HAWK COUNTER DRONE SYSTEM

Hertz New Technologies

Hertz New Technologies provides compact and effective counter-drone systems using modern technologies and advanced engineering expertise. Our products ensure reliable security and protection against drone threats

By offering reliable and flexible security solutions, our mission is to enhance the safety of people and their well-being, as well as, endangered critical infrastructure facilities, like power plants, power grid networks, ports and airports or fuel storage facilities.

We leverage cutting-edge research and development to stay ahead in the rapidly evolving field of drone technology.

UAVs - a global threat

The technological development, widespread availability and easy operation of unmanned aerial vehicles, commonly called drones, has turned them into a real threat.

Drones are now operated as lethal weapons, used not only for military purposes, but increasingly by criminals, terrorists, and saboteurs, who can present a real threat to military facilities, critical infrastructure or the security of civilians.

Global Drone Market

The value of the global drone market amounted to $22.4 billion in 2022. In 2023 it increased to $28 billion, to reach $166.7 billion in 2031, growing at a rate of 25% per year in the forecast period (2024-2031).

Global Drone Market value by 2031

$166.7 Billion

HAWK SYSTEM

HAWK counter-drone system is a comprehensive solution for airborne drone protection. The system uses a variety of sensors and data fusion to provide effective protection against airborne intrusion.

It can detect a drone before it enters the protected zone, track it in real time and bring it down to the ground or neutralise it in the air.

The system automatically generates an alarm when a drone is detected and effectively neutralises the intruder. Additionally, the system is able to determine the position of the drone operator. The HAWK system is a network-centric anti-drone system supplied by Hertz New Technologies, developed by Hertz Systems engineers.

KEY FEATURES

MULTISENSORY:

system integrates variuos detection technilogies: radars, RF scanners, acoustic and optical sensors

MULTI-LAYERED NEUTRALISATION:

to ensure maximum effectiveness, the system is equipped with different types of effectors, including jammers, spoofer, net ejector drone, HPM and cannon

DATA FUSION:

algorithms for processing and analysing data from different sensors to precisely detect and track drones. Data fusion allows for a consistent situational view, improved precision of threat detection and increased system effectiveness.

ANTI-SABOTAGE BARRIER:

system has security features to prevent break-ins, taking over control or hacking

OPEN ARCHITECTURE:

The ability to integrate the system with other security systems already operating within the protected facility.

HAWK C2

The core of the HAWK counter-drone system is the software - HAWK C2 - which receives data from the detection sensors installed on the object and visualises it on a map in real time.

HAWK C2 is a globally unique software equipped with data fusion algorithms enabling reliable classification of a detected drone allowing its rapid neutralisation before it crosses the boundary of the protected object or area.

KEY FEATURES

- Digital maps

- Visualization on the map: flight path, position of the drone and its operator, speed

- Acoustic alarm whem the zone is trespassed by an intruder

- Management of system detectors and effectors

- Alarm history with the possibility of replaying the flight path and operator reactions

- Manual or automatic mode

- Designation of alarm, neutralisation and protected zones

- Possibility of working in a local network, isolated from the Internet

- Integration with security systems
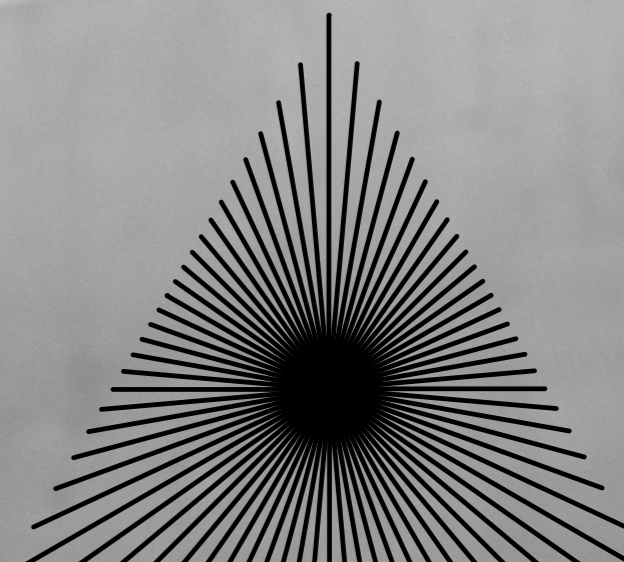
HAWK BASIC

HAWK Basic, a cutting-edge, compact solution designed to detect, visualize, and track drones with unparalleled precision. This innovative system empowers you to monitor drone activity by pinpointing the take-off location, mapping the flight path, and identifying the operator's position. Perfect for safeguarding human health and property in commercial settings, HAWK Basic ensures top-tier security and peace of mind.

