1 x GPS – compass HS70

1 x echo sounder BSM1 with a transducer P79

1 x VHF with DSC

1 x handheld VHF

1 x AIS transponder class B

1 x magnetic Compass

1 x loudhailer with Foghorn and siren function

PRO:ZERO 7.5m FRB



The boat has been built to meet the requirements for crafts by the police marine service.

Benefits by being significantly lighter than market average is lower fuel consumption.

Supporting the great and proven sailing capabilities

The boat has been built to meet the requirements from DNV for crafts and the requirement from ANR (Romanian Naval Authority).

PRO:ZERO 7.5m FRB

Design: 2014 | 5000-01-06

Length overall: 7,50m

Beam overall: 2,69m

Daft (full load): 0,50m

Engines: Single inboard diesel

DIMENSIONS:

Length, Overall: 7,85 m
Beam Overall (with fender): 2,70 m
Beam (without fender): 2,34 m
Draft (full load, hull): 0,50 m
Draft (full load, outboard engine): 0,82 m
Freeboard Amidships(full load): 710 mm
Freeboard–Bow (full load): 1045 mm
Height above waterline: 1,80 m
Height keel-roof top (transport): 2,30 m
Displacement Light weight: 1.235 kg
Displacement Full load: 2.235 kg
Crew: 2
Capacity : 6 passengers
Maximum Load (incl. Pass.): 600 kg

OPERATIONAL FEATURES:

Speed (max): +40 kt
Speed (cruise): 32 kt
Range: 3 hours at full power
Fuel capacity: 180 L

HULL, DECK AND SUPERSTRUCTURE:

The boat is made of a combination of glass- and carbon fiber as sandwich construction with PVC as core material. This core material acts as a natural buoyancy reserve material, due to its lightweight and zero water-absorption.

FENDER:

The fender is constructed of closed cell polyethylene foam. Not deflating with solid core that cannot lose buoyancy or absorb water. Damage is strictly cosmetic keeping crew safe.

Fender system absorbs major impacts and retains integrity and shape. ProZero fender's profile gives substantially more interior room than a comparable RIB.

The fender could be easily detached and attached for transport and maintenance.

SECURITY EQUIPMENT:

1 x manual bilge pump
1 x electrical emergency pump in bilge, manual start.
1 x fire extinguisher at helmsman station
1 x fire extinguisher close to the engine
1 x life-buoy with rope
9 x life-jackets
1 x first-aid kit

DECK:

Deck is self bailing.

2 x shock absorbing jockey seat for the crew, with backrest and cushion.

6 x easily removable folding seats distributed between both sides in the forward deck area.

1 x steering console of rugged construction with railings all around, windscreen, and an upper structure to deploy a weather protection canvas for the crew.

The console has a storage compartment of 600 x 400 x 600 mm (w x l x h), an electronics rack compartment, and a chart table of 600 x 400 mm (w x l) with dimmable lights.

Forward Storage for mooring equipment and anchor

4 x stainless steel mooring bites Watertight Stowage in forward compartments

Railings in the stern and in the aft of both side

TANKS: 1 x independent 180 litre petrol tank with hatch and filling protection. All fuel systems are pressure tested.

ENGINES, PROPULSION, STEERING & MANOUVERING: 1 x outboard Engine

ELECTRICAL SYSTEM & LIGHTING:

All electrical wiring in marine cable.

Shore power with control lamp, marked fuses, earth connection and 20 m shore cable.

Isolation transformer with earth plate for protection of galvanic corrosion.

12-volt DC electrical system

Main switches with separate battery systems for start, navigation and consumption.

Battery charger with indicator

1 x 12 V Outlet in steering console

1 x 12 V 150 w handheld searchlights

Navigational lights

NAVIGATION & ELECTRONIC EQUIPMENT:

1 x 7" chart plotter multifunction Screen

1 x digital radar with 24 NM range

1 x echo-sounder 1 x magnetic compass

1 x fixed VHF with GMDSS 2 x handheld VHF

1 x portable loudhailer speaker with foghorn function

1 x portable night vision eye glasses 1 x naval Binocular

10 x 50 Electric engine controls.

