

BATTERY DATASHEET

ZE-25 | ZE-MEGA-25



The world's first high-performance battery designed to match solar lifetime without compromise.

This is the new era of energy storage possibilities built on the novel titanium superconductor cell chemistry, assembled into perfected Zenon Energy battery pack.



Energy storage as it should be – **simple and affordable.**

These units have been designed as a safe, modular, cost-effective, sustainable, and long-lasting solution.

This battery can reliably cycle for decades with little capacity fade, sulphation, overheating, memory effect, short lifetime, fire risk, and other common battery issues.

FEATURES



20,000+
cycles



-40°C to +60°C
operation



Lifetime
matching solar



Smart
monitoring



Safest
Class 9 cell



Rapid
charging



Telco
designed



Solar-ready
charge port

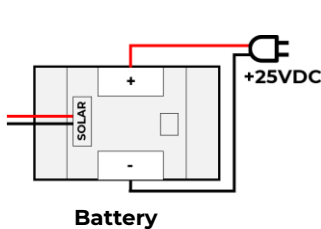


Unique
stacking design

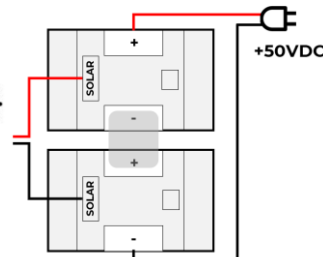
SOLAR CHARGING



30-38Vmp
70A max



60-75Vmp
70A max



Model 50

Charge directly with reliable solar without extra hardware.

STACKING



Maximum 9 units



Maximum series
voltage: 1000VDC



This battery pack was designed using the past decades of energy storage experience with proprietary innovations on materials, cell chemistry, BMS software, and busbar design.

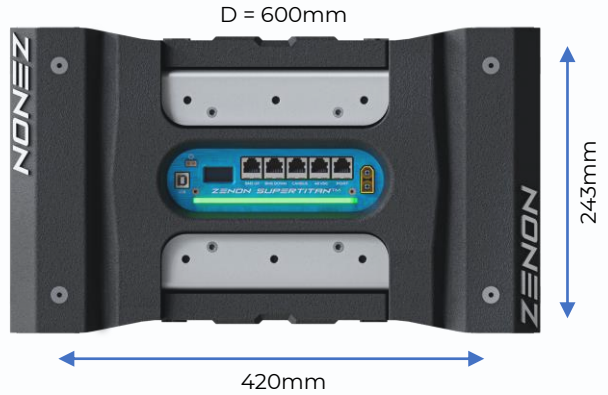
The advanced and open monitoring system combined with future update capability ensures future-proof storage for a truly sustainable future without planned obsolescence.

Innovations

- Battery stacking technique
- Open monitoring system
- Busbar design
- First “solar ready” battery

World-class Performance

- Titanium-anode for 25 year longevity
- World-leading battery warranty value
- Passive and active cooling design
- Fits standard telco racking system



OTHER WARRANTIES

LI-ION / LIFEPO4

- 10 years
- 2.2MWh
- 60% capacity
- 80% usable



POWERFUL WARRANTY

ZENON 10-YR

SUPERTITAN

- 10 years
- 5.5MWh
- 90% capacity
- 100% usable

15-YR

EXTENSION 1

- 15 years
- 7.3MWh
- 80% capacity
- 100% usable

20-YR

EXTENSION 2

- 20 years
- 9.1MWh
- 70% capacity
- 100% usable



Users have full access to their monitoring data per Zenon Energy battery communication protocols which are open-source or publicly available.

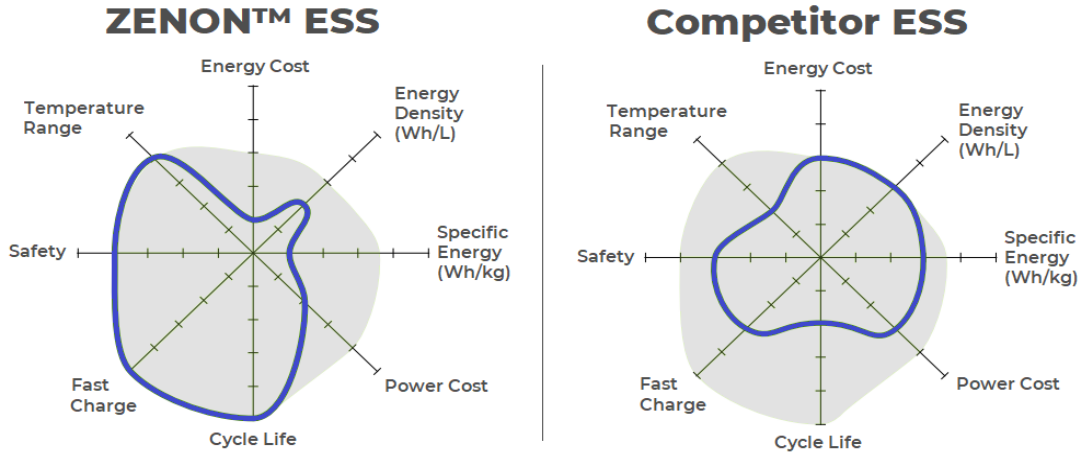
- Extend battery warranty using monitoring data
- Variable data-logging from 5 minutes to 5 years
- Using the SunSpec Alliance monitoring protocol
- Local, WiFi, RS485, and CANBUS monitoring



OVERALL COMPARISON

The SuperTitan battery is ideal for tough environments which may have demanding battery use, fast charging, and requires a high level of fire safety from the battery.