HAWK Basic can be enhanced with jamming technology, offering comprehensive protection and neutralization of unauthorized drones. Tailor-made to fit your specific needs, our solutions ensure you stay ahead of potential threats.

KEY FEATURES

- Detection up to 6 km
- Detection of drone operator
- On-the-move capability
- Expandable with additional sensors and effectors
- Automatic/manual modes
- Neutralizing the threat by jamming

HAWK MOBILE

HAWK Mobile is an advanced solution designed to protect premises, infrastructure, convoys and mass events from drone threats. Combining a variety of drone detection and neutralisation technologies, it provides comprehensive and effective defence, and its modularity allows it to be mounted on buses, pick-up trucks or combat platforms.

The mobile version of the system not only proves its worth for temporary stationary protection but, thanks to the use of state-of-the-art solutions, can also work on the move.

KEY FEATURES

- Detection up to 6 km
- Drone operator detection
- Multi-sensor capability
- Expandable with additional sensors and effectors
- Drone swarm detection and neutralisation
- Data Fusion

HAWK ADVANCED

HAWK Advanced is a state-of-the-art solution designed to protect strategic facilities and sites from drone threats. Powered by advanced radar technologies, frequency scanners and optical sensors, the system provides reliable protection in a variety of operational conditions, effectively countering a wide range of threats. HAWK Advanced is designed to meet the most demanding expectations, providing drone detection regardless of drone construction or flight mode.

The system is characterized by its multi-layered approach to threat neutralisation, offering both non-kinetic and kinetic methods of protection. The non-kinetic approach is based on jammers, GNSS spoofing, a hacking module and HPM (High-Power Microwave). If these methods are not enough, HAWK Advanced intercepts the intruder using a drone equipped with a net launcher or eliminates the threat with integrated cannons.

KEY FEATURES

- Detection up to 20 km
- Drone operator detection
- Data fusion
- Expandable with additional sensors and effectors
- Detection and neutralisation of drone swarms
- Kinetic effectors
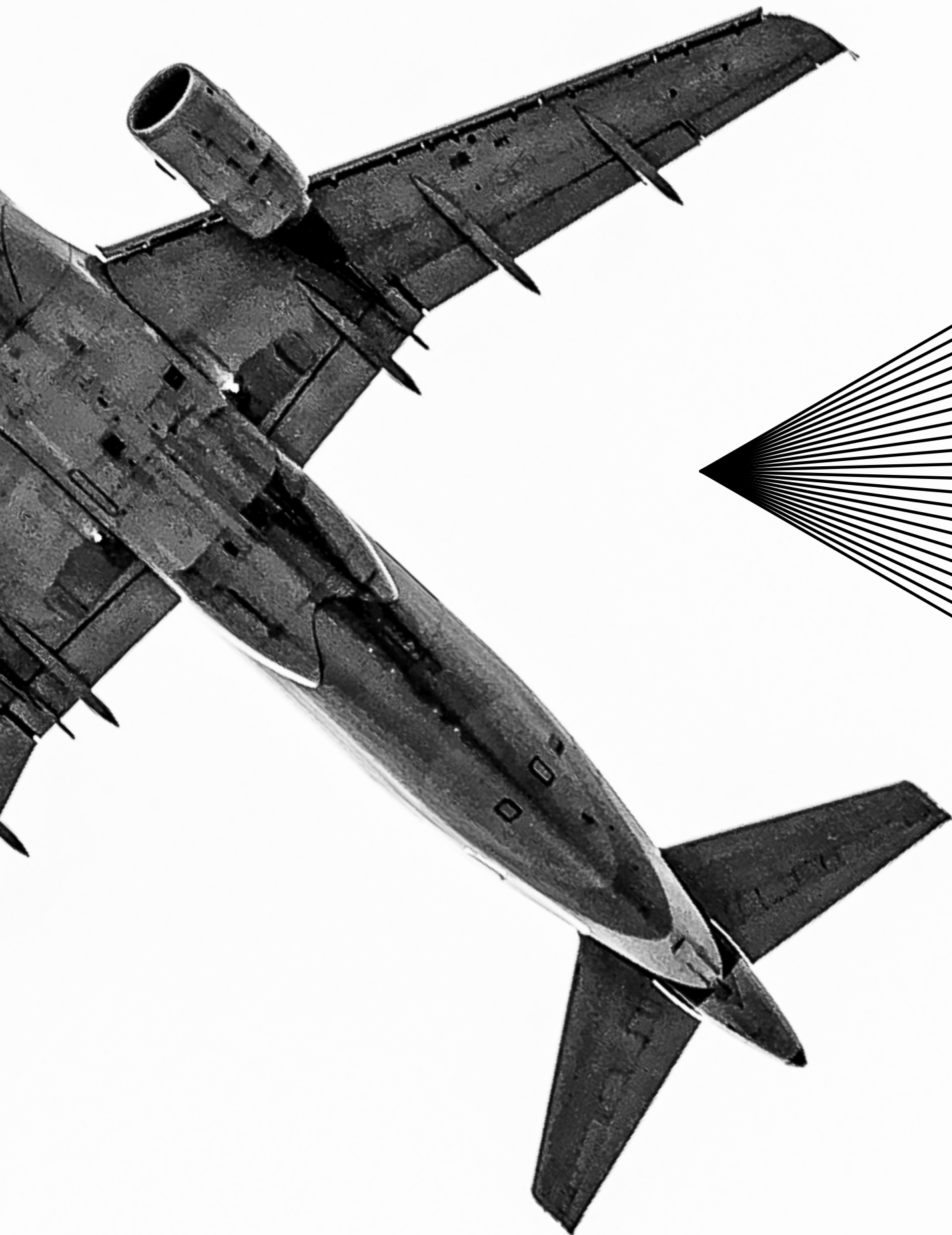
WHO IT'S FOR