Complete engine instruments with RPM, temperature, oil pressure and voltmeter for start batteries supplied by engine manufacturer.

Fuel gauge.

Control panel for all lighting and other electrical equipment.

The boat is built as a standard according to the technical specification and our general quality standard. The specification is valid when being printed. The quality and the equipment standard, however, are equivalent at least to this specification. Photographs may contain items that are extra equipment.

PRO:ZERO 7.8m FRB



The boat has been built to meet the requirements for crafts by the police marine service.

Benefits by being significantly lighter than market average is lower fuel consumption.

Supporting the great and proven sailing capabilities

The boat has been built to meet the requirements from DNV for crafts and the requirement from ANR (Romanian Naval Authority).

PRO:ZERO 7.8m FRB

Design: 2015 | 5000-01-01

Length overall: 7,80m

Beam overall: 2,69m

Daft (full load): 0.54m

Engines: Single inboard diesel

DIMENSIONS:

Length, overall: 7,78 m
Length, hull: 6,94 m
Beam overall (with fender): 2,70 m
Beam (without fender): 2,34 m
Draft (full load, hull): 0,54 m
Draft (full load, outboard engine): 0,82 m
Freeboard amidships (full load): 580 mm
Freeboard –bow (full load): 800 mm
Height above waterline (arch top): 2,12 m
Height keel-console (transport): 2,05 m
Displacement light weight aprox: 1.500 kg
Displacement full load aprox: 2.700 kg
Crew: 2
Capacity : 12 passengers
Maximum load (incl. pass.): 900 kg

OPERATIONAL FEATURES: Speed (max): +24 kt
Speed (cruise): 20 kt
Range: 3 hours at full power.
Fuel capacity: 180 l

HULL, DECK AND SUPERSTRUCTURE:

The boat is made of a combination of glass- and carbon fiber as sandwich construction with PVC as core material. This core material acts as a natural buoyancy reserve material, due to its lightweight and zero water-absorption.

FENDER:

The fender is constructed of closed cell polyethylene foam. Not deflating with solid core that cannot lose buoyancy or absorb water. Damage is strictly cosmetic keeping crew safe.

Fender system absorbs major impacts and retains integrity and shape.

ProZero fender's profile gives substantially more interior room than a comparable RIB.

SECURITY EQUIPMENT:

1 x manual bilge pump
1 x electrical emergency pump in bilge, manual start.
1 x fire extinguisher at helmsman station
14 x life-jackets
1 x first-aid kit

DECK:

Deck is self bailing.

2 x shock absorbing jockey seat for the crew, with backrest and cushion.

1 x steering console of rugged construction with railings all around, windscreen, and an upper structure to deploy a weather protection canvas for the crew.

The console has a storage compartment and an electronics rack compartment.

Forward storage for mooring equipment and anchor

3 x mooring bites

Watertight stowage in forward compartments

1 x single point lifting hook.

1 x inflatable self-righting system fitted in a folding arch.

1 x engine cover with integrated seating with backrest for up to 6 passengers.

1 x aft platform.

2 x hand operated search lights.

1 x towing strongpoint in the bow.

ENGINES, PROPULSION, STEERING & MANOUVERING

1 x inboard Diesel engine

1 x water jet

FUEL TANK: 1 x integrated 180 litre diesel tank with hatch and filling protection.

ELECTRICAL SYSTEM & LIGHTING:

All electrical wiring in marine cable.

Shore power with control lamp, marked fuses, earth connection and 20 m shore cable.

Isolation transformer with earth plate for protection of galvanic corrosion.

12-volt DC electrical system

Main switches with separate battery systems for start, navigation and consumption.

Battery charger with indicator

1 x 12 V outlet in steering console

Navigational lights

NAVIGATION & ELECTRONIC EQUIPMENT

1 x 7" chart plotter multifunction Screen

1 x magnetic compass

1 x fixed VHF

Electric engine controls. Complete engine instruments with RPM, temperature, oil pressure and voltmeter for start batteries supplied by engine manufacturer.

