INDIGO

UNMANNED AERIAL SYSTEM

Designed to fly in dangerous environment while rapidly capturing high resolution asset information.

- Industrial Grade Airframe
- Rugged Ground Control System
- Robust Flight Controller
- Customisable Options

- Up to 30 minutes Flight Time
- 61MPix Full Frame Camera Sensor
- Omnidirectional Obstacle Avoidance
- Full 180 Degree Up/Down Views
- Gyro Stabilised Camera Platform
- Quick Release Battery System

E. & O.E. All specifications are based upon optimal conditions

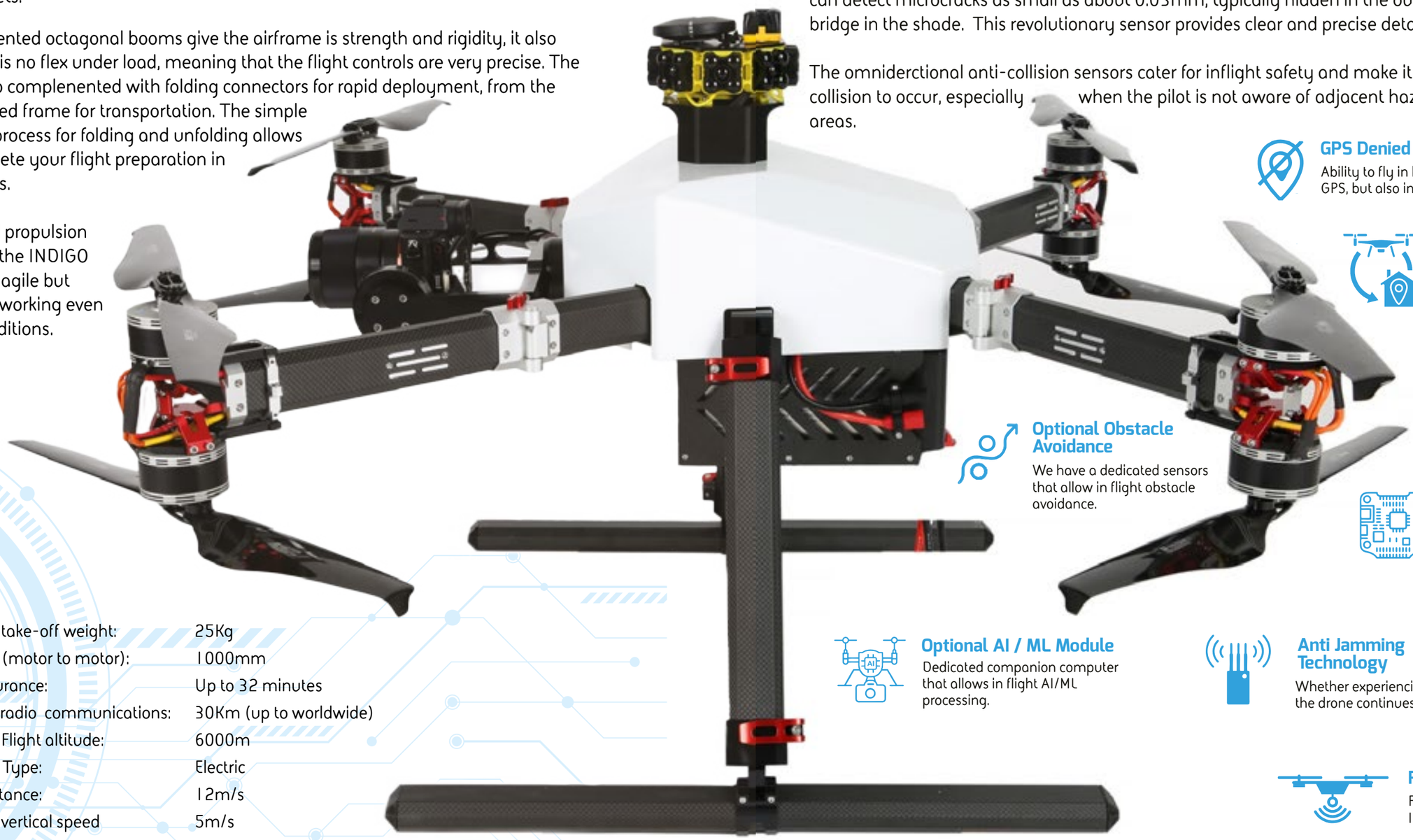
INDIGO
INTELLIGENT INSPECTION DRONE

The INDIGO Inspection drone is equipped with the latest gyro stabilised gimbal and fitted with a state of the art Sony 61 Mpixel full-frame sensor, protected by a collision avoidance system.