Technological progress is accelerating. Not long ago, drones were just toys or advanced technology accessible to a select few.

Today, the drone market is worth nearly $35 billion, and we hear daily about dangerous incidents involving them. In the wrong hands, drones can be a serious disruptor, potentially paralyzing the operations of businesses or institutions.

Critical Infrastructure

Protecting power plants, oil rigs, and strategic facilities can prevent unwanted espionage, destabilizing activities, or the loss of valuable resources. The use of drones in armed conflicts has clearly shown the potential scale of destruction in entire cities.

Prisons

Each year, numerous reports highlight the smuggling of prohibited items into prisons. Effective drone security can eliminate this issue and enhance the comprehensive protection of such facilities.

Manufacturing plants, data centers, and commercial facilities

Protecting assets and know-how often ends five meters above the ground. A drone can easily fly over the highest fence and potentially paralyze an enterprise. Additionally, it can easily gather information constituting trade secrets.

Airports

Every year, airports worldwide face paralysis, and pilots encounter life-threatening risks due to amateur drone operators. Airport paralysis costs about $250,000 per hour, not to mention in-air incidents. Our systems enhance the security of these facilities and neutralize unwanted intruders.

HAWK SENSORY DETECTION

Active Detection

HR70000

HR70000 is a cutting-edge X-band radar, meticulously crafted for precision in detecting small aerial targets, including UAVs. Harnessing the power of AESA (Active Electronically Scanned Array) antenna, this radar stands as a beacon of innovation. Detection of micro-class drones up to 4 km.

HR50000

HR50000 is a software-defined, multi-purpose 4D AESA pulsed Doppler radar specifically designed for fast and accurate detection of unmanned aircraft (C-UAS). Radar equipped with an AI classifier to increase detection and classification range and reduce false alarms. A unique feature of the HR70000 is its ability to work on the move. Detection of micro-class drones up to 5 km.

HR3400

HR3400, a state-of-the-art 3D short-range Frequency Modulated Continuous Wave (FMCW) radar. HR3400 revolutionizes threat detection and tracking with its cutting-edge Metamaterial Electronically Scanning Array (MESA) technology, allowing for electronic scanning of the radiating energy beam through a specially designed antenna surface architecture. Detection of micro-class drones up to 1 km.