Fuel gauge.

Control panel for all lighting and other electrical equipment.

All boats are launched, tested and calibrated and has gone through a scrupulous quality control at the yard in Denmark. Delivery, hand over, test drive and technical review with customer at yard in Denmark. All boats are delivered with a complete owner's manual.

The boat is built as a standard according to the technical specification and our general quality standard. The specification is valid when being printed. The quality and the equipment standard, however, are equivalent at least to this specification. Photographs may contain items that are extra equipment.

PRO:ZERO 11.5m FRB OPEN NAVY



The boat has been designed to meet the specific requirements for navy units to transport up to 10 men or 1,5 tons of load.

Benefits from being significantly lighter than market average by having lower fuel consumption. Supporting the great and proven sailing capabilities.

PRO:ZERO 11.5m FRB OPEN NAVY

Design: 2014 | 5000-01-07

Length overall: 11,50m

Beam overall: 2,96m

Daft (full load): 0,55m

Engines: Double inboard diesel

DIMENSIONS:

Length, Overall: 11,5 m
Beam Overall (with fender): 2,96 m
Draft (full load, hull): 0,55 m
Freeboard Amidships(full load): 645 mm
Height above waterline: 2,34 m
Height keel-roof top (transport): 2,89 m
Displacement Light weight: 4.000 kg
Displacement Full load: 4.850 kg
Crew: 2
Capacity : 10 passengers
Maximum Load: 1600 kg

OPERATIONAL FEATURES:

Speed (max): +40 kt
Range: 150 Nm
Fuel capacity: 600 l

HULL, DECK AND SUPERSTRUCTURE:

The boat is unsinkable. The boat is made of a combination of glass- and carbon fibber as sandwich construction with PVC as core material

FENDER: The fender is composed of an inflatable collar with 9 independent sections to guarantee maximum buoyancy even in case of puncture. The fender has a D shape profile to increase the internal usable beam.

DECK:

The deck is self bailing.
2 x shock absorbing jockey seat for the crew, with backrest and cushion.
10 x easily removable jockey seats, each with backrest, cushion and a internal storage space.
Multiple possibilities of distribution and configuration.
1 x steering console of rugged construction with railings all around, windscreen, and an upper structure to deploy a weather protection for the crew.
1 x easily removable railing structure to deploy a canvas for weather protection over deck.
1 x forward storage compartment of 250 l of capacity.
2 x huge hinged engine room hatches with gas struts to assist in opening / closing.
2 x aft beds for mounting machines guns.
Foldable tripod mast.
Forward Storage for mooring equipment and anchor.
6 x mooring bites.
Watertight Storage in forward compartments.
1 x sail winch with SWL 250 kg on the top of the engine room, working over both sides.
Aft platform integrated into the hull with inspection hatches for the water jets.

ENGINES, PROPULSION, STEERING & MANOUVERING

2 x inboard diesel engines
2 x water jets
2 x trim tabs.

FUEL TANK:

2 x independent 300 litre diesel tanks with hatch and filling protection.
All fuel systems are pressure tested.

ELECTRICAL SYSTEM & LIGHTING:

1 x genset of 4 Kw, 230 V AC.
All electrical wiring in marine cable.
Shore power with control lamp, marked fuses, earth connection and shore cable.
Isolation transformer with earth plate for protection of galvanic corrosion.
28-volt DC electrical system.
Main switches with separate battery systems for start, navigation and consumption.
Battery charger with indicator.
4 x floodlights on the top of the steering console, covering all the working deck space, 360° around.
Navigational lights.

NAVIGATION & ELECTRONIC EQUIPMENT

2 x 12" Chart plotters GARMIN 4012
1 x digital radar GARMIN GMR24HD
1 x GARMIN GMI 10
1 x echo-sounder
1 x magnetic compass.
1 x VHF Sailor 6215 + GMDSS System
2 x handheld VHF Sailor 6215
3 x antennas 3 m height.
1 x hailer speaker with foghorn function.

