



RRS-ELVIRA/A2

ELVIRA® Drone Detection Radar

PURPOSE-BUILT TO DETECT DRONES

ELVIRA® combines smart software, with affordable radar, and is built explicitly for drone detection and tracking. For early warning of incoming drones, you need radar. Simply put, no other sensor technology has a wider coverage area than radar. With 360° coverage, ELVIRA® provides you with early warning of approaching drones, in all directions, giving you precious time to react.

The ability to detect drones in the distance is not enough though. Drone detection systems need to work in low visibility conditions, and in urban environments full of obstacles, moving objects, and a just about infinite amount of wireless radio devices.

MULTIPLE TARGETS AND DRONE SWARMS

Drones can be pre-programmed for autonomous flight with no operator and can approach in swarms. Any drone detection system should, therefore, be capable of detecting multiple targets simultaneously. And they should not rely on the drone and controller radio signals, which are only present when the drone is actively controlled.

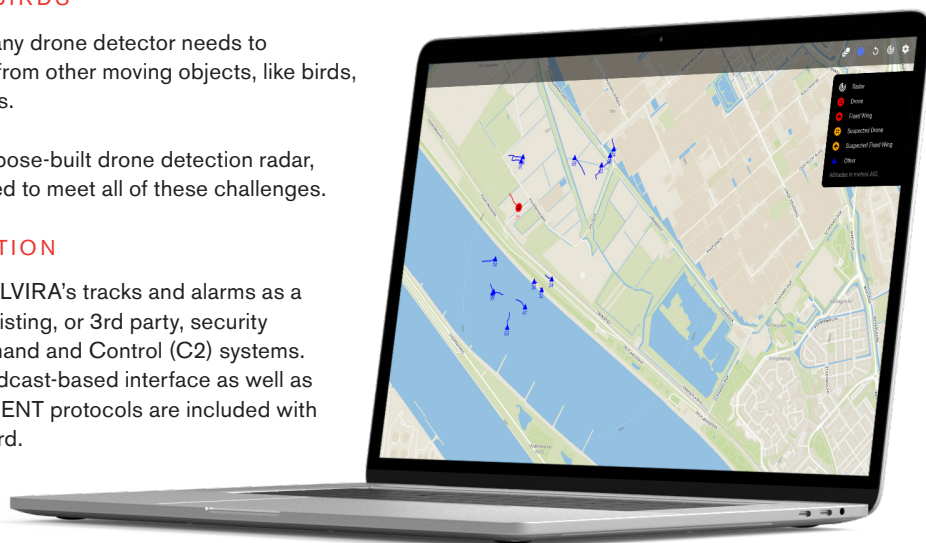
DRONES NOT BIRDS

Last but not least, any drone detector needs to distinguish drones from other moving objects, like birds, to avoid false alarms.

ELVIRA® is our purpose-built drone detection radar, specifically designed to meet all of these challenges.

EASY INTEGRATION

You can integrate ELVIRA's tracks and alarms as a layer in your own existing, or 3rd party, security systems and Command and Control (C2) systems. A simple XML broadcast-based interface as well as ASTERIX and SAPIENT protocols are included with ELVIRA® as standard.



CAMERA INTEGRATION

Users typically require a visual picture of the target to take further action. Integrators can equip ELVIRA® with a high-resolution pan-tilt-zoom (PTZ) camera for visual confirmation of the target. When a drone is detected, the camera zooms into its direction for a controller to acquire an image and report details.

MICRO-DOPPLER CLASSIFICATION

The radar's micro-Doppler capability provides the necessary confirmation that a target has mechanical propulsion.

WHAT'S INCLUDED

ELVIRA® comes as a complete radar system including radar antenna, processing station and user interface, breakout box and interconnecting power and network cables. The processing station and user interface is available as a rugged laptop or 19" rack server.

- Radar Antenna
- Processing Station / User Interface
- Breakout Box
- Cables (Interconnector, power, network)
- Hoisting Attachment
- User Manual
- Certificates

ELVIRA® comes with an optional foot mount. It can also be mounted on a mast or vehicle.

SPECIFICATIONS

Technology	FMCW
Frequency	X-Band (8700-9650 MHz)
Power Output (continuous)	4 Watt
Instrumented Range	5 km
Detection Range: DJI Inspire (3kg)	2.7km
Detection Range: DJI Phantom (1kg)	2.2km
Detection Range: DJI Mavic Mini (<249g)	0.6km
Main Beam Width	10 ° x 10 °
Azimuth Coverage	360 degrees
Elevation Coverage	10 ° (-5 ° -to + 17 °, adjustable)
Azimuth Accuracy	1 °
Range Accuracy	0.6m
Track While Scan	Yes
Scan Speed	1.3s Update Rate
Classification Method	Micro-Doppler
Upmast Dimensions (DxH)	918mm x 1060mm
Upmast Weight (excluding foot)	72kg
Power	100-240VAC, 50-60Hz, 70W nom, 150W max
Communication	Ethernet, 1000Base-T
Operational Temperature	-20°C to +55°C

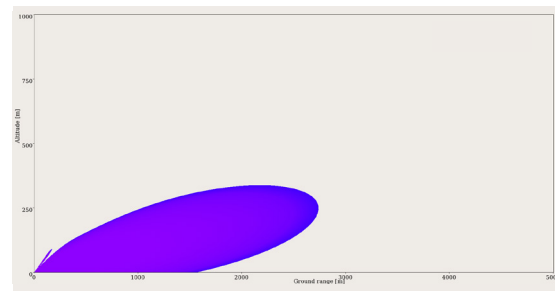
ELVIRA® CLASSIFICATION RANGES

Drone	Typical Range*	Maximum Range**
Inspire (3kg)	1.6km	1.8km
Phantom (1kg)	1.2km	1.5km
Mavic Mini (<249g)	0.4km	0.6km

* These ranges are typically achieved under varying circumstances including moderate clutter.

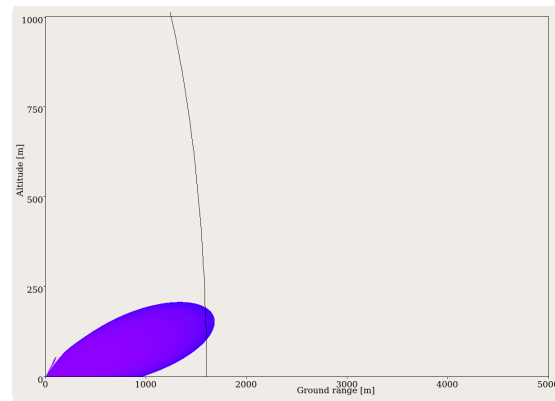
** These ranges are indicative of the maximum observed ranges achievable under good flight conditions and favourable uncluttered surroundings.

DETECTION COVERAGE DIAGRAM



DJI Inspire (3kg)

CLASSIFICATION COVERAGE DIAGRAM



DJI Inspire (3kg)

DRONE VIEWER SOFTWARE

