

Technical Details

HYPERLAUNCH



Hardware

Drone Type	Biplane Tailsitter
Dimension (mm)	1700 x 1000 x 900 (with payload bay)
Max Take-off weight (kg)	24.9
Max Payload Weight (kg)	5
Batteries	Lithium Polymer / 45.6 V / 22 Ah x 2 (Dual redundant power source)
Sensors	Triple Redundant IMU Dual Redundant RTK GPS Dual Redundant Airspeed LiDAR Altimeter *Vision System (yet to be fully operational)
Radio/Telemetry/Video	2.4 Ghz 3-in-1 Mesh System (telemetry, RC and video)
Ground Control Software	F-drones GCS (windows based)

Range

	5 kg Payload	0 kg Payload
Maximum Range	50 km	55 km
Maximum Endurance	36 mins	40 mins

Payload Bay

Open/Close Mechanism	Manual
Inner Dimensions (cm)	40 cm x 40 cm x 25 cm

Operation (in AUTO modes)	VTOL Mode	Fixed-Wing Mode
Cruise Speed (m/s)	5	24
Minimum Speed (m/s)	0	18
Maximum Speed (m/s)	10	40
Climb / Descent Speed (m/s)	2.5	2.5
Maximum Wind Resistance (m/s)	10	14
Maximum Flight Time (min)	15	40
Maximum Altitude (m)	-	-
Autonomous Landing Accuracy (using vision system) (m)	0.2	-
Autonomous Landing Accuracy (using GPS) (m)	3	-
Flight Modes	Auto/Hover	
Operating Temperature	0 deg to 55 deg Celsius	
Weather	No operation during icing, rain or thunderstorms	

Redundancies

3 x IMUs
 2 x GPS
 2 x Airspeed
 2 x Power sources
 Magnetic field independent heading estimation
 Can withstand up to 2 motor failures

Assembly

Assembly time (min) 5 min

Transport cases

Wings: 185cm x 60cm x 40cm
 Payload bay & Pylons: 65cm x 62cm x 54cm
 (Additional case for batteries and spares)

Propulsion System

Motors Brushless DC

Propellers 16-inch carbon polymer