



## Datasheet – SeaTerra Drone

The Drone System is an autonomous aerial survey platform for low altitude total-field magnetic surveying. Combining a DJI Matrice 210RTK with custom built sensor hardware and software, it is capable of autonomously flying survey grids at altitudes down to just 50cm above ground.



### DRONE SPECIFICATIONS

Drone Model	DJI Matrice 210 RTK
Release Date	June 2017
Drone Weight	4.90 kg
Max Flight Time per battery	~ 24 min
Survey area per flight	~ 0.7 ha at 10km/h = approximately 1.8ha per hour
Survey speed	1 – 15 km/h
Min survey height	50cm above ground
Height above ground accuracy	± 10cm
Positioning	DJI RTK (GPS + GLONASS)
Positioning Accuracy	± 2 - 5 cm
Flight Controller	DJI Cendence Remote with custom flight software
Controller frequency	2.4 – 2.483 GHz, 5.725 – 5.850 GHz
Maximum Transmission Range	7km
Operating Temperature	-20 to + 45 °C
IP Rating (Drone)	IP43
Collision Detection System	Forwards: 0.7 – 30m, 60° FOV Upwards: 0 – 5m, 10° FOV Downwards 0 – 10m, 10° FOV



## SENSOR SYSTEM SPECIFICATIONS

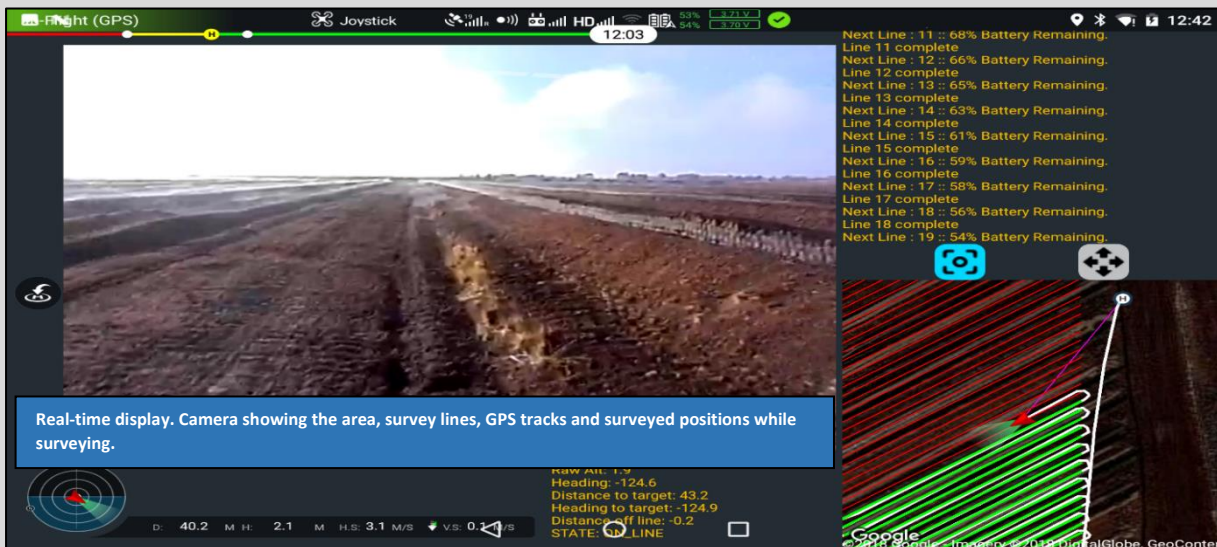
Sensors	3 x 3-axis Fluxgate Magnetometers
Sample rate	100Hz (higher sample rates possible)
Sensor Spacing	75cm (can simulate 37.5cm spacing with overlapped survey lines)
Array Width	1.5m
Noise levels	~ 2 - 5 nT
Measuring Range	± 250µT
Recording Medium	Onboard via USB and Micro SD, Real time gridding @10Hz available
Survey Grid Creation	Via custom software from a DXF overlay
Sensor System Control	Start/Stop recording and Mode change via buttons on Sensor controller, or remotely via Drone remote control software.
Available Flight Modes	GRID: Drone flies a series of pre-defined grid lines to survey an area, including multiple flights to cover very large survey grids.
	TRACK: Drone follows a track with a given survey width to survey along a roadway/pipeline/cable
	COMPENSATION: Drone performs a flight for compensating the sensor data to greatly reduce noise
	MANUAL: Assisted manual flight. The drone will maintain a set speed and height above ground, but can be steered by the operator.



Flying drone during the survey.



Found UXO after the drone survey.



Real-time display. Camera showing the area, survey lines, GPS tracks and surveyed positions while surveying.