SECURITY EQUIPMENT:

2 x manual bilge pump (1 in the hull's bilge and 1 in the engine room).
1 x electrical emergency pump in bilge, manual start.
1 x fire extinguisher at helmsman station.
1 x fire alarm with smoke detector and 1 fixed fire fighting system in engine room.
2 x life rafts with 8 person capacity each one.
1 x air filling pump + 1 deflating pump for the fender collar.

PRO:ZERO 12.0m DC - LIGHT PILOT



This daughter craft is designed to fulfill requirements from pilots, and allow accessed both fore and aft from the cabin.

The unique ProZero system with a flexible attached cabin reducing both noise and vibrations from hull and engines.

The design of the ProZero cabin ensure a huge amount of daylight, this also improve the personal comfort. Benefits by being significantly lighter than market average is lower fuel consumption

PRO:ZERO 12.0m DCW - LIGHT PILOT

Design: 2014 | 5000-02-04

Length overall: 12,00m

Beam overall: 3,00m

Daft (full load): 0.55m

Engines: Single inboard diesel

DIMENSIONS:

Length, Overall: 12,00 m
Beam Overall (with fender): 3,00 m
Draft (full load, hull): 0,55 m
Freeboard Amidships(full load): 645 mm
Height above waterline: 2,34 m
Height keel-roof top (transport): 2,89 m
Displacement Light weight: 4.000 kg
Displacement Full load: 4.850 kg
Crew: 2
Capacity : 3 Pilots
Maximum Load: 100 kg

OPERATIONAL FEATURES:

Speed (max): +30 kt
Range: 4 hours full power
Fuel capacity: 400 l

HULL, DECK AND SUPERSTRUCTURE:

The boat is unsinkable. The boat is made of a combination of glass- and carbon fibber as sandwich construction with PVC as core material.

FENDER: The fender is constructed of closed cell polyethylene foam. Not deflating with solid core that cannot lose buoyancy or absorb water. Damage is strictly cosmetic keeping crew safe.

DECK:

Railings and transfer ladders.
Decks are self bailing, both interior and aft deck.
Removable deck sections to access fuel tank.
Hinged engine room cover with gas struts to assist in opening / closing.
Foldable Mast.
Stowage for mooring equipment.
5 mooring bites.
Watertight Stowage in forward compartments.
Benches in both sides forward deck.
Deck lights on aft deck.

CABIN & COCKPIT:

Cabin fixed through anti vibration blocks to hull.
5 Seats for crew and passengers.
Hinged door in the front of the cabin.
Hinged door in the aft of the cabin.
Windshield wiper with interval relay.
All windows are glued into the structure.
Comfort insulation in the cabin.
Air Conditioning / Heating system.

ENGINES, PROPULSION, STEERING & MANOUVERING:

1 x inboard diesel engine
1 x sterndrive

FUEL TANK:

2 x independent 150 litre diesel tank with hatch and filling protection.

ELECTRICAL SYSTEM & LIGHTING:

All electrical wiring in marine cable.
12-volt electrical system.
Main switches with separate battery systems for start, navigation and consumption.
Battery charger with indicator.
220 V-outlets in cabin.
1 x searchlight on cabin roof, manual operated.
Navigational lights.
1 x floodlight on the working aft deck

NAVIGATION & ELECTRONIC EQUIPMENT:

1 x chart plotter Ray Marine E120 / Lowrance HD10
1 x digital radar
1 x class B AIS.
Fuel gauge.
1 x magnetic compass.
1 x VHF

SECURITY EQUIPMENT:

1 x manual bilge pump.
1 x electrical emergency pump in bilge, manual start.
1 x fire extinguisher at helmsman station.

DELIVERY: All boats are launched, tested and calibrated and has gone through a scrupulous quality control at the yard in Denmark. Delivery, hand over, test drive and technical review with customer at yard in Denmark. All boats are delivered with a complete owner's manual.

GENERAL: The boat is built as a standard according to the technical specification and our general quality standard. The specification is valid when being printed. Details in construction, design and equipment can be changed as a result of the experience from the use of the boats, equivalent at least to this specification. Photographs may contain items that are extra equipment.