HAWK SENSORY DETECTION

Pasive Detection

HRF5000

The HRF5000 is an RF sensor using a wideband radio receiver (SDR - software-defined radio) operating in the 400 MHz to 6 GHz band, which provides angle-of-arrival (AoA) of RF signal on any frequency within a user-defined bandwidth. Compared to other RF detectors, the HAWK HRF5000 does not use a database to identify detected signals, as it uses algorithms that are capable of detecting a wide range of drones (commercial and custom). Detection range up to 3 km.

HRF2000

HRF2000 is an RF signal detection system provides an advanced passive (undetectable) detection for identifying commercially available drones. The device detects the connection between the drone and the operator, providing the system user information about the position of the drone as well as the operator. The device is able to detect the drone even before take-off. The system is specifically designed to identify drones from leading families including DJI Phantom, DJI Inspire, DJI Mavic, DJI Matrice, Parrot, Yuneec. Drone and operator detection range up to 6 km.

HOS2000

The HOS2000 thermal imaging sensor is an electro-optical scanning system designed for drone detection and recognition. The device continuously monitors and takes images in an area defined by the system operator (omnidirectional or in a specific direction) and then analyses them to detect a drone. The range of the device is 1 km.

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Pasive Detection

HAWK EFFECTORS

C1200

C1200 is a PTZ camera on a rotating base is fully integrated with HAWK C2. Once the target is detected, the camera is pointed towards it automatically. This allows the operator to identify the threat. Range up to 1 km.

NO10000

The NO10000 drone jammer is an advanced device that effectively eliminates potential threats related to illegal drone flights. Equipped with directional antennas, this jammer is capable of jamming key frequencies used by drones for positioning (GNSS) and communication with the operator (900MHz, 2.4GHz, 5.2GHz, 5.8GHz).
The innovative rotor-based installation of the device allows it to rotate and focus on the target. Integration with the HAWK system's detection sensors ensures a rapid response to any airspace violations. Operating range up to 10km.

TC2000

The HAWK TC2000 is an optoelectronic solution based on a Full HD colour camera and a cooled HD thermal imaging camera (Band II MWIR) integrated with a 2-axis positioner (pan and tilt). The camera has 3 modes of operation: tracking based on indication from the detection system, automatic tracking of a marked target or manual tracking by the operator. Camera range up to 1.5 km.

NS4000

NS4000 is a wideband jammer operating in bands from 400MHz to 6GHz, the user can easily adjust the jamming frequencies to suit their needs including 433MHz, 868MHz, 915MHz, 1.5GHz, 2.2GHz, 2.4GHz, 5.2GHz, 5.8GHz. The device is equipped with omnidirectional or directional antennas and its range reaches 4km. Furthermore, the NS4000 can operate in reactive mode, i.e. it scans the selected band and emits an interfering signal in a narrow frequency range, allowing higher ranges to be achieved at relatively lower transmission powers.
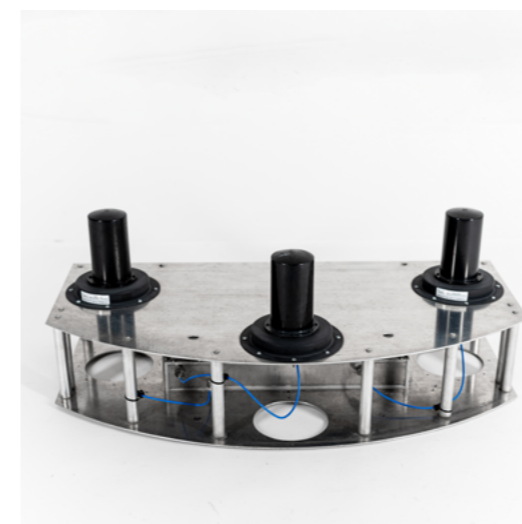
NS3500

The NS3500 Neutraliser is an advanced device designed to effectively protect areas from the drone threat. Equipped with omni-directional antennas, it enables full 360-degree coverage of an area, eliminating potential gaps in defence and the ability to counter drone swarms. Jammer has the capability to jam the various frequencies used by drones. The device effectively jam GNSS (Global Navigation Satellite System) signals, disabling drone positioning. Additionally, the jammer deactivates communication between the drone and the operator by jamming the 2.4GHz and 5.8GHz frequencies. Operating range up to 5km.

