NUVIATECH INSTRUMENTS

SPECIFICATION SHEET

BRUS

Unmanned Aerial Universal System

The BRUS is an unmanned aerial vehicle designed by the Czech Military Aviation Institute for environmental reconnaissance, rescue operation and operative monitoring of hazardous areas. The BRUS can be equipped with cameras for daytime and night vision and other technical equipment.
The flight path of BRUS can be pre-programmed with the possibility to change the flight plan during the operation. The easy to use and versatile system has functions permitting automatic start and landing in case of low battery, stand-by mode in a selected position, or flying to a preset point on a map.

Benefits

- Automatic take-off and landing
- High weather resistance
- 3 ways of flight navigation: joystick, following waypoints on a map or following a path pre-set by the software
- Long endurance
- Low noise
- Return to the starting point on press of a button
- High payload for attaching various devices
- Parachute to prevent damage in accidental UAV failure

Key figures

5 km
➥ *Operation radius*

Up to 8 kg
➥ *Weight of detection system*

50 min
➥ *Operation time*

Product description

The BRUS is an unmanned ærial system with advanced navigation and operation controlled in real-time by a remote operator via a wireless connection. The BRUS unmanned ærial vehicle is made mainly of carbon composite. The unique design allows the BRUS to be folded to a minimum volume by lowering the two arms and dismantling the chassis, all without the use of tools. The BRUS can be equipped with a multitude of payloads - cameras for snapshots and videos, thermal and infrared cameras and multiple sensors like a radiation monitoring module and others. The BRUS system is made up of two parts; the UAV part and the ground control station allowing interaction with the drone and receiving data from sensors. The ground control station is equipped with a powerful software for advanced navigation. The command control is provided by a joystick or by clicking on the touch screen. The BRUS is manufactured in a basic version BRUS and in a version BRUS Heavy featuring higher performance and payload capabilities. Both versions can be equipped with a Video module (a daylight HD camera) or with a Video + IR module (a daylight camera, Infrared camera and a system for switching between cameras during the flight). The system was designed for easy transportation and handling. The three arms can be folded without using any tools to fit in a transport box with dimensions allowing transportation in a regular car trunk.

Product applications

- Professional photography and cinematography
- Surveying hardly penetrable areas by other means of transportation
- Monitoring of accidents, fires and natural disasters
- Inspection of power lines: high voltage, gas and heat pipelines
- Use in agriculture - control of the crop and forests
- Searching potential contamination, uncontrolled radioactive sources or working in spots with hazardous dose level of radioactivity
- Homeland security, searching and rescue missions for the Police and the Army

Parameter	BRUS	BRUS Heavy
Drone diameter	1.2 m	
Propeller (Ø)	28″	30″
Height	0.5 m	
Frame material	C-F composite	
Max. force	180 N	360 N
Motor input	6x400 W	6x800 W
Weight	4.5 kg	6.3 kg
TOW	8.7 kg	10.7 kg
MTOW	12 kg	30 kg
Max. payload	3 kg	8 kg
Max. endurance	80 min	110 min
Standard endurance	50 min (depending on the load, wind and battery type)	
Max. speed	60 km/h	70km/h
Max. ascent	5 m/s	
Wind resistance	< 10 m/s	< 12 m/s
Weather resistance	Dust, snow and rain resistant	
Range of operation	Up to 5 km (optionally 10 km)	
Li-Ion battery	32.4 VDC/16 or 20 Ah	2x 22.2 VDC/24 Ah
Temperature	-20 °C to +50°C	
Data transmission	868 MHz	
Video transmission	5.8 GHz	
External Interface	RS-232, Ethernet, USB	
Navigation	Based on GPS, Auto, Semi-Auto, Manual, ...	
Parachute	25m (Min. effective altitude)	
Dimensions for transport	0.6x0.7x0.9 m	
Mapping	SMARTMAPS, GEOBASE, (WGS 84/GeoTIFF)	

The BRUS drone is only available for sale in European Union.