

Z-CLASS

Electrified Power for Modern Operations



Z-class systems are state-of-the-art hydrogen-electric powertrains, delivering high-performance electrified propulsion and remote power generation. Designed for flexibility across naval, land, and expeditionary platforms, Z-class empowers modern forces with unmatched energy autonomy and operational stealth.



KEY CAPABILITIES

Ultra-Low Thermal and Acoustic Signature

Enable operators to move in close in any environment while remaining undetected by Electro-Optical/Infrared (EO/IR) and acoustic sensors enabling small groups of SOF operators to execute missions that larger groups of conventional forces would be unable to do.

Extended Service Life & Reliability

A simplified mechanical architecture with fewer moving parts enhances durability, reduces maintenance requirements, and maximizes uptime in the field.

Combat-Ready Energy Supply

Provides a high-output, stable electrical source ideal for powering forward operating bases, autonomous systems, advanced sensors, and direct energy weapons (DEWs).

Fleet-Wide Energy and Operations Management

Enables centralized monitoring, asset management, and mission planning through a secure, connected platform. Fully integrated with a digital control and monitoring suite, operators have access to real-time diagnostics, predict maintenance, and remote system operation.

PLATFORMS

Naval Vessels

Combatant and Patrol Craft,
Rigid-Hulled Inflatable Boats,
Special Operations Craft

Autonomous Systems

USV/UAV

Ground Vehicles

Special Forces Mobility Platforms,
Logistics and Utility Trucks

Stationary Systems

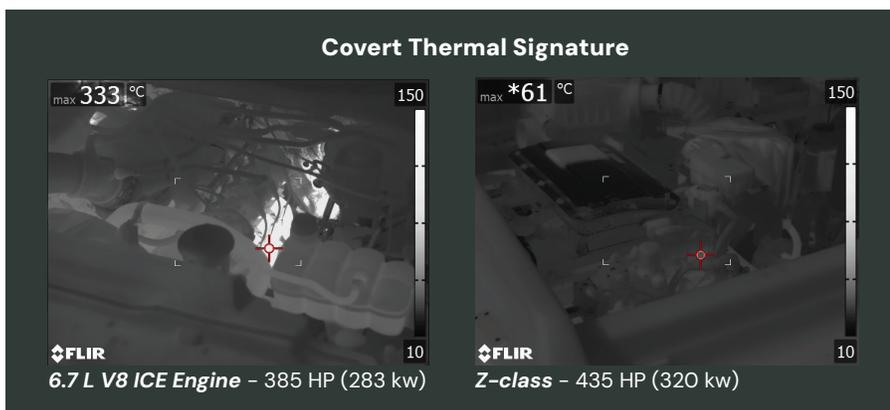
Forward Operating Base Micro-Grids,
Directed Energy Weapon Power Stations,
Mobile Radar and Sensor Arrays

Commercial Systems

Medium/Heavy-duty Trucks, Harbor Crafts,
Emergency Power Units

Energy Autonomy Across Theaters

Z-class systems enable forces to leverage the force multiplying benefits of hydrogen as a fuel. Empowering them to generate, store, and manage their own energy, reducing dependency on vulnerable logistics supply chains.



Z-class is Showcased On:

FCV VANGUARD

The World's Fastest and Highest Performance Hydrogen Hybrid Speedboat.



Technical Specifications

Powertrain Specifications

Maximum Continuous Power	280 kW (375HP)	225 kW (300HP)	140 kW (188HP)
Maximum Peak Power (10 Seconds)	470 kW (630HP)	320 kW (435HP)	235 kW (315HP)
Battery Energy	23.4 kWh	11.7 kWh	11.7 kWh

Physical Specifications

Fuel Cell Module Dimensions (L x W x H)	1950 mm 990 mm 790 mm	1950 mm 990 mm 790 mm	1050 mm 990 mm 790 mm
Fuel Cell Module Wet Weight	600kg (1320lbs)	600kg (1320lbs)	320kg (705lbs)
Fuel Cell Module Dry Weight	555kg (1220lbs)	555kg (1220lbs)	295kg (650lbs)
Battery Dimensions (L x W x H)	1300 mm 400 mm 210 mm	1300 mm 400 mm 100 mm	1300 mm 400 mm 100 mm

General Specifications

Fuel Type	Gaseous Hydrogen
Nominal Efficiency	> 50%
Nominal Voltage (Max Min)	648V (756V 450V)
Heat Management	Liquid Cooled
Startup Time	Instant
Minimum Operating Temperature	-30° C (-22° F)
Maximum Operating Temperature	45° C (113° F)
Communications	CAN