



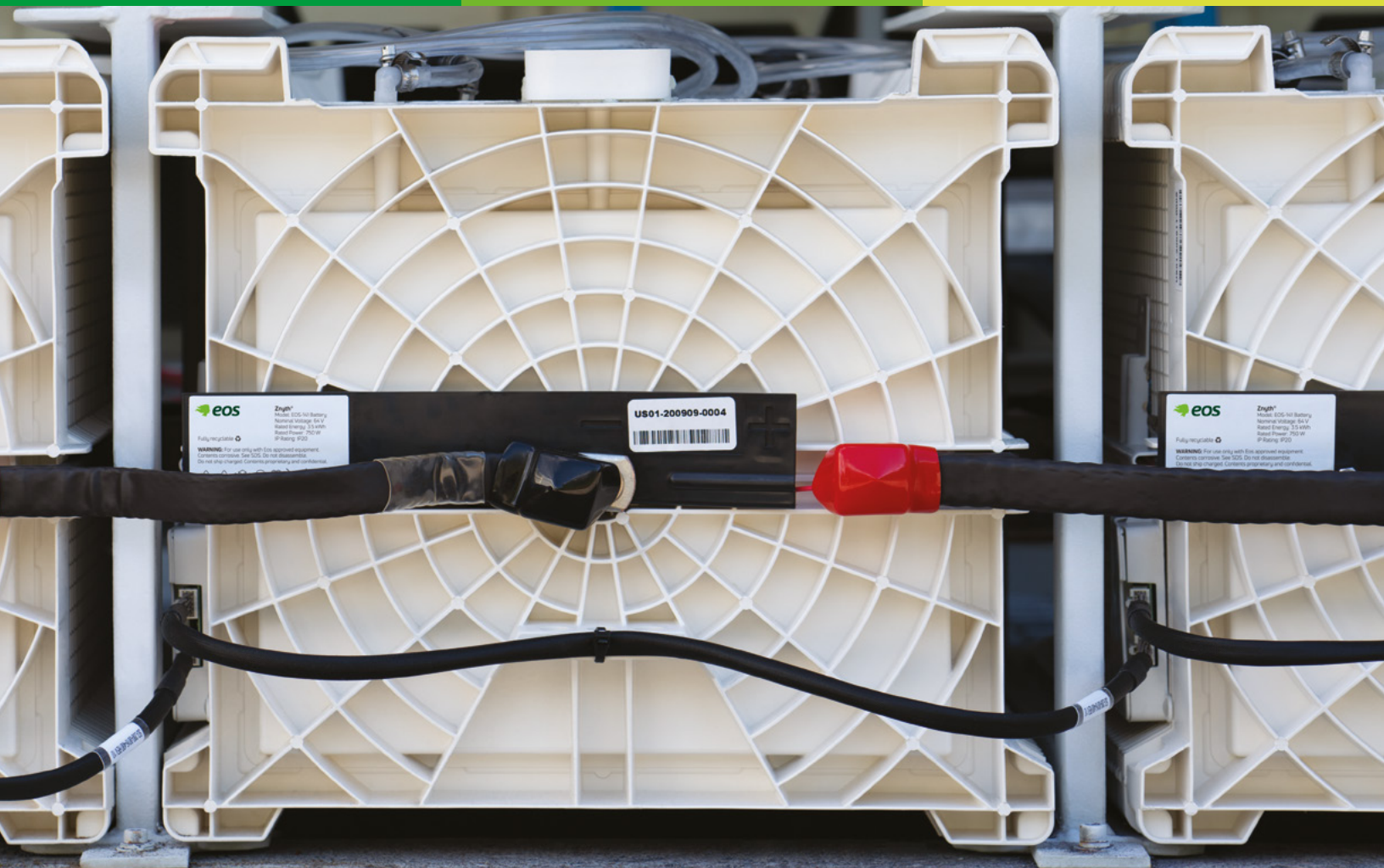
Eos Znyth™ 2.3

Aqueous liquid battery technology

The market's only commercially-proven and commercially-available alternative to lithium ion for 3- to 12-hour duration applications.

Eos Znyth (pronounced "zenith") battery technology was designed and engineered to solve the limitations that other energy storage solutions ignore. Tested and validated for more than a decade, Znyth 2.3 is setting new standards in safety, scalability, efficiency, and sustainability, and transforming how utility, industrial, and commercial customers store power.

Technology	Znyth™ (Zinc hybrid cathode)
Voltage range	48 to 82 VDC
Rated Power (DC) / Energy	0.75 kW / 3.5 kWh
Certifications	UL 1973, UL9540A
Dimensions	15.2H x 16.9W x 23.0D in 386H x 428W x 585D cm
Weight	215 lbs / 98 kg



Three inspired components. One ingenious battery design.

Built on more than 220 applications filed, with nearly 100 patents pending, published, or issued, the Znyth™ battery design includes three components: an aqueous electrolyte, bipolar electrodes, and polymer frames.