The INDIGO Inspection drone is equipped with the industry leading 61 megapixels 35 mm full-frame sensor. The Indigo drone that takes precision images of your assets from our custom gimbal offering rock steady high resolution images. This is further supported with our omnidirectonal collision avoidance and distance sensors to prevent collisions of the drone whist operating in close proximity to adjacent assets.

With our patented octagonal booms give the airframe is strength and rigidity, it also ensure there is no flex under load, meaning that the flight controls are very precise. The arms are also complenented with folding connectors for rapid deployment, from the compact folded frame for transportation. The simple preparation process for folding and unfolding allows you to complete your flight preparation in three minutes.

The powerful propulsion ensures that the INDIGO drone is very agile but stable whilst working even in windy conditions.



Maximum take-off weight:	25Kg
Wingspan (motor to motor):	1000mm
Flight Endurance:	Up to 32 minutes
Encrypted radio communications:	30Km (up to worldwide)
Maximum Flight altitude:	6000m
Propulsion Type:	Electric
Wind resistance:	12m/s
Maximum vertical speed	5m/s
Maximum Horizontal Speed	15m/s

INSPECTION DRONE
FEATURES AND TECHNOLOGIES

The Gryphon Dynamics INDIGO is designed to maximize the performance of a professional camera, aided by a bespoke gimbal, tuned to completely overcome wind-induced movemeent, whilst adjusting to the orientation of the aircraft. Our gimbal features an operation range of upto -90 to +90 (180degrees) and roll angles: -40 to +40 (80degrees). In addition, the tilt performance of the gimbal allows for free and stable vertical image capture.

The Sony sensor can capture massive 61 Megapixels images on its 35mm full frame sensor, meaning it can detect microcracks as small as about 0.03mm, typically hidden in the outer wall of the building bridge in the shade. This revolutionary sensor provides clear and precise details even in dark places.

The omniderctional anti-collision sensors cater for inflight safety and make it nearly imposible for a collision to occur, especially when the pilot is not aware of adjacent hazards or in GPS denied areas.

GPS Denied Flight
Ability to fly in both areas with GPS, but also in GPS denied areas!

Manual/Autonomous Modes
Either fly manually or plan the autonomous missions beforehand, and execute it perfectly every time

Optional Obstacle Avoidance
We have a dedicated sensors that allow in flight obstacle avoidance.

Enterprise Grade Autopilot
A fully integrated autopilot and mission computer for every flight scenario.

Optional AI / ML Module
Dedicated companion computer that allows in flight AI/ML processing.

Anti Jamming Technology
Whether experiencing jamming / interference the drone continues to operate.

Remote ID / ADSB
Fully compliant with both Remote ID and ADSB transponder options

INDIGO
FEATURES AND TECHNOLOGIES

GIMBAL SYSTEM
Our bespoke gimbal has been designed to maximize performance, it completely overcomes wind induced buffeting and aircraft movement through excellent vibration control. The custom gimbal allows tilt angles between -90 to +90 and roll angles of -40 to +40 degrees.

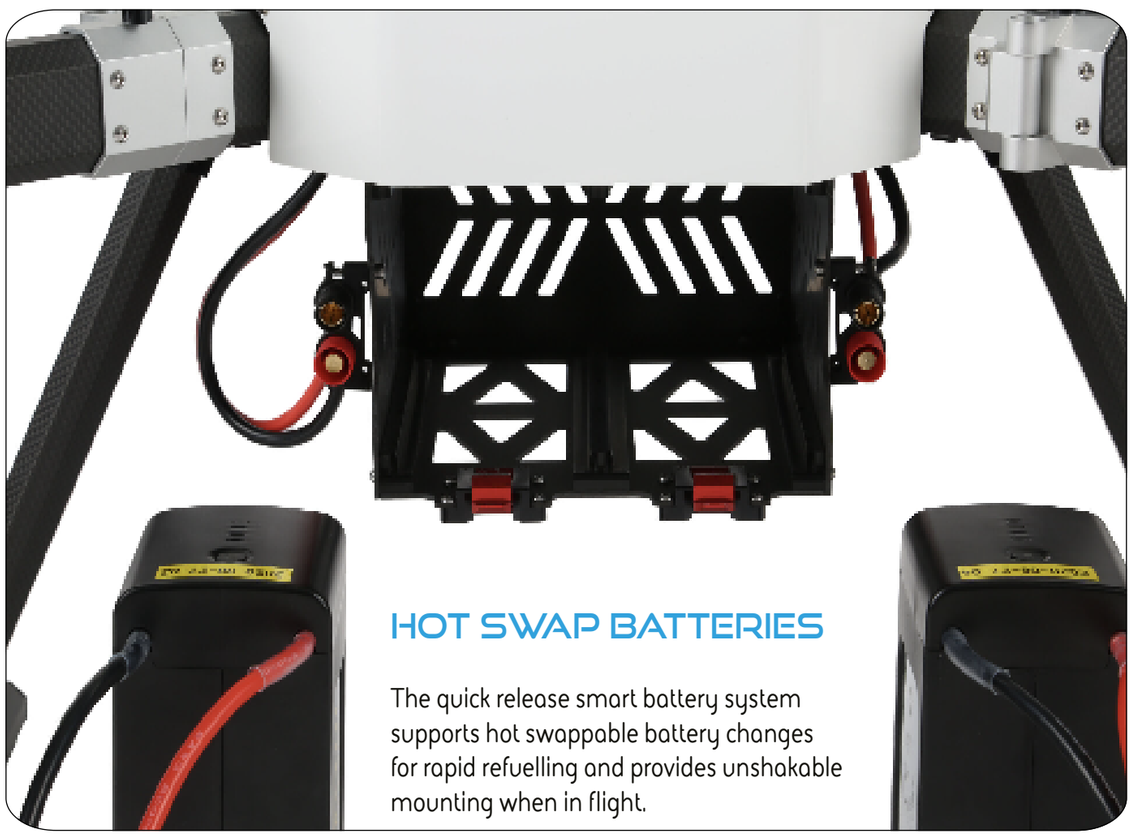
HIGH-DEF CAMERA
The Sony sensor depending upon the package chose is either the A7r5 or the compact ILX-LR sensor, with its 61 Megapixels, 35mm full frame sensor can detect a small as 0.03mm of microcracks hidden in the outer wall of buildings. It's impressive 61 Mpixels provides clear and precise details even in dark places.

