DISCOVER ENERGY SYSTEMS

HELIOS ESS

52-48-16000 | 900-0077

Energy Storage for Residential and Light Commercial Applications

HELIOS ESS is a high-performance lithium battery system engineered for integration with modern hybrid and battery inverters in residential and light-commercial energy storage applications. It provides versatile DC-coupled storage that supports grid-interactive, self-consumption, backup power, and off-grid operation.

Built on Discover's 75-year legacy as a Canadian leader in energy storage innovation, HELIOS delivers 16 kWh of usable capacity in a compact, outdoor-rated enclosure with advanced 4th-generation BMS control, intelligent communication, and scalable architecture. Certified to UL 9540, UL 9540A, and UL 1973 standards, HELIOS ESS ensures safe, reliable performance and simplified installation, providing a proven and future-ready solution for dependable energy independence.

FEATURES

HIGH PERFORMANCE

- 10 kW continuous, 19 kW peak power (10 sec)
- Advanced 4th-generation BMS for precise control and efficiency.
- 93 MWh lifetime throughput with a 10-year warranty.

ALL-CLIMATE DESIGN

- 10 kW continuous, 19 kW peak power (10 sec)
- Outdoor-rated IP65 enclosure.
- Reliable operation from –25 °C (–13 °F) to 55 °C (131 °F).
- Self-heating from –25 °C (–13 °F) to 8 °C (46 °F).

ADVANCED SAFETY

- Safe $LiFePO_4$ chemistry with dual fire arrestors and DC breaker.
- Rapid Shutdown (RSD) input and emergency stop for NEC 690.12 compliance.
- Certified to UL 9540, UL 9540A, and UL 1973.

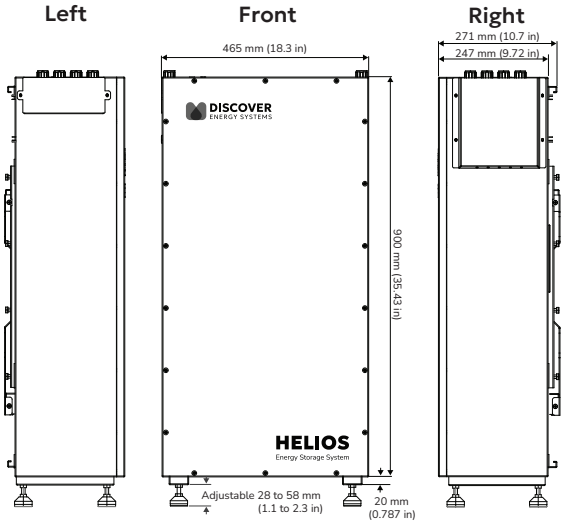
SMART INTEGRATION

- Closed-loop CAN communication with hybrid and battery inverters.
- Ready for grid-tied, hybrid, or off-grid configurations.
- Simplified installation and commissioning.

SCALABLE & INSTALLER FRIENDLY

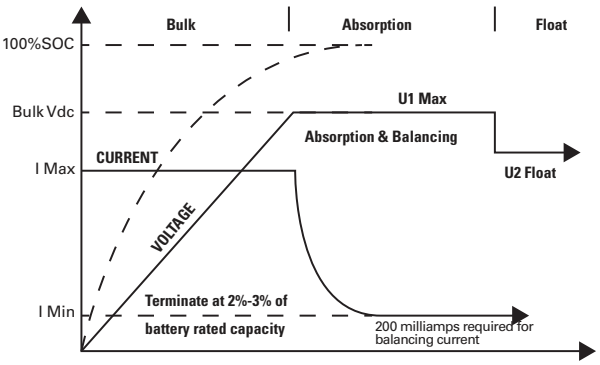
- Expandable up to 36 modules (≈ 580 kWh).
- Pre-wired parallel and inverter kits for quick setup.
- Quick-connect terminals for easy installation.

MECHANICAL DRAWINGS



MECHANICAL SPECIFICATIONS

Height	900 mm (35.3 in)
Width	465 mm (18.3 in)
Depth - body only	247 mm (9.7 in)
Depth (including Wall-Mount bracket)	271 mm (10.7 in)
Terminal	Quick Connect Plug and Pull Terminal
Weight	136 kg (299 lb)
IP Rating	IP65
Case Material	Galvanized Steel Sheet



ELECTRICAL SPECIFICATIONS

Nominal Voltage	51.2 V
Nominal Capacity	314 Ah
Usable Energy	16,080 Wh
Depth of Discharge	100% [1]
Charge Bulk Voltage - Bulk Vdc	55.2 – 56.8 V
Charge Absorption Voltage - U1 MAX	55.2 – 56.8 V
Charge Float Voltage - U2	53.6 V
Charge Termination Current	5 A
Recommended High Voltage Disconnect	56.9 V
Overvoltage Disconnect (BMS)	58.0 V
Recommended Low Voltage Disconnect	48 V
Undervoltage Disconnect (BMS)	43.2 V
Max Continuous Charge Current	200 A
Max Continuous Discharge Current	200 A
Max Continuous Discharge Rate	10.24 kW
Peak Discharge Current (15 seconds)	300 A RMS
Self Discharge Current (operation)	≤ 25 mA
Self Discharge Current (battery OFF)	≤ 4 mA
Breaker	200 A breaker
Maximum short circuit fault current	7.16 kA (100 ms) / 3.58 kA (100 ms)
Arc Flash Incident Energy IEm	0.310 Cal/cm2
Arc Flash Incident Energy AFB	239 mm (9.41 in)

REGULATORY

Certifications	UN38.3, UL 1973, UL 9540A, UL 9540 DC ESS 3rd Edition

[1] *Leaving the battery at 0% SOC will lead to irreversible damage and void the warranty. Immediately recharge the battery after discharging to 0%.*

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