DISCOVER ENERGY SYSTEMS

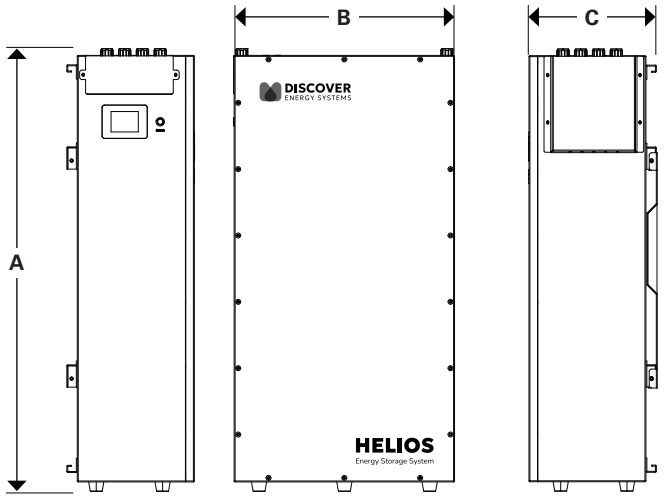
HELIOS ESS

52-48-16000 / 900-0077

Energy Storage for Residential, Off-Grid Applications

HELIOS ESS is a powerful and dependable 16 kWh Lithium Iron Phosphate ($LiFePO_4$) Energy Storage System with advanced 4th generation Battery Management System (BMS). Backed by 75 years of battery expertise, it's designed for residential and commercial energy solutions. Offering reliable performance, quick installation, and seamless configuration, the HELIOS ESS is perfect for Off-Grid Solar, Whole-Home Backup, and Micro-grids—delivering superior performance, reliability, and safety.

MECHANICAL DRAWINGS



FEATURES

POWERFUL PERFORMANCE

- 10 kW continuous, up to 19 kW peak power (10 sec), with 93 MWh lifetime energy throughput.
- 4th generation BMS for enhanced reliability, efficiency, and safety.

ALL-CLIMATE DESIGN

- IP65-rated, weather-resistant enclosure for reliable outdoor performance, with an operating temperature between -25°C (-13°F) to 55°C (131°F).
- Built-in self-heating system operates automatically from -25°C (-13°F) to 8°C (46.4°F), ensuring reliable performance and faster warm-up in cold environments.

ADVANCED SAFETY

- Dual fire arrestors and emergency stop for Rapid Shutdown (RSD) integration.
- Comprehensive overvoltage, over current, and thermal protection.

SEAMLESS INTEGRATION

- Compatible with hybrid and off-grid inverters; conduit box available for Sol-Ark 15K.
- Closed-loop CAN communication with supported inverters.

SCALABLE & FLEXIBLE

- Expandable up to 48 kWh with battery to battery parallel installations.
- Up to 36 modules (579.6kWh) in parallel with Closed-loop communication
- Quick-connect wall-mount design for fast, easy setup.

MECHANICAL SPECIFICATIONS

Height (A)	900 mm (35.43 in)
Width (B)	465 mm (18.31 in)
Depth - body only (C)	247 mm (9.72 in)
Depth (including Wall-Mount bracket)	271 mm (10.7 in)
Terminal	Quick Connect Plug and Pull Terminal
Weight	136 kg (299.83 lb)
IP Rating	IP65
Case Material	Galvanized Steel Sheet

REGULATORY

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

ELECTRICAL SPECIFICATIONS

Nominal Voltage	51.2 V
Energy	16,080 Wh
Nominal Capacity	314 Ah
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
Low Voltage Disconnect Recommended	48 V
Low Voltage Disconnect	43.2 V
Max Continuous Charge Current	200A
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	Single-Pole (positive only) 200 A breaker (CVP-RH-P2BD5-D200-LT)
Maximum short circuit fault current (IBF / ½ IBF)	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)

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