INSPECTION DRONE
FEATURES AND TECHNOLOGIES

OBSTACLE AVOIDANCE

The anti-collision sensors mounted around the Gryphon INDIGO drone are able to offer full omnidirectional safety during flight.

This dramatically reduces the possibility of a collision occurring with obstacles that have not been identified by the pilot in charge, or where flying in GPS denied areas.



HOT SWAP BATTERIES

The quick release smart battery system supports hot swappable battery changes for rapid refuelling and provides unshakable mounting when in flight.

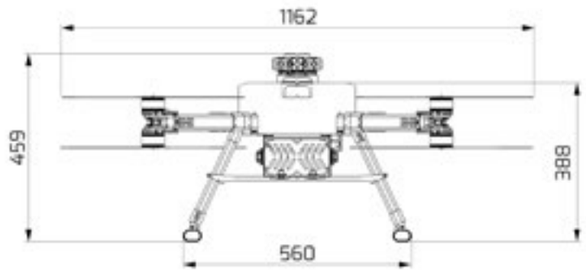
INSPECTION DRONE

FEATURES AND TECHNOLOGIES

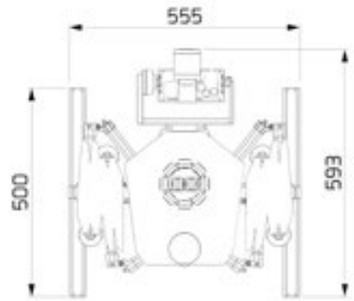
TRANSPORTATION

Whilist the Indigo is already a compact design, the patented carbon fibre octagonal folding booms can be folded for transportation and storage, making it even smaller.

