

Situational awareness & assistance

Multidirectional video feed

Source	Navcams (visual sensor)
Number	5
Video	VGA (640 x 480 pixels)
Horizontal field of view	100 degrees
Availability	One navcam at a time

Object & range detection

Sensor	Ultrasonic
Number	5
Range	Up to 6 m (20 ft)
Feedback	Audio and visual object warning

Operational safety

Shrouding

Material	Carbon fibre
Function	Defines propeller rotation area Protects from damage at low speed

Signalisation lights

Navigation lights	2 green on the right, 2 red on the left
Anti-collision lights	1 top strobe, 1 bottom strobe

Ground proximity detection

Avoidance procedure	Automatic stop (can be deactivated)
Warning signals	Audio & visual

Flight assistance features (Interactive mode)

Cruise control	Maintains (low) constant speed in a given direction
Distance lock	Keeps distance to frontal objects 3 - 5 m (9.8 - 16 ft)
Obstacle avoidance	Depending on flight phase

Safety procedures

Automated failsafe behaviours	Geofencing, return home, emergency stop, emergency landing
Operator triggered	Hold position, return home, go land, land now, emergency motor cut-off

Autopilot fallback

Type	Independent low-level autopilot (backup for main autopilot)
Manual RC control	Independent RC controller (take manual control at any time)

Ground station software

Software application	senseFly eMotion X (supplied)
Mission planning	Intuitive 3D user interface Click and drag to set mission blocks Automatic 3D flight planning Edit mission plans during flight
Flying	Automated system checks Automated take-off & landing Real-time flight status Main camera video feed integration Thermal video feed integration Navcam video feed integration Fully automatic flight Interactive ScreenFly Manual flight (with assistance functions) In-flight switch between flight modes Black-box recording of all flight & mission parameters
After your flight	Project & data management DNG to JPEG conversion

eXom
senseFly



The intelligent **mapping**
& **inspection** drone

Flight system

Type	V-shaped quadcopter
Dimensions (incl. shrouding)	56 x 80 x 17 cm (22 x 32 x 7 in)
Engines	4 electric brushless motors
Propellers	4
Take-off weight	1.8 kg (3.9 lb) incl. battery, payload & shrouding
Flight time (full system)	Up to 22 min
Max. climb rate	7 m/s (15 mph)
Max. airspeed	Automatic flight: 8 m/s (18 mph) Manual flight: 12 m/s (27 mph)
Wind resistance	Automatic: up to 8 m/s (18 mph) Manual: up to 10 m/s (22 mph)
Autopilot & control	IMU, magnetometer, barometer & GPS
Materials	Composite body, moulded carbon fibre arms and legs, precision-molded magnesium frame, precision-molded injected plastic
Operating temperature	-10 to 40° C (14°-104° F)

Wireless communication

Main communication link

Type	Digital, dual omnidirectional antennas, dual band, encrypted
Frequency	2.4 GHz & 5 GHz ISM bands (country dependent)
Data transmitted	Commands, main camera stream, navcam stream, sensor data, etc.
Range	Up to 2 km (1.2 mi)

RC (Remote control)

Type	Digital
Frequency	2.4 GHz
Range	Up to 800 m (0.5 mi)

System power

Technology	Smart battery
Type	LiPo, 3 cell, 8500 mAh
Power level display	LED display on battery, on-screen information
Charging time	1 - 1.5 h

Integrated payloads

TripleView head

Main camera

Still images	38 MP, mechanical shutter DNG (RAW image with correction metadata) Ground sampling distance (GSD): - 1 mm/pixel at 6 m - 1 cm/pixel at 60 m Recorded on board Geo-referenced (position & orientation)
Video	HD (1280 x 720 pixels) Recorded on board or streamed
Horizontal field of view	63 degrees
Digital zoom	6x

Thermal camera

Still images/video	Thermal (80 x 60 pixels) overlaid on main camera stream
Horizontal field of view	50 degrees
Edge enhancement	Yes

Head navcam (visual sensor)

Video	VGA (640 x 480 pixels)
Video live streaming range	Up to 2 km (1.24 miles)
Horizontal field of view	100 degrees

Lights

Headlamp	Yes, used for video
Flash	Yes (not active upon release)

Additional navcams (visual sensors)

Number	4 navcams
Positions	Left, right, rear, bottom
Video	VGA (640 x 480 pixels)
Horizontal field of view	100 degrees
Availability	One navcam at a time
Operational use	Side views (w/o turning main camera) & parallel flight along objects Back-up safely & control in tight environments Landing & ground proximity

Flight modes

Types	Automatic Interactive ScreenFly Manual (RC)
Availability	Switch between modes at any time

Automatic

Control interface	Mouse, keyboard or touchscreen
Mission planning	Drag-and-drop mission blocks
Types of mission blocks	Horizontal mapping Around point of interest User-defined route
In-flight mission changes	Yes: manual waypoint changes and updates possible at any time

Interactive ScreenFly

Primary control interface	Screen-based actions & USB joypad
Flight assistance (depending on the flight phase)	Cruise control Distance lock Obstacle avoidance

Manual (RC)

Primary control interface	RC (remote control)
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On-board computing

Type	4 on-board CPUs
Quad-core processor	Principal autopilot & artificial intelligence
Dual-core processor	Video co-processing
Single-core processor	Low-level autopilot (safety fallback) and motor control
Single-core processor	Communication link management

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