The hull and structure have a 2 years warranty since delivery.

The equipments and devices fitted in the boat have a 1 year warranty from time of delivery.

PRO:ZERO 12.0m FRB PATROL



This boat has been designed to meet the requirements for patrol / SAR and customs service boats.

Benefits from being significantly lighter than market average by having lower fuel consumption. Supporting the great and proven sailing capabilities.

PRO:ZERO 12.0m FRB PATROL

Design: 2015 | 5000-01-09

Length overall: 12m

Beam overall: 2,69m

Daft (full load): 0,65m

Engines: Double inboard diesel + Water Jet

DIMENSIONS:

Length, Overall: 12.02 m
Beam Overall (with fender): 2.69 m
Beam (without fender): 2.34 m
Draft (full load, hull): 0.65 m
Height above waterline: 1.90 m
Height keel-console top (transport): 2.55 m
Displacement Light weight aprox.: 4.500 kg
Displacement Full load aprox.: 8.000 kg
Crew: 3
Capacity :11 passengers
Maximum Load: 2500 kg (including passengers)

OPERATIONAL FEATURES

Speed (max): 60 kt
Speed (cruise): 40 kt
Range: 400 Nm

HULL, DECK AND SUPERSTRUCTURE:

The boat is made of a combination of glass- and carbon fiber as sandwich construction with PVC as core material.

This core material acts as a natural buoyancy reserve material, due to its lightweight and zero water-absorption. Moreover, the sandwich construction avoids the use of internal stiffeners, increasing the usable internal space.

FENDER: The fender is composed of an inflatable collar with 9 independent sections to guarantee maximum buoyancy even if one of them is punctured.

The fender has a D shape profile to increase the internal usable beam. In both sides of the boat there is a hand grab line along the fender allowing a person easily climb into the deck from the water.

DECK:

Deck is self bailing.

3 x Shock absorbing jockey seat for the crew, with backrest and cushion.

11 x Easily removable jockey seats, each one with backrest and cushion. Multiple possibilities of distribution and configuration.

1 x Steering console of rugged construction with railings all around, windscreen, and an upper structure to deploy a weather protection for the crew.

1 x Forward storage compartment.

2 x Huge hinged engine room hatches with gas struts to assist in opening / closing.

1 x Aft + 1 x Front bed for mounting machine guns.

Foldable radar mast on top of the steering console.

Forward Storage for mooring equipment and anchor.

6 x Stainless steel mooring bites.

Watertight Stowage in forward compartments.

Aft platform integrated into the hull with inspection hatches for the water jets.

ENGINES, PROPULSION, STEERING & MANOUVERING

2 x Inboard diesel engines
2 x Water jet drives.

FUEL TANK:

1 x Structural diesel tanks integrated into the hull, with hatch and filling protection and properly sized to meet the required range.
All fuel systems are pressure tested.

ELECTRICAL SYSTEM & LIGHTING:

All electrical wiring in marine cable.
Shore power with control lamp, marked fuses, earth connection and 20 m shore cable.
Isolation transformer with earth plate for protection of galvanic corrosion.
24-volt DC electrical system.
Main switches with separate battery systems for start, navigation and consumption.
Battery charger with indicator.
Outlets distributed in
4 x Floodlights on the top of the steering console, covering all the working deck space, 360° around.
Navigational lights.

NAVIGATION & ELECTRONIC EQUIPMENT

1 x 12" Chart plotter Ray Marine
1 x Digital radar RayMarine 24 NM range
1 x Echo-sounder
1 x Magnetic compass.
1 x Fixed VHF Ray Marine

The boat is wired, but not equipped, for FLIR cameras and tactical and internal radio communication devices.

Electric engine controls. Complete engine instruments with RPM, temperature, oil pressure and voltmeter for start batteries supplied by engine manufacturer.
Fuel gauge.
Control panel for all lighting and other electrical equipment.