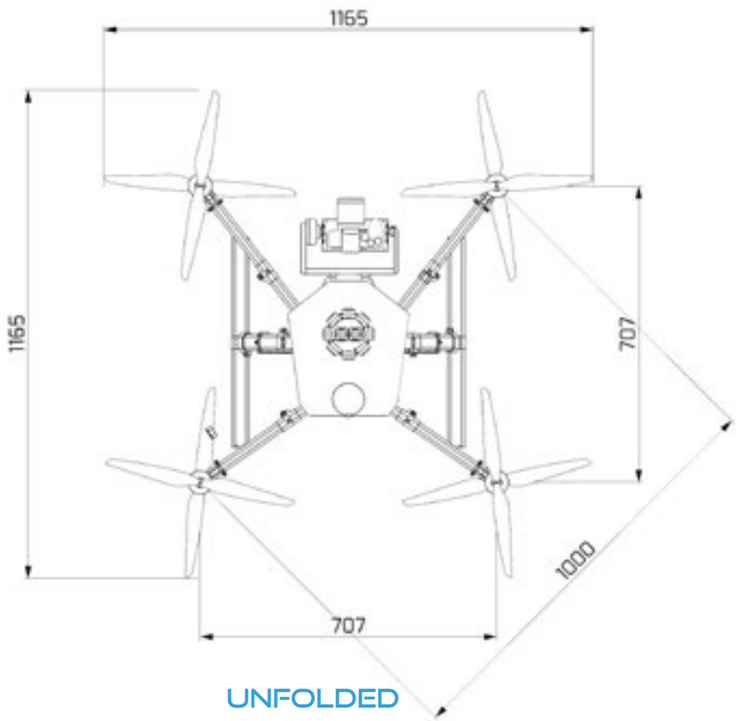
DIMENSIONS



SIDEVIEW



FOLDED



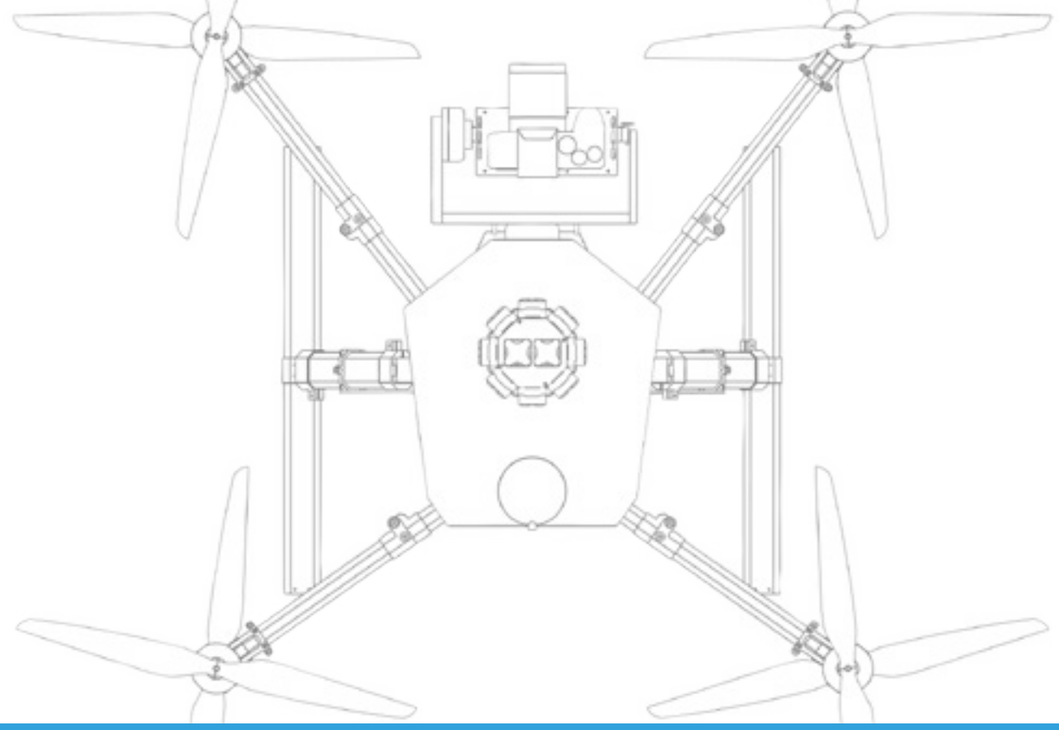
UNFOLDED

SPARES

ACCESSORIES & SUPPORT

We provide our customers with a full training course on how to operate our UAS systems. We also have a specialist team for after sales support and assistance to ensure that the data captured is done so efficiently, and to the highest quality results possible.

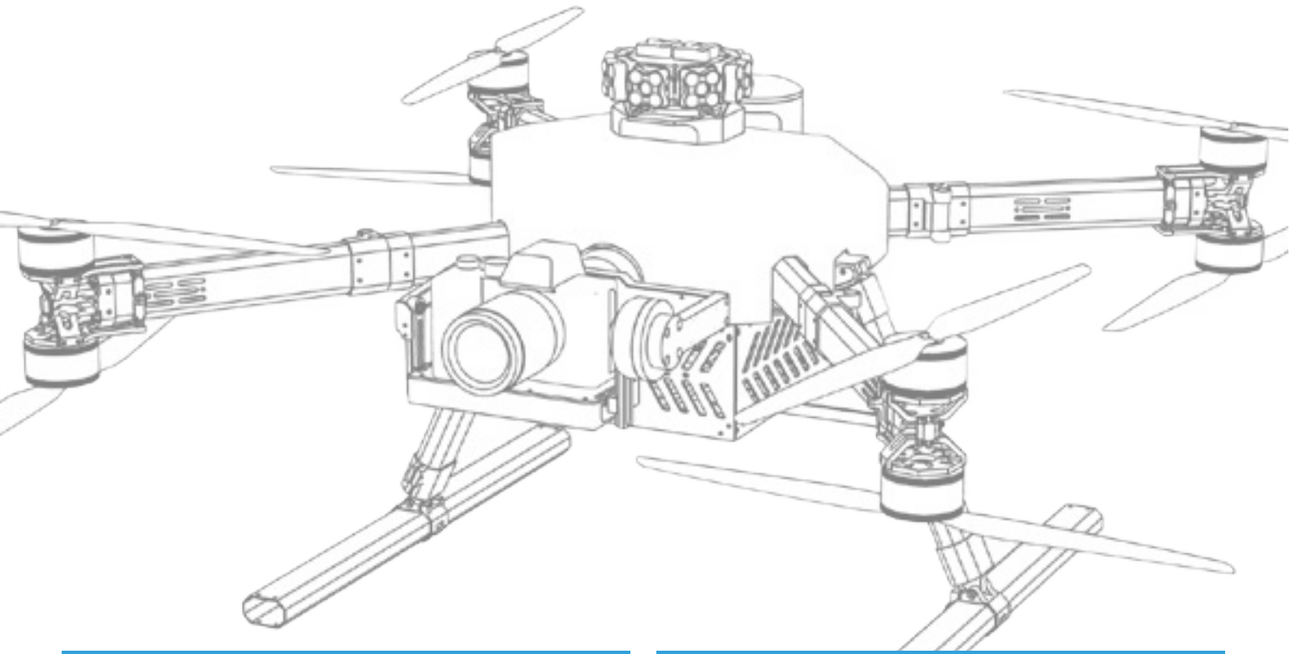
Due to the industrial design of our drones, minimal spare parts are required, and those that are, are typically modular so that they can be replaced easily.