Note the SuperTitan energy density and specific energy is less than that of typical Lithium batteries, due to a safer and more stable nominal voltage.



COMPARISON CHART

	Lead Acid / Gel / AGM	Lithium Phosphate	NMC Lithium	Flow Battery	ZENON SUPERTITAN
Cyclife 25°C	1,500	3,000	3,200	10,000	> 20,000
Cyclife 45°C	500	1,000	1,200	10,000	> 6,000
Typical Yearly Degradation	3%	6%	4.4%	N/A	0.6%
Usable lifetime (realistic)	< 4 years	< 8 years	< 8 years	< 20 years	< 25 years
Warrantied kWh cost	Up to 3 years	10 year, 40% loss	8 year, 30% loss	10 year, 0% loss	Up to 20 year, 30% loss
LCOE*	\$0.16/kWh	\$0.13/kWh	\$0.19/kWh	\$0.34/kWh	\$0.052/kWh

*Depending on region and includes discount rate



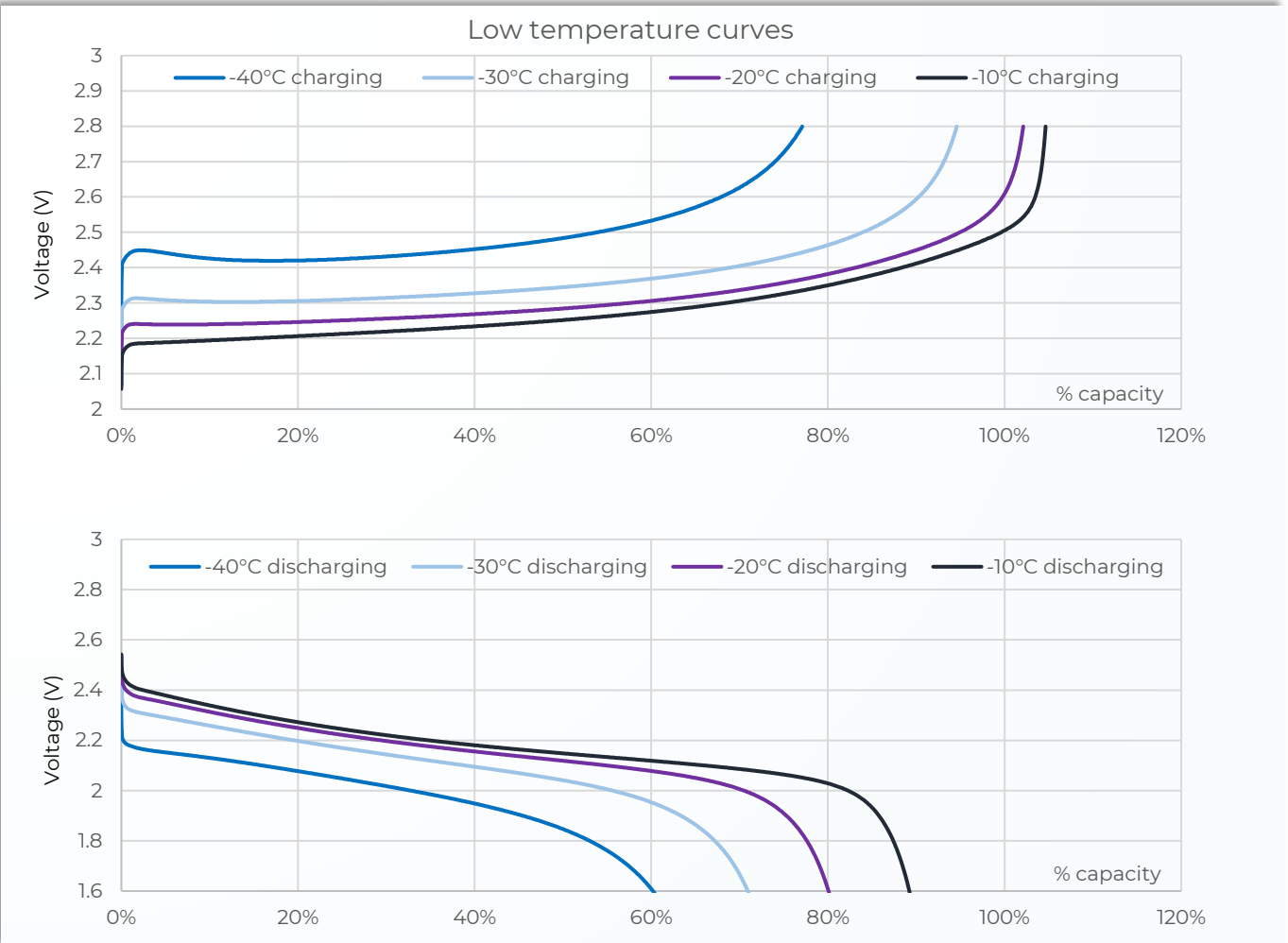
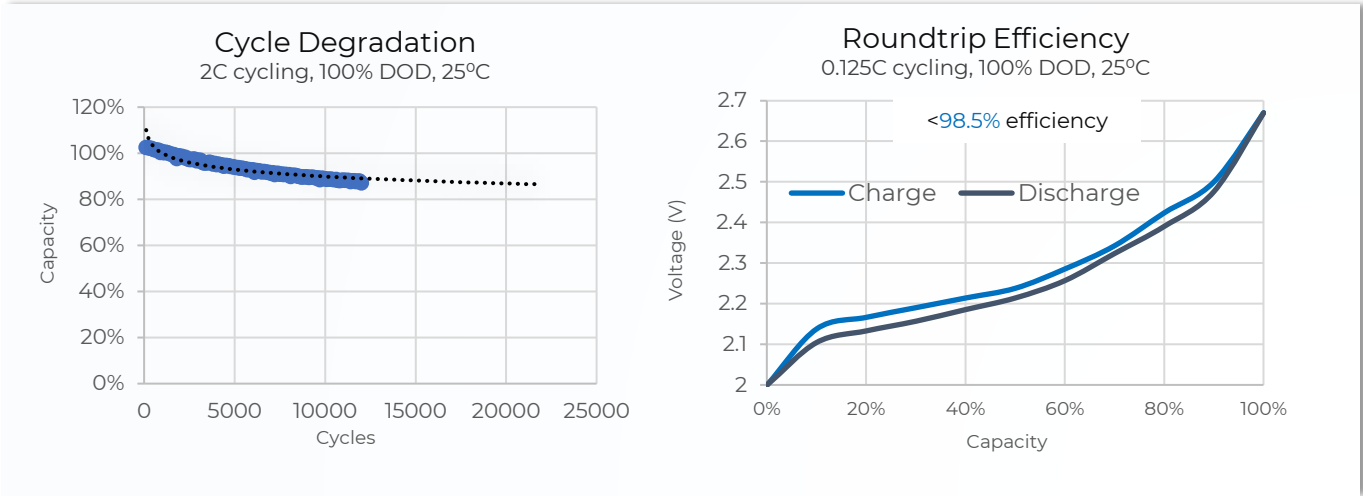


