

Supercam S100

Unmanned Aerial Vehicle

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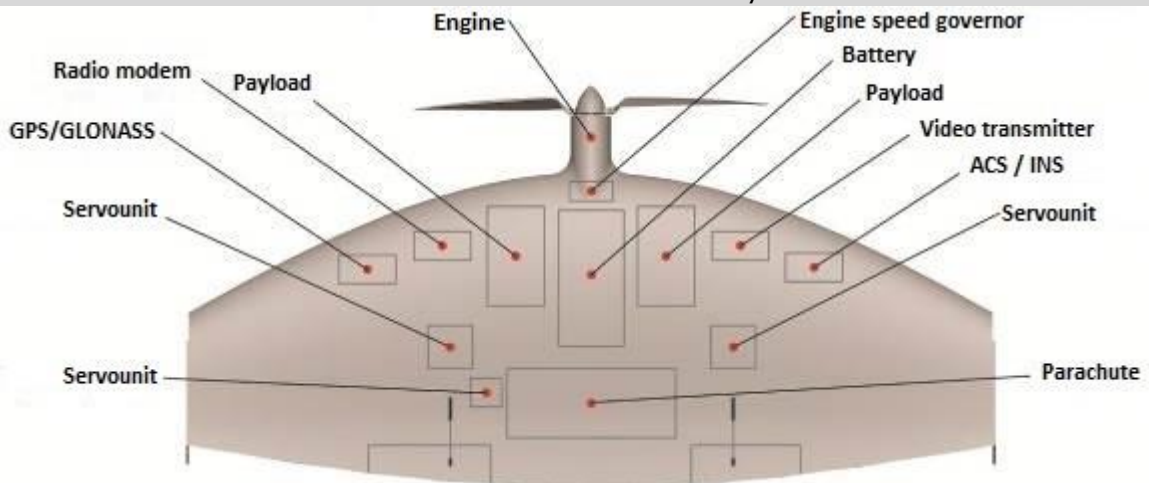


Description

S100 complex is designed for surveillance of underlying surface (including complicated land relief and water's surface) in a wide-range of weather conditions, search and detection of the targets. It provides the obtaining, transmission, and recording of the data in real time and scale mode and specifies location of the objects under surveillance. S100 distinctive feature is the small size, at that the flight time reaches 1 hour 30 minutes.

Operational and physical characteristics

Parameter	Value
Flight time	up to 1.5 h
Flight speed	65 ÷ 120 km/h
Engine type	Electric
Engine configuration	Pulling
Video channel/Radio channel range of coverage	25/50 km
Maximal flight distance	min 50 km
Takeoff weight	2.5 kg
Payload capacity	0.5 kg
Wingspan	1 m
Operational height	150 ÷ 1500 m
Deployment time	15 min
Launch	Elastic catapult
Recovery	Parachute
Operating conditions	
Wind	up to 15 m/s
Temperature range	-40°C..+40°C
Moderate rain or snow	yes



Complex elements

Item	Quantity
UAV	
Supercam S100 UAV with flight time up to 1.5 hours	2
Parachute with system of cord automatic unhitching after UAV landing; autopilot; navigation lights; three-axis magnetometer; digital telemetry system; self-diagnostics system; system of inertial correction; system of automatic return in case of communication loss; GPS/GLONASS position fixing system; radio modem with the satellite navigation system receiver; the digital video transmitter for 25 km (built in the UAV); built-in the UAV course camera with 720x576 resolution	
Payloads (removable, interchangeable)	
Photo camera with 24 Mp resolution and 20mm lens (Picture 5)	2
Video camera with 720x576 resolution and 10x optical zoom on the gyro-stabilized in 2 axes gimbal (Picture 6)	2
Controlled thermal imaging camera with min 640x480 resolution and 16x digital zoom on the gyro-stabilized in 2 axes gimbal (Picture 7)	2

Ground control station*	
Ground control station (<i>Picture 1</i>) in the shockproof, dustproof and waterproof case, based on the rugged laptop with touch screen for operation and telemetry with the preset Software, equipped with the voice announcement system with the video signals router	1
Antennas	
The ground block of antennas (<i>Picture 2</i>) with the digital video receiver (on the tripod)	1
Supporting equipment	
Spare parts and tools	1
Supercam S100 transportation case (<i>Picture 4</i>)	2
Compact elastic catapult with the drill	1
The multipurpose microprocessor charger in a shockproof, dustproof and waterproof case (<i>Picture 3</i>), with the integrated balancer, allowing to charge and discharge batteries, balance and monitor the voltage at each element separately	1
SuperCam LiPo accumulator battery 10 Ah	8
Training course for 3 people on the territory of the seller	1
Complex operational documentation	1

* Possible to control 2 UAV's from one ground control station. Complex may include more than 2 UAV's.