WHAT YOU GET AS STANDARD:

- INDIGO inspection drone
- Rugged handheld Ground Control Station
- Battery canisters & battery charger
- Mission planning software
- Weather protection canopy
- Spares kit
- Transportation case
- Training
- Documentation

TECHNICAL
SPECIFICATIONS



MODEL	
Dimensions unfolded (mm)	1079 x 1079 x 459
Dimesnions folded (mm)	593 x 555 x 398
Cruise Speed	10 m/s
Max Speed	30 m/s

WEIGHTS	
Max Take Off Weight (MTOM)	25Kg
Max Payload	9 kg
Frame Weight (without batteries)	8 kg
Frame Weight (with batteries)	12 Kg

PROPULSION	
No. of Motors	4 x 2 (Coaxial)
Motor Max Cont. Power	50 Amps
ESC Rating	60 Amps
Motor KV	KV320
Max Speed (Horizontal)	30 m/s
Max Speed (Vertical)	5 m/s

POWER	
Battery Cells	6S
Voltage	22.2v
Battery Peak Battery	25.2v
Battery Connector	AS150 / XT 150
No of Batteries	2
Min Battery Discharge Rate	6S (per battery)

PROPELLERS	
Material	Carbon Fibre
Orientation	4xCW & 4xCCW
Propeller Type	FA 18.2

ENVIRONMENTAL	
Operating Temperature	Carbon Fibre
Operating Ceiling	Weight Dependent

INDIGO
ENTERPRISE OPTIONS

The INDIGO Inspection drone is available in three distinct verions. From the entry level Business model, to the Enterprise version with a complete suite of software for remote fleet management software.

Business version This is the standard drone with the Sony A7r5 body offering a robust inspection package with an endurance of approximatley 25 minutes

Professional version This is an enhanced version with longer flight endurance, fitted with the Sony ILX-LR I compact camera body and enterprise grade flight controller and ground control station.

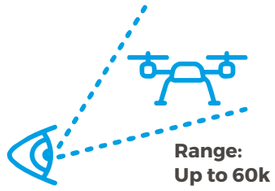
Enterprise version The ultimate version with full Enterprise suite of software for fleet asset management to predictive maintenance as well as LTE control, live remote monitoring to software and techncial support

	INDIGO OPTIONS		
	BUSINESS	PROFESSIONAL	ENTERPRISE
INDIGO Inspection Drone	YES	YES	YES
Weatherproof Canopy	YES	YES	YES
2 Axis Custom Gimbal	YES	YES	YES
Camera System (Sony)	A7r5	ILX-LR1	ILX-LR1
Ground Contorl Stations	STANDARD	ENHANCED	ADVANCED
Flight Endurance (Minutes)	25	30	32
Flight Controller (Type)	PX4	AUTERION	AUTERION
Obstacle Avoidance (No. Sensors)	4	8	10
Mission Control Software	ARDUPILOT GS	AUTERION GS	AUTERION GS
Interchangeable Payload Option		YES	YES
Transportation case		YES	YES
Drone Navigation Lights		YES	YES
Remote ID Enabled		YES	YES
Dual Operator Option		YES	YES
Flight Analysis Software			YES
Fleet Mamangement Software			YES
Asset Management Software			YES
Predictive Maintenance Software			YES
MESH Radio Technology			YES
Mission Simulation Software			YES
LTE Connection Enabled			YES
Cloud Connection / Remote Monitoring			YES

COMMUNICATION
OPTIONS

Control and communication is essential for a successful mission. Our drones have been proven under very extreme circumstances. To achieve this, we use the latest communication technologies that have multiple fail-safes from anti-jamming to visual flight operation in GPS denied areas.

