

Perimeter 8 and 8+ UAS



Model	Range		Frequency
Base Model	4 km		900 MHz C2 with 2.4 GHz RC
Medium Range System (MRS)	8 km	 	900 MHz to 3.5 GHz
Longe Range System (LRS)	50 km	 	400 MHz to 6 GHz
Extra Long Range System (XLRS)	100 km	 	400 MHz to 6 GHz

Key Features

Performance

Cold Temperature Operation

Perimeter 8’s hybrid power system can operate in freezing conditions as low as 15°F (-10°C) standard.

High-Altitude Operation

Perimeter 8+ and Perimeter 8 can operate up to 13,000 ft and 9,000 ft density altitude, respectively.

High-Payload Capacity

Market leading payload capacity of 10 kg and 7.5 kg for Perimeter 8+ and 8, respectively.

Highly Efficient Power Conversion

95% shaft-to-electric conversion efficiency.

Wide Altitude Range

Electronic fuel injection eliminates the burden of tuning the UAV for different altitudes.

Engine Vibration Dampening

Vibrations from engine are dampened to preserve sensor data quality.

Fully Integrated Payload Solutions

Command and Control Hand-off

Available on select models.

Usability

Integrated Maintenance Schedule

GCS alerts user to upcoming maintenance items.

Engine Autostart

Engine has automatic start and stop. No pull starts or cumbersome drill starter motors.

Quick Deployment

Perimeter 8 can be unboxed, assembled and flown in less than 5 minutes by one operator.

Modular Payload Bay

Perimeter 8 accommodates payloads including EO-IR Surveillance, Radar, LiDAR, Magnetometry payloads, etc.

Seamless Engine Integration

Engine operation is fully automated, from start to finish. Just refuel and fly.

Full Engine Telemetry and Control

Engine health information is made available on the ground station. The engine can be started and stopped through the ground station.

Digital Fuel Level Indicator

Accurate fuel levels are visible on the ground station.

Safety & Security

Power Redundancy

Fully redundant power system. Can operate on battery power in case of engine failure.

Propeller Redundancy

Can operate on seven propellers in case one fails.

Long Battery Reserve Flight Time

2X Longer battery-only reserve flight time than other competing hybrid UAVs.

Battery Protection

Power system algorithms protect battery from charging malfunctions.

Electronic Fuel Injection

Fuel injected engine ensures reliable operation in austere environments.

Made in the United States

All software/firmware is compiled in- house. Hardware is NDAA compliant. Made in USA.

Encryption

AES128 and AES256 encryption for datalink available as options.

Anti-Jamming Options

GNSS and radio interference avoidance available as options.

Full Technical Specifications



Performance	Perimeter 8+	Perimeter 8
Max. Endurance *	5 hours+ @ no payload 3 hours @ 11 lb. (5 kg) 2 hours @ 17 lb. (7.5 kg) 1 hours @ 22 lb. (10 kg)	5 hours @ no payload 3 hours @ 8.8 lb. (4 kg) 2 hours @ 11 lb. (5 kg) 1 hours @ 17 lb. (7.5 kg)
Max. Payload Capacity	22 lb. (10 kg) for 1 hour	17 lb. (7.5 kg) for 1 hour
Max. Range (at cruise speed)	134 miles (216 km)	110 miles (177 km)
Max. Density Altitude	13,000 ft (4,000 m)**	9,000 ft (2,700 m)**
Max. Speed	36 mph (57 km/hr)	36 mph (57 km/hr)
Cruise Ground Speed	22 mph (35 km/hr)	22 mph (35 km/hr)
Max. Tested Wind Speeds	25 mph (35 km/hr)	25 mph (35 km/hr)
Max. Temperature	113°F (45°C)***	113°F (45°C)***
Min. Temperature	15°F (-10°C)	15°F (-10°C)

For MRS, LRS and XLRS sub-models, subtract 1 kg from the payload capacity and 1 hour from the endurance.

Size

Tip-to-Tip Length	Arms removed: 2 feet x 2.66 feet (0.6 m x 0.81 m) Ready to fly: 6.5 feet x 6.25 feet (2 m x 1.9 m)	
Minimum Height	1.2 ft. (0.37 m)	
Height	Customizable to fit payload	
Maximum Takeoff Weight	56 lb. (25.5 kg)	51 lb. (23 kg)

Power system

Power Source	Proprietary hybrid gasoline- electric propulsion system
Fuel Delivery	Electronic fuel injection
Electrical Conversion Efficiency	> 95%
Reserve Battery Time	3-5 minutes maximum (can increase by request)
Battery Type	Lithium Polymer 10S
Gasoline Petrol Type	Unleaded 91 Octane (R+M/2) or above

Ground control station	Perimeter 8+	Perimeter 8
Ground Control Software	SkyfrontGCS Proprietary. QGroundControl-based with engine telemetry and control.	
Ground Control Station Hardware	Ruggedized Windows 10 laptop & untethered remote controller OR HOTAS controller with integrated dual-monitor Windows 10 computer. Ground station radio and antennas.	

Electronics, software and firmware

Autopilot Electronics	Proprietary. Pixhawk-based.
Autopilot Firmware	Proprietary. PX4-based.
Engine Control Firmware and Electronics	Proprietary software. Firmware is based on open-source and compiled in-house, within the US.

Controls and Communication

Radio Frequency	Options from 400 MHz - 6 GHz
Communications Range	Models ranging from 5 miles (8 km) up to 60 miles (100 km)
Flight Modes	Manual through remote controller: • Stabilize • Altitude (barometer- and GPS-based) • Position (GPS-based) GPS-based waypoint autonomy: • Survey • Waypoint navigation and payload control • Automatic land and takeoff • Active terrain following • (option)
Radio Encryption	AES128 by default up to AES256.
Anti-Jamming	GNSS and radio link anti- jamming sold as options.

Skyfront UAS are made in the United States and are fully NDAA compliant.

Specifications are subject to change without notice.

* Flight times were measured at MSL 0' in 50-75°F temperatures. Actual flight times depend on temperature, altitude, wind and other environmental conditions.

** Please request payload derating curves for operating at high elevation.

*** High-temperature upgrade is recommended for operation above 40°C ambient.