SECURITY EQUIPMENT:

2 x Manual bilge pump (1 in the hull's bilge and 1 in the engine room).
1 x Electrical emergency pump in bilge, manual start.
1 x Fire extinguisher at helmsman station.
1 x Fire alarm with smoke detector and 1 fixed fire fighting system in engine room.
2 x Life rafts class B with 8 person capacity each one.
1 x Air filling pump + 1 deflating pump for the fender collar.

PERIMETER SECURITY

A NEW Dimension in Perimeter Security

SabraFence

Security. **All Around**

The **Sabra Fence** Group is proud to present a first-time, innovative multiple technology transducers for perimeter protection (Patent Protected Product).

Security Fencing - Sabra Fence System is a new and innovative Perimeter Protection System combining cutting edge electronics and complex mathematical algorithms to create a highly sensitive and sophisticated detection medium with environment canceling controls.

Easy to install, cost-efficient and adaptable, the SabraFence transducer is connected to any fence, wall, perimeter structure or combination of these, providing excellent detection resolution to each unique sensor in the chain analyzing signals(vibration -magnetic - temperature) on the spot.

The Sabra Fence Technology ensures your perimeter security and engages, Innovation, Novelty, Affordable, Excellent, Performance, Cutting Edge Technology, Easy Installation & Configuration.

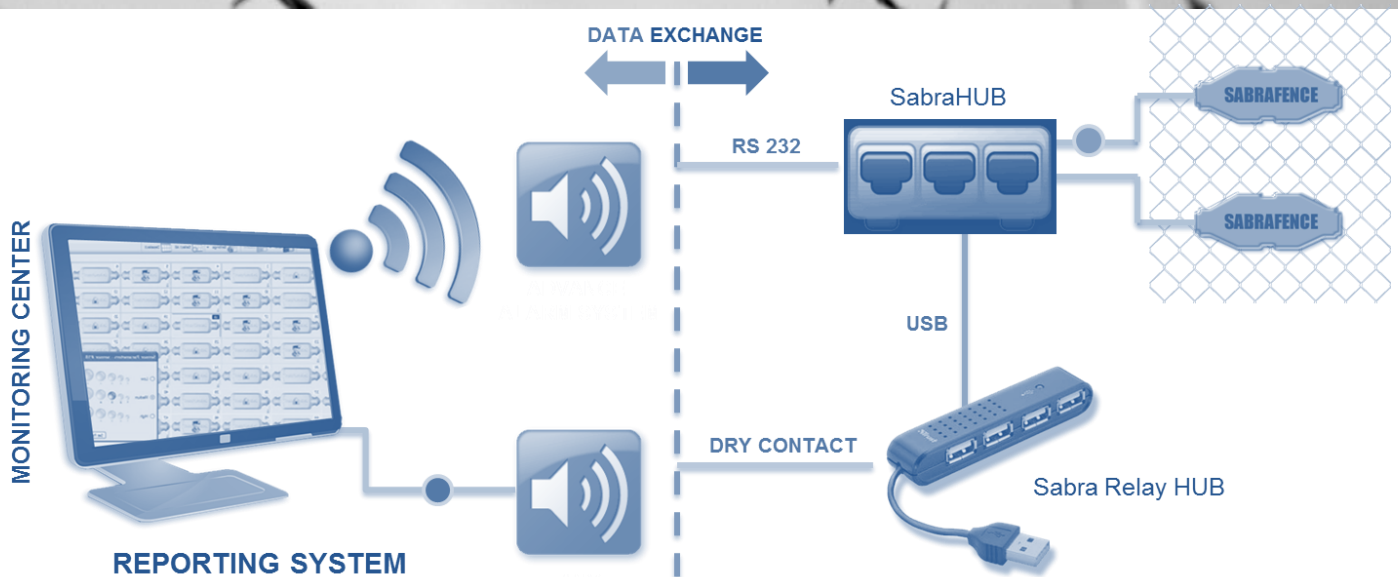
System Advantages

- Resolution of detection - Per transducer (3 meters)
- The system is user friendly and it is based on windows operating system
- The system's hierarchical structure is one level - from the controller directly to any detector
- The system supports up to 250 detectors in each branch - 750 meters
- Each controller can run multiple branches as needed
- The system contains an alarm display user interface with on a map or a physical picture of the site (Including sub - Maps)
- Sensitivity can be set for each transducer separately
- Each transducer includes a Temperature sensor (Temperature of maximum and minimum)
- Each transducer includes a Magnetic sensor, for pathway protecting
- The system enables indication on guard patrol route by marking specific detectors
- The system allows reporting several different alarm systems in various ways (Dry contact communication 232RS)
- The system allows for conditions to prevent false alarms and around cities when opening and closing gates
- If the system is connected to the Internet, location identification can be performed on all detectors to Google Earth platform
- The system allows for directing cameras towards the detector, which has warned