LINE-OF-SIGHT COMMS



Range:
Up to 60k

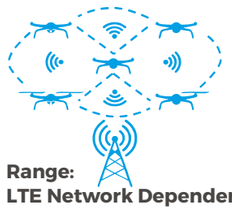
We offer a wider range of communication options with standard line of sight on our all-in-one industrial ground control station. Utilising multiple radio connections the datalink carries video and control data streams with an effective range of up to 60km. With frequency hopping AES-256 encryption to guard against GNSS or signal loss.

MESH COMMS

Range:
Mesh Network Dependent

Utilising the latest technologies our flight communications system are also equipped with MESH technology allowing the BV-LOS signal to be extended by either utilising repeater stations or other MESH drones that automatically search for a route to the ground control station

4G/LTE COMMS



Range:
LTE Network Dependent

5G/LTE Data transmission is via secure VPN using TLS, IPSec, PPTP & L2TP protocols. With 5G/LTE communications it allows the drone to be controlled anywhere as long as there is a stable cellular network.

SATCOM

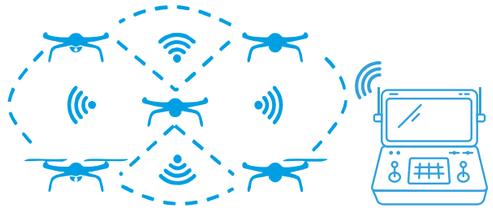
Range:
Unlimited

SATCOM is primarily used for providing beyond visual line of sight capabilities where standard line-of-sight datalinks are rendered unworkable at great distances due to the curvature of the earth. Drones may also fly out of range of ground networks such as 5G and other cellular services. A satellite can be used to relay and amplify radio or microwave frequency signals between the vehicle and its base station for worldwide coverage.

OUR GROUND CONTROL STATION IS POWERED BY ADVANCED SOFTWARE TECHNOLOGY TO PROVIDE FEATURES LIKE:

CONTROL ONE UAV USING MULTIPLE GCS

Daisy chain GCS to allow extended range by passing from one to another during flight



RELAY DATA SIGNALS BETWEEN UAVS

Several UAVs use MESH technology to daisy chain to route data to one GCS

CONTROL SEVERAL UAVS FROM ONE GCS

One GCS can control numerous UAVs for accelerate data capture or area covered such as SAR missions

LIVE STREAM TO MULTIPLE GCS / REMOTE COMMAND CENTRE

Allow all remote agents to see the live data feed at the same time

GCS MAY BE INTEGRATED SEPARATELY OR MOUNTED INTO MOBILE VECHICLE TRAILER SYSTEM OR BUS.

GCS
GROUND CONTROL SYSTEMS

We have a range of different Ground Control Station ("GCS") options to suit the type of activity and payloads that you may carry

We have a range of different GCS options to suit the type of activity from small lightweight handheld controller to larger rugged industrial fully configurable ground control stations. These portable units have everything required to either fly the drone manually to planning, monitoring and managing fully autonomous flights.

TBE-H16P

A small 7 Inch handheld GCS with HD sunlight display with 1080p high-definition screen. The controller is IP67 rated with 8 hour operation. The data and video link has a range of 20+km.

TBE-T30

An industrial touchscreen 10.1 Inch handheld aluminium GCS with FHD sunlight display with 1080p high-definition screen. The controller has 23 configurable channels and numerous I/O ports, and supports 3 main frequencies 800MHz, 1.4GHz & 2.4GHz as well as supporting all third party communications links

TBE-GD-GCS

A rugged Pelican case containing dual 11.1 inch high-definition embedded screens. The controller has 14 configurable switches and an industrial APEM Hall Effect 3 Axis Joystick.

Within the case is an Intel computer with SSD HD for fast boot up times. The case is powered by a 6S 10,000mAh battery.