NR1700

The HAWK NR1700 jammer is a highly effective device designed to combat a variety of commercially available drones. It is dedicated to both public services responsible for the security of the state and citizens, as well as for the protection of objects of strategic importance.

When the trigger is pulled, the device transmits a jamming signal that affects the drone's control and navigation signals. This causes an automatic controlled landing, return of the drone to the take-off point or hover. Operating range up to 1.7km.

HM3200

HM3200 is an advanced system that automatically and passively detects, locates and identifies „FoE" drones. It takes control over these enemy drones and forces them to land safely at a predefined safe zone. It gives the ability to take control over one, several or even a dozen drones at the same time. HM3200 is a solution that employs a non-jamming, non-kinetic technology, independent of the line-of-sight, leading the captured drone through the designated route towards the selected point. The system transmits a precise and short signal that takes control over the „foe" drone without interfering with other drones and communication signals. Operating range up to 4.7km.

NR500

The NR500 drone jammer is an extremely lightweight device weighing just 2.6kg, designed for maximum mobility and effectiveness. The jammer's operating range is between 500 and 1,500 metres, depending on the drone model.

The NR500 jammers GNSS navigation signals and communications in the 2.4 and 5.8GHz bands, allowing you to neutralise a threat by forcing your drone to land, sending it back to its launch site or making it hover.


SP1500

SP1500 is a revolutionary solution with unique spoofing technology, effective against all drones equipped with GNSS receivers, capable of countering both single and swarm drone attacks. The device uniquely and effectively uses GNSS manipulation techniques replacing the need to jam data links. It can be used as both a fixed and mobile solution. The device has 3 modes of interaction: pushing drones violating the protected zone in a defined direction, forcing a flight in a circle with a defined radius or setting a no-fly zone for drones (e.g. an airport), after which the (commercial) drones will stop flying and start the landing procedure. Operating range up to 2km.
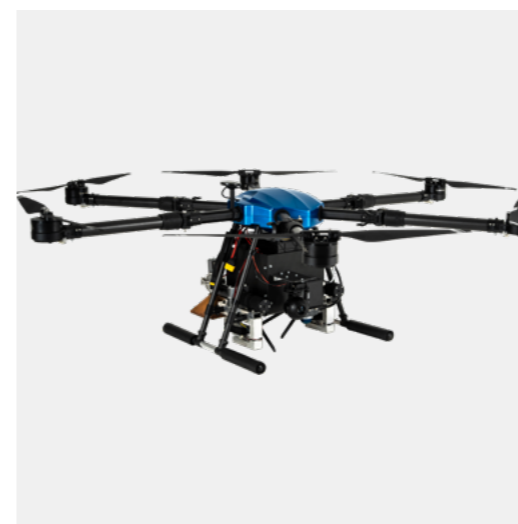
FlyingSpider

Flying Spider is a solution designed to protect the protected zone from unauthorised drones. Its main function is to intercept and take out drones that may pose a threat or violate the protected zone. The Flying Spider is equipped with two net ejectors to effectively intercept targets. The drone, upon receiving information from the HAWK system, makes a prediction of the flight path of the enemy drone and estimates in real time the potential location of its interception. During flight, it autonomously performs detection and classification using vision and radar sensors, allowing it to target and intercept fully autonomously.

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K1200

It is a weapon designed for speed and accuracy to combat multiple targets including unmanned aerial vehicles (BSPs). The rapid firing rate achieves the high firing density needed to combat multiple targets in a shortened time. Constant rate of fire of 3,000 rounds per minute (50 rounds per second) with a range of up to 1,200 metres. The HAWK K1200 is installed on a rotor that is fully integrated with the detection systems enabling automatic operation and targeting on target upon detection

HPM2000

The HPM2000 (High Power Microwave) drone neutralisation device is a high-tech solution that provides effective protection against drone threats. The HPM emits high-power microwave beams that effectively disrupt a drone's electronics, causing an immediate loss of control and neutralising the threat. Due to the precise targeting of the signal, the HPM is able to effectively affect drones at different ranges and operational conditions. The device works regardless of drone type, effectively disrupting both consumer and military models.

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www.hertznt.eu

Hertz New Technologies sp. z o.o.
Space Technology Park -
Research, Development and Innovation

ul. Nowy Kisielin - A. Wysockiego 1
66-002 Zielona Góra

Phone: +48 785 777 552
Email: info@hertznt.pl