



INSPIRED FLIGHT



# IF1200 Hexacopter

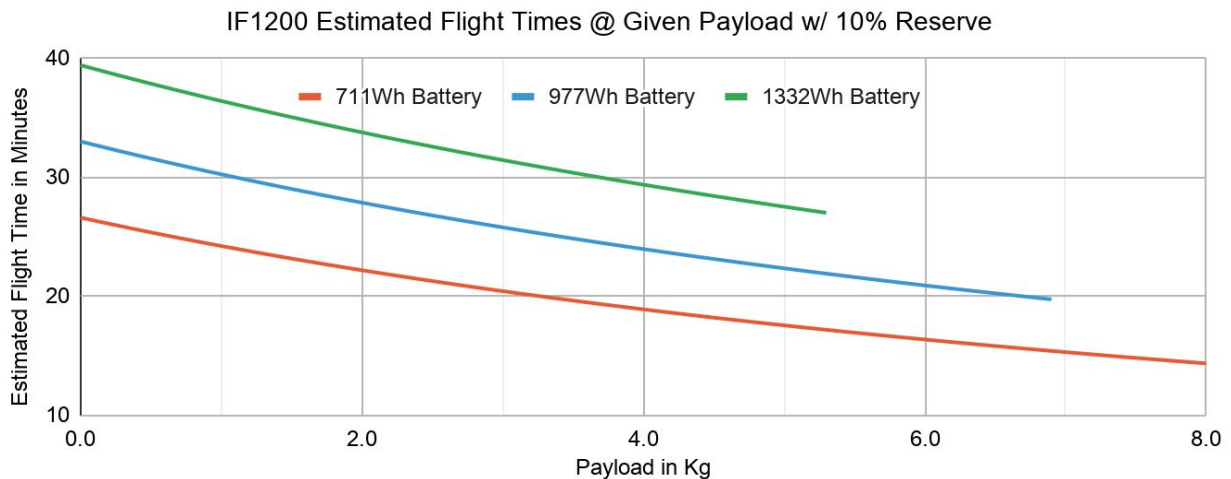
Specification Sheet

**INSPIRED FLIGHT TECHNOLOGIES, Inc.**



## AIRCRAFT PERFORMANCE

Diagonal Size (propeller center to center)	995 mm (39.2 inches)
Dimensions (unfolded w/ propellers) (WxLxH)	1445 x 1315 x 705 mm (56.9 x 51.8 x 27.8 inches)
Dimensions (folded) (WxLxH)	600 x 550 x 610 mm (23.6 x 21.7 x 24.0 inches)
Aircraft Weight w/ 710 Wh Battery	12.0 kg (26.5 lbs)
Aircraft Weight w/ 977 Wh Battery	13.4 kg (29.5 lbs)
Aircraft Weight w/ 1332 Wh Battery	14.7 kg (32.4 lbs)
Max Recommended Takeoff Weight	20.0 kg (44.0 lbs)
Max Payload Weight	8.0 kg (17.6 lbs)
Max Angular Velocity	Tilt: 300°/s, Yaw: 120°/s
Max Tilt Angle	35°
Wind Resistance	10 m/s (19.4 knots) continuous, 12 m/s (23.3 knots) gusts
Max Ascent Speed	5 m/s (16 ft/s)
Max Descent Speed	3 m/s (10 ft/s)
Max Ground Speed	22 m/s (49 mph)
Operating Temperature Range	-10°C ~ 40°C (14°F ~ 104°F)
Max Flight Time	See Figure 2 (page 2)
Max Altitude	See Figure 3 (page 6)





**Figure 2**

**FLIGHT HARDWARE**

Flight Controller	Flight Controller	Modal AI Flight Core
	Operating Software	PX4 (Modified Hexarotor 6001)
	Barometer Accuracy	+/-1.5 mbar
Global Positioning	GPS	mRo Ublox Neo-M8N GPS
	Positioning Accuracy	2.5 m Horizontal
Ground Sensor	Optical Distance Measurement Sensor	Garmin LIDAR-Lite v3
	Range	5 cm to 40 m, 1 cm resolution
	Laser	905 nm CLASS 1, EN/EIC 60825-1 2014
Power Distribution Board	Power Distribution	IF-PDB-100407
	Total Motor Outputs	6x - 50A Continuous
	Auxiliary Power Rails	5v, 12/15/18v, 44v
Propulsion	Motor	6x - KDE 5215XF 220Kv
	Propeller	18" x 5.9" (458 x 150 mm)
	Max Thrust per Motor	7.1 kg (15.7 lbs) @ 48v
Default Navigation Light Color Pattern > if preference not specified		Front Left & Middle Left: Red-ON Front Right & Middle Right: Green-ON Rear Left & Rear Right: White-ON