1

High-performance aqueous electrolyte

Our proprietary blend of water, halides, additives, and buffering agents make up the Znyth aqueous electrolyte. The formula both enhances zinc solubility and plating and eliminates the dendrite and densification issues that can lead to performance decay and safety hazards.

2

Non-degradable bipolar electrodes

The Znyth electrodes are composed of carbon felt for the cathodes (-) and for the anodes (+), titanium coated with our proprietary ceramic conductive material. They're mechanically tough, corrosion resistant, and chemically stable, delivering for years with virtually no degradation. Plus, our bipolar structure simplifies internal battery connections to reduce internal resistance and improve round-trip efficiency.

3

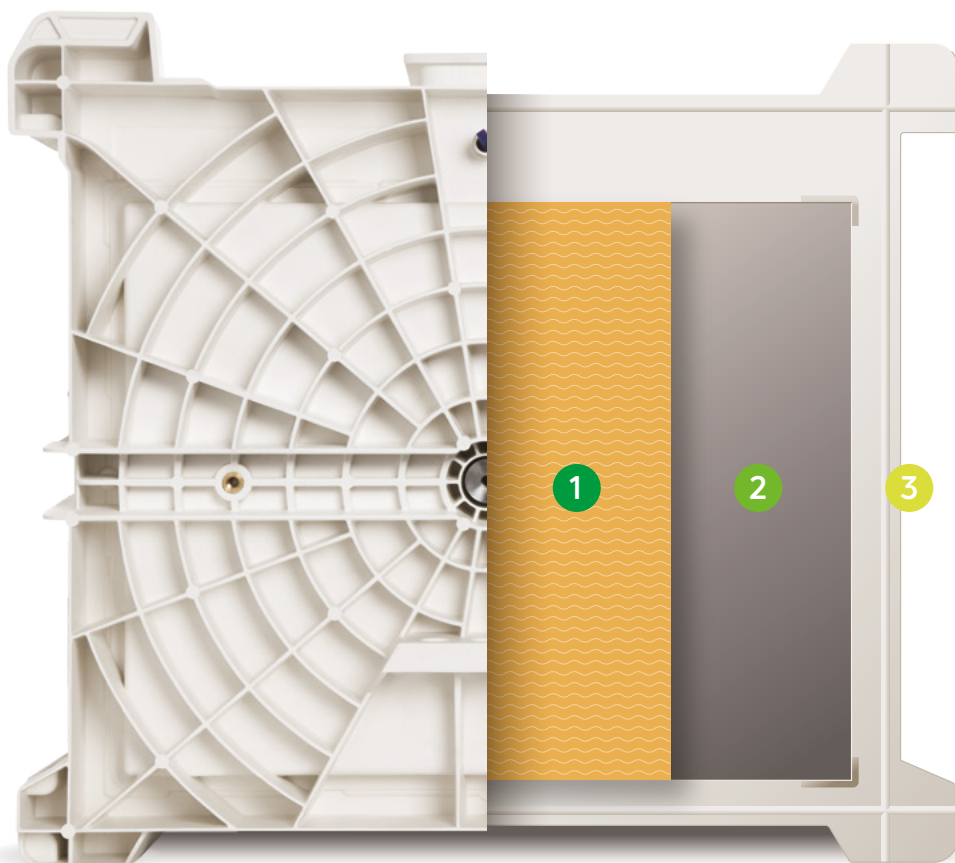
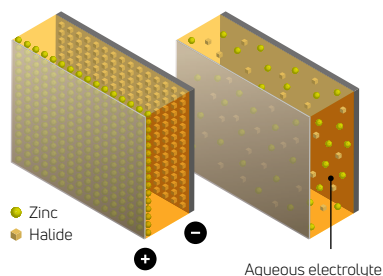
Fully-sealed polymer frames

Injection-molded thermoplastic polymer frames provide the structure for our internal electrochemical cells. Our streamlined design requires just 40 of them, infrared welded to two end caps, to form the sealed exterior of the Znyth 2.3 battery, minimizing materials, manufacturing, and maintenance.

Znyth batteries store electrical energy through zinc deposition. Our aqueous electrolyte is held within the individual cells of the battery, creating a pool that provides dynamic separation of the electrodes. During charge and discharge, ions move through the electrolyte to their respective electrode to donate or accept electrons, creating a current flow through the bipolar stack.

Charge

Discharge



Clear operating benefits for cleaner energy storage.

Designed to address the specific needs and challenges of 3- to 12-hour, regular use applications, Znyth™ battery technology delivers impressive safety, scalability, sustainability, and efficiency benefits.

Safe

Non-flammable.
Non-toxic.

Znyth batteries are inherently non-hazardous. With a water-based electrolyte and flame-retardant polymer framing, there is no risk of thermal runaway. When fully charged, it's at most mildly acidic (above pH 2). And even when over-charged, only negligible levels of hydrogen are off-gassed, meaning there is no need for added fire suppression systems or enhanced spacing between enclosures.

Scalable

No precious metals.
No clean rooms.

