



Beluga Surveillance

Tactical use for ISR tasks



Surveillance configuration

Characteristics: [FRAME]	Description
Type	Class MINI – quadrirotor
Dimensions	<ul style="list-style-type: none">• Diagonal: 1.085 mm; Width: 760 mm; Length: 760 mm• Height: 450 mm; Propellers dimension: 22"• Beluga provides foldable arms that reduce its size during transport and/or stowage
Engine	4 electric engines brushless. Batteries Li-ion.
Take Off Weight	~ 9 kg.
Altitude	The Beluga has been shown to perform adequately up to an altitude of 5,000 m (ASL).
Endurance	Tests in the airfield have shown that Beluga can achieve operational autonomy of 55' ÷ 65' with an MTOW <= 10 kg. This value depends on the wind conditions.
Radio Line of Sight	The operating range reaches about 5 km. It is possible to create configurations with other data links to further increase the operating range.
Maximum speed / Cruise speed	The maximum speed of the Beluga reaches around 110 km/h. The cruising speed is ~ 50 km/h.
Operating temperature	-20 °C ±1 °C; +55°C ± 1°C. Compliance with the CEI EN 60068-2-1:2007 Test A Cold and CEI EN 60068-2-2:2008 Test B Dry Heat standards.
Humidity	90% relative humidity.
Maximum intensity of the wind	12 m/s (~ 42 km/h) in the three directions S, W and N.

Surveillance: navigation & mitigation

Characteristics: [FRAME]	Description
Automatic navigation mode(by waypoint)	The mission planner of the Ground Control Station of the Beluga allows the setting of the automatic route by waypoint in the mission planning phase.
Geocaging	The mission planner installed in the Ground Control Station of the Beluga allows you to set the limits of the operating volume where the flight of the Beluga is allowed.

Payload e Radio Link

Characteristics: [PAYLOAD]	Description
EO/IR Sensor	<p>Visible camera:</p> <ul style="list-style-type: none"> ▪ Config. 1) 1280x720; Zoom: x20 + x2 digital ▪ Config. 2) 1920x1080; Zoom: x13 + x2 digital <p>Thermal camera(LWIR): 640x480; Zoom: x4 continuous digital</p>
Artificial Intelligence	<ul style="list-style-type: none"> ▪ Object detection. 4 datasets: human&vehicle, fire&smoke; human overboard detector; marine vessels ▪ Automatic target tracking (up to 5 targets) ▪ Automatic zoom ▪ Nadir scan automatic mode <p>Sensor fusion visible vs thermal</p>
GNSS	GPS L1C/A, GLONASS L1OF, BeiDou B1I - Positioning accuracy: 3D FIX: 2.5 m

Characteristics: [DATA LINK]	Description
Carrier	The carrier used for the connection reserved for telemetry, navigation and video stream data is contained within the 2.402 ÷ 2.478 GHz range.
Power	~ 1 W
Encryption	128-bit AES (Optional 256-bit)