

# AEROPAK

## AEROPAK

fuel cell propulsion system for tactical UAS



### NEW drop-in fuel cell power system makes stealthy electric UAS fly longer & further:

The AEROPAK is a next-generation fuel cell power system that increases the flight endurance of smaller and stealthier electric Unmanned Aerial Systems (UAS) by as much as 300%, making them more effective in persistent Intelligence, Surveillance and Reconnaissance (ISR) missions, a main focus area for leading defense and security organizations around the world.

Designed for high-impact and able to operate at up to 22,000 feet (6700m), the complete system integrates Horizon's record-setting fuel cell technology with refillable dry-fuel cartridges. Storing 900Wh of usable electrical energy at just 2kg (4.4lbs), the AEROPAK provides up to four times the endurance of advanced lithium batteries currently in use, opening new mission possibilities not previously possible for smaller UAS. The miniaturized power system can be used as a drop-in replacement for battery packs currently in service, eliminating costly airframe modifications.

In addition to increasing flight endurance, the new fuel cell system can power more power-hungry electronic devices onboard smaller aircraft - such as electro-optical sensors, infrared cameras and laser designators. It can also be used to power remote ground systems and recharging stations, power new generations of unmanned airships or serve as auxiliary electric power supplies for larger systems.

#### AEROPAK SYSTEM BENEFITS

- Longer persistent surveillance capability
- Silent, reliable power for stealthy operations
- Near-zero signature
- Longer range & extended area of operations
- Maintain a greater distance from danger
- Increased flight durations
- Faster re-launch with easy cartridge refills
- Broader mission capabilities
- Ability to carry more energy-intensive payloads
- Reduced operational costs
- Improved portability

#### ENERGY DENSITY COMPARISON





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## Horizon Energy Systems

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### AEROPAK SYSTEM PERFORMANCE

Continuous Output Power	200W
Continuous Output Current	9A
Peak Output Power	500W for < 5 minutes
Output Voltage	21V DC Nominal
Output Voltage Available	11-42V DC
Design Lifetime	500 hours
Total System Weight (dry)	1.1kg/2.4lbs
Total System Weight (active)	2kg/4.4lbs
Total System Specific Energy	450Wh/kg

### POWER SYSTEM (without cartridge)

Length	110mm/4.3in
Height	105mm/4.1in
Width	107mm/4.2in
Weight	0.55kg/1.2lbs
Operation Temperature	-10 to 40C

### FUEL CARTRIDGE Type I (900Wh)

Length	210mm/8.2in
Height	115mm/4.5in
Width	100mm/3.9in
Dry Weight	0.55kg/1.2lbs
Hydrated Weight	1.45kg/3.2lbs
Energy	900Wh

### FUEL CARTRIDGE Type II (1650Wh)

Length	310mm/12.2in
Height	115mm/4.5in
Width	100mm/3.9in
Dry Weight	0.85kg/1.8lbs
Hydrated Weight	2.5kg/5.5lbs
Energy	1650Wh



### FEATURES & FUNCTIONS:

- Drop-in replacement for existing battery packs
- Configurable geometry
- Scalable for higher power or longer runtimes
- Includes hybrid battery for peak power
- Provides integral electronic fuel gauge
- Customizable system for UAV platforms
- Uses safe and nonflammable chemical hydride
- Offers low heat signature
- Designed for high-impact loads
- Tested for up to 22,000 feet operation

### A WIDER RANGE OF MISSIONS:

- Persistent ISR  
(at least 6 hour flights for 5-10kg UAVs)
- Chemical/biological detection
- Border Patrol
- Homeland Security
- Convoy Security
- Telecom Relay

### ADDITIONAL PRODUCT OPTIONS

Horizon can also provide the AEROPAK in various configurations depending on specific mission needs. The AEROPAK can be scaled across a number of UAV platforms, including airships and fixed wing UAV. Options include power output level, electronic control design and integration, system and fuel packaging, and mounting.

For more information about AEROPAK,  
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