Our battery requires just a handful of inexpensive, readily-available commodities—zinc bromide, industrial-grade titanium, graphite felt, molding-grade plastics, and water—which makes them quick, easy, and safe to assemble using simple automated manufacturing processes. Znyth technology scales to meet demand fast—and ethically.

Sustainable

Long lifespan.
Fully recyclable.

Cradle-to-cradle thinking has made Znyth technology as sustainable as the clean energy it enables. Our batteries last at least 6,000 cycles—with total degradation leveling out at 90% of the rated capacity. And at end-of-life, all components are easily disassembled in standard recycling facilities into environmentally-friendly base materials—with a salvage value that makes the process cost-neutral.

Efficient

Wide temperature range.
Flexible charge and discharge.

Tolerant to temperature extremes and abusive conditions, Znyth batteries operate safely across a wide voltage and temperature range. No risk of catastrophic failure. No complex HVAC systems—nor their parasitic energy consumption—required. No charge or discharge rate restrictions affecting lifespan or performance. No need for upsizing.

Allows
100%
depth of discharge

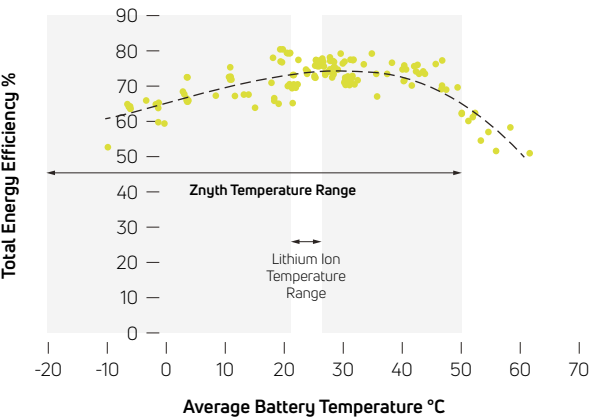
Tolerates
-20 to 50°C
temperature ranges

Lasts
20 yrs
or 6,000 cycles

Earned
9.5
out of 10 on the Boundless Climate Impact Score*

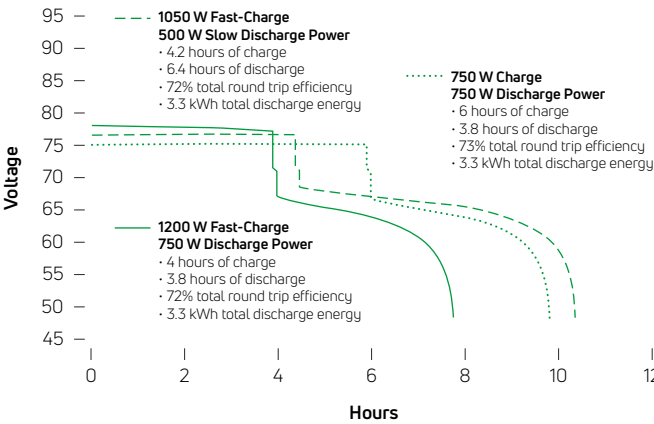
Znyth performs in extreme environments

Eliminating the need for power-hungry HVAC systems



Znyth delivers operational flexibility

Enabling real-time changes to charge and discharge rates



*Boundless Impact Research & Analytics. (2020). Eos Climate Impact Profile.

Power that stacks up.

Znyth™ battery modules are the building blocks of Eos energy storage systems. Two racks of our standard 12-module strings, each 6 strings high, make up our containerized, plug-and-play outdoor solution. Custom racks, each up to 12 strings high, enable our indoor solutions that optimize energy density in any space, from a basement hallway to a full-size warehouse.

Znyth single battery module specifications¹

Technology	Znyth™ (Zinc hybrid cathode)
Nominal Voltage	64 VDC
Charging Voltage @ 750W	75 VDC
Voltage Range	48 to 82 VDC
Rated Power ²	0.75 kW
Maximum Rated Energy	3.5 kWh
State-of-Charge Range	0 – 100%
Nominal Discharge Capacity	51.8 Ah
Nominal Charge Capacity	59 ADC
Nominal Discharge Current	12 ADC
Nominal Charge Current	10 ADC
Maximum Current	18 ADC
Short Circuit Current (pk)	425 ADC
Short Circuit Time Constant (L/R)	< 5ms
Round Trip DC Efficiency	Approximately 75% ³
Self-Discharge Energy (average)	1% per hr
Certifications ⁴	UL 1973, UL 9540A
Optimum Operating Temperature (Ambient)	10 to 45 °C
Operating Temperature (Ambient) ⁵	-20 to 55/65 °C (charge/discharge)
Dimensions	15.2H x 16.9W x 23.0D in / 386H x 428W x 585D mm
Weight	215 lbs / 98 kg



- 1 Typical ratings for 25 °C
- 2 Contact Eos about Fast Charging options (1.2 kW)
- 3 RTE depends on temperature, depth of discharge, use case, as well as system sizing configuration
- 4 Certifications to be available Q1 2021
- 5 To maintain UL 1973 rating, 50 °C maximum ambient temperature



Eos. Positively ingenious.

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