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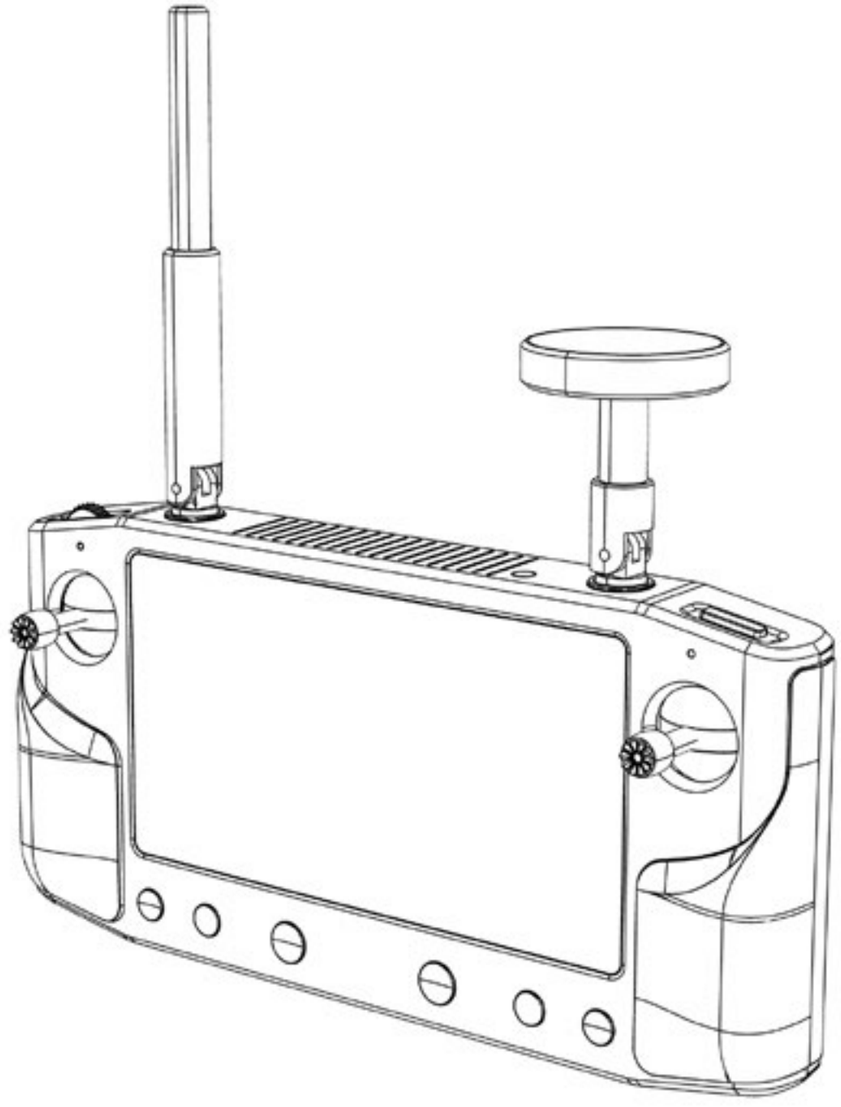


SOFTWARE
MISSION PLANNER

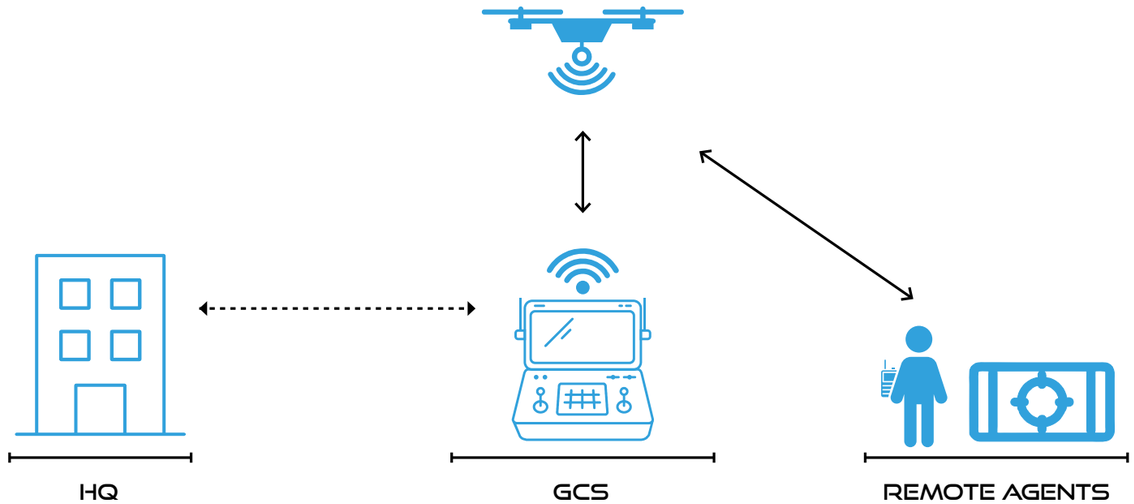
Mission Planner is specialised software developed for autonomous flights. It also allows real time flight information as well as report generation and fleet management for the professional and enterprise versions.

CUSTOM INTEGRATIONS

With simple controls and intuitive interface, our Mission Control suite allows the same mission planning and execution experience for any use case, and on various devices whether in your office or in the field. Standardise your operations and reduce training time and resources, scale up your missions easily and save execution time by planning from remote locations.