**REMOTE CONTROL**

Remote Control Radio	Jeti DS-12 Transmitter (NDAA Compliant)
Remote Control Software	Jeti Proprietary, 3rd Party Extensions Available
Radio Battery	Lithium Ion, 1S2P, 6200 mAh
Transmission Power	100 mW
Operating Frequency	2.4 GHz or 900 MHz
Aircraft Receiver (RX)	Duplex R3L EX
Signal Range (line of sight)	2 KM (1 NM)
Operating Temperature Range	-10-85°C (14-185°F)



## Optional REMOTE CONTROL

Remote Control Radio	Horus X10S Transmitter & R9M
Remote Control Software	OpenTX
Radio Battery	2x 18650 Li-ion Cells
Transmission Power	Up to 1 W
Operating Frequency	900 MHz
Aircraft Receiver (RX)	R9 Slim
Signal Range (line of sight)	Up to 10 KM (5 NM)
Operating Temperature Range	-10-60°C (14-140°F)

## TELEMETRY & GROUND STATION

Compatible Ground Station Software	QGroundControl V3.X (Linux, Windows, Android)	
Telemetry Software Standard	Mavlink, AT Modem Command	
Telemetry Radio to Ground Station Interface	USB 2.0	
Operating Temperature Range	-40-85°C (40-185°F)	
Microhard Telemetry & Video Radio	Radio Model	Microhard pMDDL2450
	Data Rate	25 Mbps
	Encryption	AES 256 Bit Hardware Accelerated Encryption
	Transmission Power	Up to 1 W (+30 dBm)
	Operating Frequency	2.4 GHz
	Signal Range (line of sight)	Up to 10 km (5 NM)
	Certifications	FCC, Industry Canada, Japan MIC
RFD Telemetry Radio	Radio Model	RFD 900x-US (Air/Ground Pair)
	Data Rate	250 kbit/s
	Encryption	AES 128 Bit Hardware Accelerated Encryption
	Transmission Power	Up to 1 W (+30 dBm)
	Operating Frequency	902 - 928 MHz
	Signal Range (line of sight)	Up to 40 km (25 miles)



	Certifications	FCC Compliant: CFR15.247, FCC ID: 2ADLE-900X
--	----------------	--

## 710Wh BATTERY

Max Energy at Nominal Voltage		710.4 Wh
Nominal Voltage		44.4 V
Nominal Capacity		16,000 mAh
Classification		Lithium Polymer 12S1P
Net Weight		4,700 g (10.4 lbs)
Charging	Max Current	16.0 Amps (1C)
	Max Voltage	50.4 Volts
Discharge	Max Continuous Current	240 Amps (15C)
	Max Burst Current	480 Amps (30C)
	Minimum Voltage Cut-off	36.0 Volts (40.0v recommended)
Self - Discharge		<5% per month
Operating Temperature Range		-10°C ~ 50°C (14°F ~ 122°F)
Max Payload with one 710 Wh Battery		8.0 kg (17.6 lbs)

## 977Wh BATTERY

Max Energy at Nominal Voltage		976.8 Wh
Nominal Voltage		44.4 V
Nominal Capacity		22,000 mAh
Classification		Lithium Polymer 12S1P
Net Weight		5,800 g (12.8 lbs)
Charging	Max Current	22.0 Amps (1C)
	Max Voltage	50.4 Volts
Discharge	Max Continuous Current	550 Amps (25C)
	Max Burst Current	1100 Amps (50C)
	Minimum Voltage Cut-off	36.0 Volts (40.0v recommended)
Self - Discharge		<5% per month
Operating Temperature Range		-10°C ~ 50°C (14°F ~ 122°F)