A NEW Dimension in Perimeter Security

SabraFence



SabraFence solution, is a new and innovative Perimeter Protection System, combining cutting edge electronics and complex mathematical algorithms to create a highly sensitive and sophisticated detection medium with environment canceling controls.

The SabraFence system is based on sensors which identify intrusion attempts by sensing movement in the supporting structure using MEMS (Micro Electrical Mechanical System) vibration sensing devices.

The system is easily installed on any fence, wall or pipe infrastructure, using simple adaptors or off-the-shelf metal bands. The transducers are over-molded on a standard outdoor cable, each exchanging information over RS485 with SabraHUB unit.

Each transducer has a micro-processor with a unique address which is processing the intensity of the event (calculate and filter that event is true or false), according to configurable parameters, and transmit them in the control unit for processing.

Each transducer could be adjusted to fine tune the sensitivity and functionality individual. Transducers are molded over the cable, every 3m to 5m, enabling operations under extreme environmental conditions.

The transducers include multiple sensing devices and technologies to enable using same transducer for variety of applications according to customer needs. The control unit (PC unit / Laptop / SabraHUB) displays various types of events - vibration, magnetic and temperature - and reports these to the existing alarm system or to any dry contact, according to programming and customer necessities.

AERIAL SERVICES

AERIAL PROFESSIONAL SERVICES

Aerial Imagery & 3D Modeling
Image processing & GIS
Photogrammetry
Engineering & Construction surveys
Oil & Gas
Mining & Volumetric
Environmental Monitoring
Forestry surveying
Precision Agriculture
Archeological Surveys
Coastal Management
LIDAR



We use drones (small unmanned helicopters and planes) for aerial surveys and mapping.

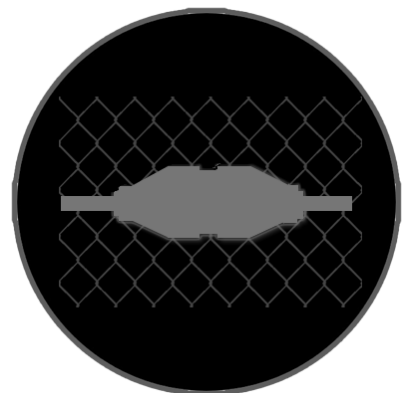
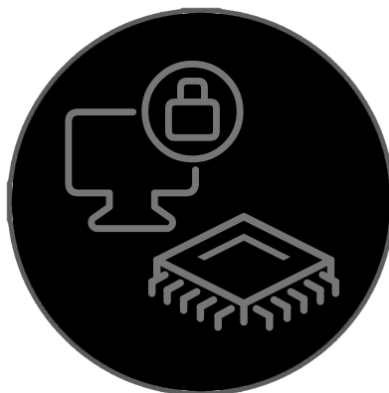
This is achieved by combining low altitude aerial photography with geometrically calibrated cameras and a technique called photogrammetry. With these pictures we create 3D digital elevation and terrain models as well as orthophoto mosaics.

First of all drones are very quick to deploy as they can even be flown with cloud cover. The results are also better, both in resolution and accuracy, as the pictures are taken much lower than conventional aerial photography.

The individual images can be adjusted for the elevations in the terrain corrected for color differences due to changing weather conditions. All the pictures can then be joined into a seamless orthophoto mosaic.

As the image is fully to scale it can then be imported directly in a CAD or GIS as a backdrop and used for measuring or mapping.

ALSO AVAILABLE



And much more