With our Mission Planner software you can maximise the results of your mission thanks to the tight integration with flight control software for the control of the camera and gimbal. Immediately validate collected data through live video and instant image download.

CONTACT US FOR MORE INFORMATION IF YOU ARE INTERESTED IN INTEGRATING A SPECIFIC SENSOR !



FEATURES

- MISSION PLANNING
- DETECT, IDENTIFY AND ANALYZE TARGETS
- TRANSFER TO EXTERNAL SOURCES VIA API
- MOVING LIVE MAP
- AUGMENTED REALITY SUPPORT
- SECURITY PROTOCOLS
- ADD OBJECTS WITH ONE CLICK
- AUTOMATIC COMBINATION OF ROUTE WITH PHOTOS
- GET CO-ORDINATES OF THE OBJECT
- PDF REPORT GENERATION

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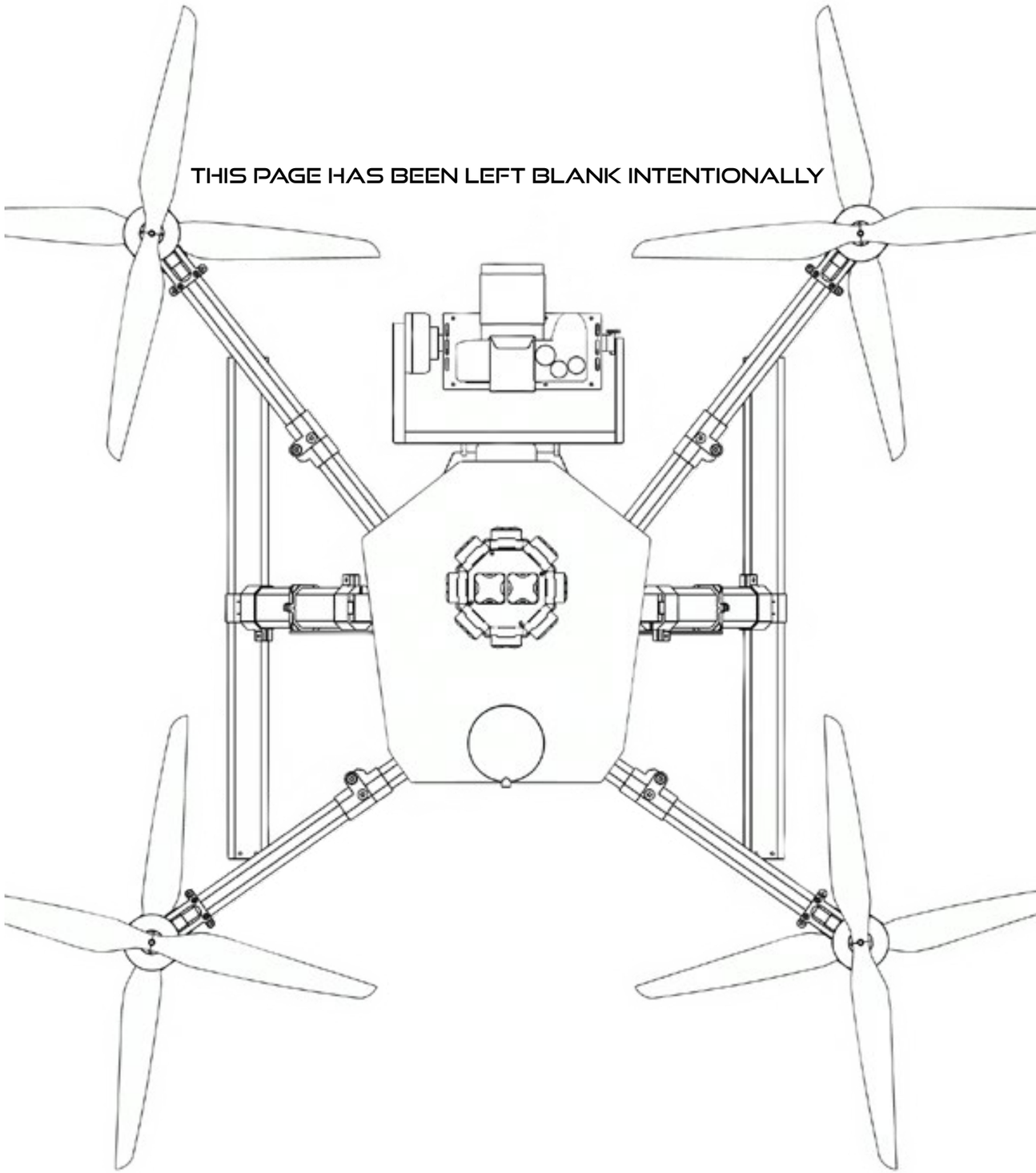

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