Max Payload with one 977 Wh Battery	6.6 kg (14.5 lbs)
-------------------------------------	-------------------

## Standard Battery Charger

Charger	TA1200	
Input Voltage	100v - 240v AC	
Output Charge Capacity	750w x 2 Channels , Up to 1200w (240v)	
Lithium Battery Compatibility	Up to 4.2v/cell, 12s 50.4v max	
Typical Charge Time (0 to 100%)	710Wh Battery	~75 Minutes
	977Wh Battery	~110 Minutes

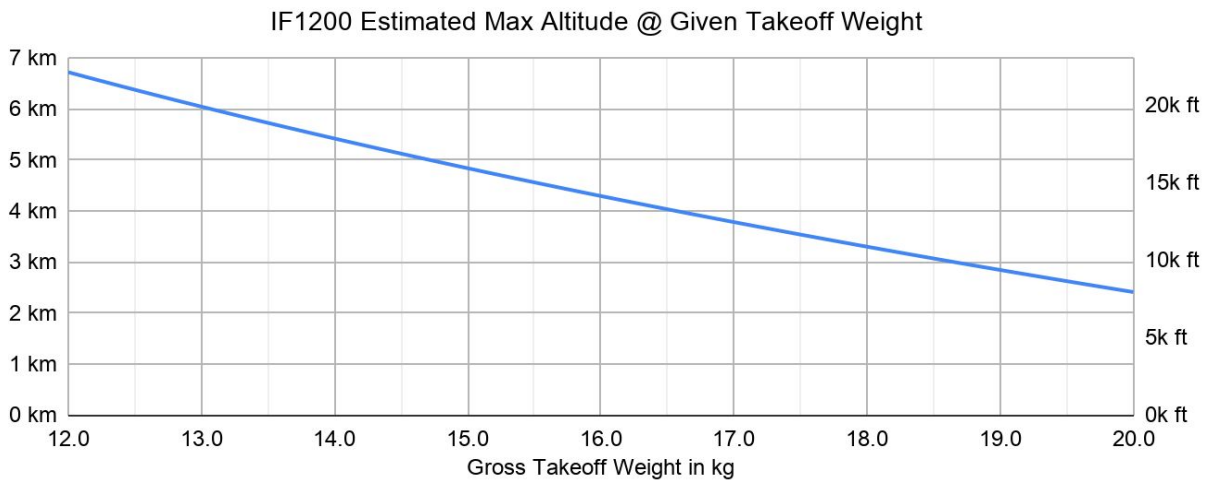
## 1332Wh BATTERY OPTION

Max Energy at Nominal Voltage	1,332.0 WH	
Nominal Voltage	44.4 V	
Nominal Capacity	30,000 mAh	
Classification	Lithium Polymer 6S1P x 2	
Net Weight	7,400 g (16.3 lbs)	
Charging	Max Current	30.0 Amps (1C)
	Max Voltage	50.4 Volts
Discharge	Max Continuous Current	750 Amps (25C)
	Max Burst Current	1,500 Amps (50C)
	Minimum Voltage Cut-off	36.0 Volts (40.0v recommended)
Self - Discharge	<5% per month	
Operating Temperature Range	-10°C - 50°C (14°F - 122°F)	
Max Payload with one 977 Wh Battery	5.3 kg (11.7 lbs)	
Additional Considerations	This large battery solution is recommended only for single site operation and may require additional support depending on specific payload and application.	



## Optional Parachute Safety System

Parachute Launcher	Peregrine UAV 4 Lite - CO2
Parachute Diameter	1.68 m (120 inches)
Total Weight (including rigging & controller)	1,120 g (2.5 lbs)
Triggered by	Pixhawk, SATS-Mini, and/or Manual Trigger
Trigger Mechanism	CO2 Cartridge
Deployment Velocity	-15 m/s (~50 ft/s)
Typical Fall Distance until Parachute Fully Unfurled	-22 m (~75 ft)
Decent Velocity @ 20 kg	4.5 m/s (14.9 ft/s)
Decent Velocity @ 12 kg	3.5 m/s (11.5 ft/s)
Certified Parachute Repacking Available	YES - Contact INSPIRED FLIGHT for more info



**Figure 3**