IMERGY ESP50™ SERIES

30-50 kW, 120-200 kWh

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Large Scale Energy Storage Platform (ESP)

Imergy Power Systems' versatile ESP series energy storage solutions reduce energy costs and provide better power quality, reliability and resiliency. Available as a turnkey solution, the ESP system is integrated with a power conversion sub-system to provide AC in / AC out and islanding capability, and is inherently scalable with available power capacities ranging from kilowatts to multiple megawatts. The storage solution allows energy capacities to scale independently of power and is able to sustain four to six hours of energy discharge at rated power. Imergy's solutions integrate seamlessly with intermittent renewable power sources in applications including grid-connected commercial buildings, islanded smart microgrids, and utility-scale solar and wind integration, and enable multiple benefits such as demand charge reduction, energy shifting to match peak load, and islanded operation during grid outages. The ESP's disruptive patented vanadium redox flow technology, with long life and unlimited charge-discharge cycle capability, enables the lowest LCOE among the available battery systems.

Key Features

- Turnkey solution in secured weatherproof enclosure
- Safe: non-flammable, non-explosive
- Modular and scalable; ability to independently size power and energy
- Unlimited cycles; partial, full, at any depth of discharge (DOD)
- 100% performance at all temperatures
- Long life and lowest LCOE of all battery storage systems
- Power security (system can operate in full islanded mode)
- Power quality (fast response time for seamless power source transitions, load transients, PV firming)
- Smart grid ready monitoring and communication
- Low maintenance
- Sustainable design; recyclable, reusable

Key Applications

- Solar self-consumption
- Demand charge management
- Diesel offset
- Peak shaving
- Energy shifting
- Utility grid services
- Renewable energy firming
- Microgrid and back-up power

Imergy ESP50™ Specification

Parameter		Rating	Comments
Power output - AC (nominal)	400/480 VAC (three phase), 50/60Hz	30-50 kW	Selectable / Excludes pulse capability
Stored energy capacity		Up to 200 kWh	Configurable (containerized electrolyte with secondary containment)
Usable capacity range (DOD)		0 to 100%	No capacity degradation or life impacts
Cycles		100,000	No limit
DC - DC efficiency		70 - 75%	Measured at constant current over 100% duty cycle
Response time	-100% to 100% output	< 100 ms	Excludes communication latency effects
Time to islanding		< 100 ms	Transition time between grid and islanded modes
Self-discharge		0.01% / day	
Communications interface		Modbus / TCP/IP	Single point connection to Imergy NOC
Ambient operating conditions		-20°C to +55°C / -4°F to +131°F	Conditioned space not required
Maximum operating altitude		Up to 2000 m / 6,562 ft	Without derating
Relative humidity		0 - 95%	
Dimensions	L x W x H	6 x 2.4 x 2.6 m / 20 x 8 x 8.5 ft	Standard 20 foot ISO container
Weight		13,600 kg / 29,983 lbs	200 kWh, delivered energy

The system is designed with intent to comply with the following standards: IEEE1547, UL1741, IEC 62477

Specifications are subject to change without notice

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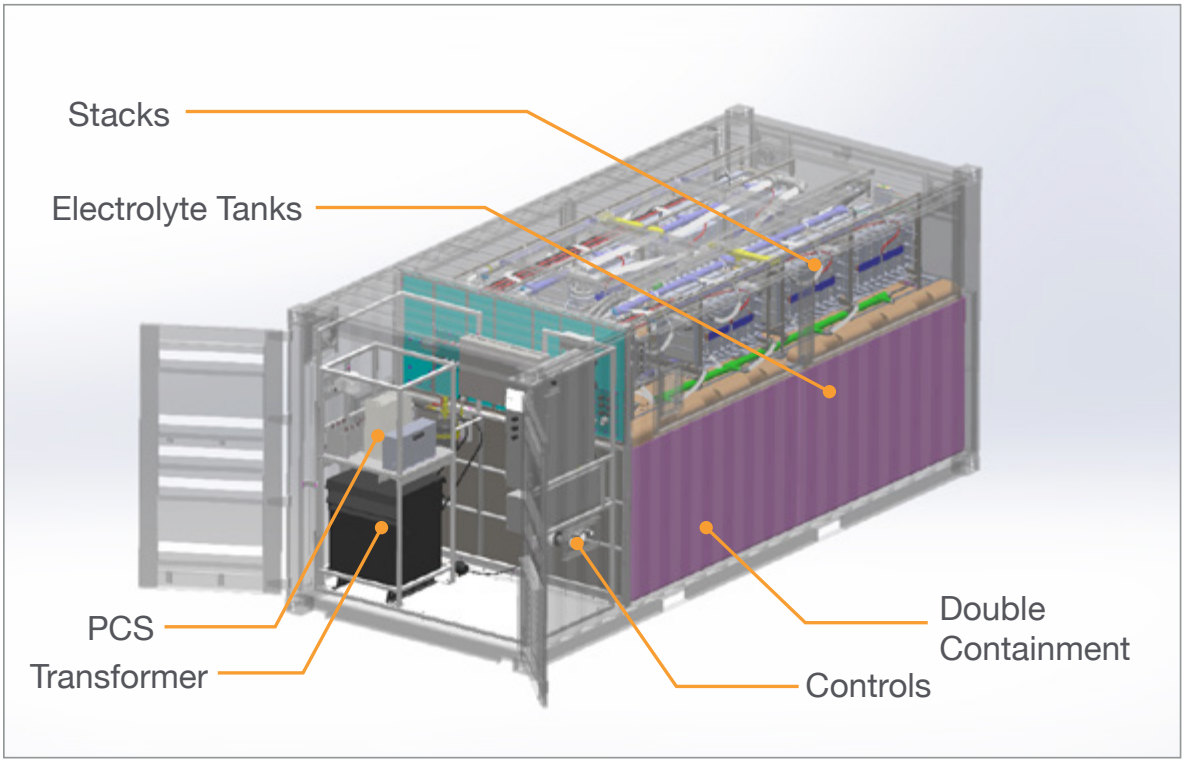
Imergy ESP50™ Containerized Module



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