Any complex might be equipped with an extended set of spare parts and tools, including extra UAV body's (composite body with wires)

UAV production time is 2 to 3 months since 100% prepayment.

UAV's color options: matt grey/ dark grey or electric orange.

Complex warranty period is 1 year.

UAV warranty period is 1 year or 70 landings.

Accumulator battery warranty period is 50 charge-discharge cycles.

The company has:

1. license for aircrafts design, manufacture, testing and servicing issued by the Ministry of Industry and Commerce of the Russian Federation;
2. license for geodetic and mapping services on the federal level, the results of which have national and inter-branch significance, issued by the Federal Service of State Registration, Land Register and Mapping;
3. the declaration of conformity to requirements of GOST (All Union State standard) 12.2.007.12-88, GOST P MEK 62133-2004, GOST P MEK of 1960-2007 of lithium polymeric batteries;
4. the certificate of conformity to requirements of GOST ISO 9001-2011 (ISO 9001:2008) of the international quality management system regarding the implementation of development, production, testing and repair of aviation engineering;
5. certificate of the state registration of the computer program: "The program of the automated workplace of the operator of an unmanned aerial vehicle (SUPERCAM 1.0)".

OPTIONS	
Extra Supercam S100 UAV with flight time up to 1.5 hours including the digital video transmitter for 25 km and UAV course camera with 720x576 resolution (built in the UAV) and parachute	
Spare Supercam S100 UAV (composite body and wires)	
Additional SuperCam LiPo accumulator battery 10 Ah	
EXTRA PAYLOAD	
Thermal imaging camera with min 640x480 resolution on the fixed platform	
Controlled HD video camera with 10x optical zoom on the gyro-stabilized in 2 axes gimbal	
Over High Sense Camera (night camera)	



Picture 1. Ground control station in the dustproof and waterproof case
Dimensions (mm) 488x386x185



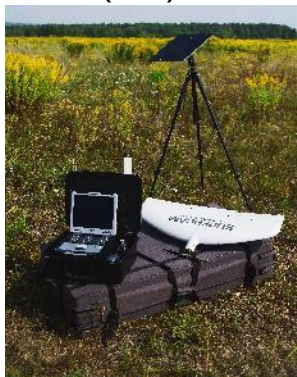
Picture 2. Ground antenna and the tripod



Picture 3. Battery charger in the dustproof and waterproof case
Dimensions (mm) 488x386x185



Picture 4. UAV transportation case
Dimensions (mm) 1100x600x270



Supercam S100 UAV complex



The course camera

Payloads on the gyro-stabilized gimbals.

Gyro-stabilized gimbal (2 axis)



Stabilization	gyro-stabilized in 2 axes gimbal with built in gyro-AHRS (attitude and heading reference system), 2-axis angular velocity sensor
Look-up angle	tangage 0°..90° / yawing motion 360°
Drive type	gear case, 2 step engines
Payload orientation	turret type
Weight	465 g
Dimensions	125x130x130 mm
Temperature range	-40°..+45° C

Modules	
24 Mp photocamera (Picture 5)	
Total number of pixels 24.7 Mp Effective number of pixels 24.3 Mp Dimensions 23.4 x 15.6 mm Crop factor 1.5 Max resolution 6000 x 4000 Sensor type CMOS Sensitivity 100 - 1600 ISO, Auto ISO, ISO6400, ISO12800 Sensor self-cleaning Yes	
10x zoom PAL camera (Picture 6)	
Resolution: 720x576 Digital zoom: 12x (120x with optical zoom) Optical zoom: 10x Output signal: NTSC, PAL Minimal light sensitivity: 1.0 lux (F1.8 NTSC: 1/60 sec, PAL: 1/50 sec)	
IR camera (Picture 7)	
Sensor type: uncooled VOX Resolution: 640x480 Pixel size: 17 mkm Spectral range: 7.5 – 14 mkm Framerate: 8.3 Гц - 50 Гц Supported optics: 7.5, 9, 13, 19, 25, 35, 50 mm Sensitivity: less than 60 mK Digital zoom: 2x, 4x, 8x, 16x Temperature range: -40°C ... +80°C Temperature detecting range: -40°C ... +160°C	