TECHNICAL SPECIFICATIONS

		SuperTitan™ 25	2x SuperTitan 25	SuperTitan™ MEGA25
OUTPUT	CHEMISTRY	Titanium Superconductor		
	BATTERY VOLTAGES	25V Nominal 19.8 - 30 VDC	50V Nominal 39.4 - 60 VDC	2.25V Nominal 1.8 - 2.7 VDC
	CAPACITY	5.2 kWh (105 Ah)	2.6 kWh (105 Ah)	2.6 kWh (1155 Ah)
INPUT	CHARGE VOLTAGE	29.7 VDC	59.4 VDC	2.7V
	CHARGE CURRENT	105A (1C)	105A (1C)	1155A (1C)
	CHARGING RIPPLE	Less than 30 mV	Less than 50 mV	Less than 10mV
	ROUND TRIP EFFICIENCY	<95% Efficient (0 - 100% SOC @ 0.1C) <97% Efficient (20 - 80% SOC @ 0.1C)		
	MAX CURRENT	210A (2C)	210A (2C)	1155A (1C)
SOLAR CHARGER INPUT	CONNECTION TYPE	XT90 HV connector		
	MAX VOLTAGE	55V	85V	Not compatible
	MAX CURRENT		60A	
	RECOMMENDED SOLAR VMP	30-38VMP	60 – 76 VMP	Not compatible
	CONNECTOR TYPE	MC4 adapter		
BATTERY MANAGEMENT SYSTEM	MAX SERIES CONNECTION	2 units	None	450 units
	OVER TEMP.		> 60°C	
	OVER VOLTAGE	> 30V DISCONNECT	> 60V DISCONNECT	>2.8V SIGNAL
	BALANCING	Active Balancing and Passive Balancing		
	LOW VOLTAGE	<19.5V DISCONNECT	< 39.0V DISCONNECT	<1.7V SIGNAL
OPERATING ENVIRONMENT	WORKING TEMP.	-40 °C to +65 °C (recommend -5°C to 35°C)		
	STORAGE SOC	40-70%		
	STORAGE TEMP.	- 5°C to + 30°C		
SAFETY	CELL SAFETY TESTS	Overdischarge, Overcharge, Short circuit, 1.5m Droptest, Heat test 130°C, Stress test cycling, Crush tests of 200kN, Puncture tests, Salt water immersion, Low pressure test, UN38.3, IEC pending		
OTHER	LIFETIME	25+ years at 25°C		
	UNIT WEIGHT	49 kg (51kg boxed)		
	UNIT SIZE	(W, L, H) 420x600x243mm		
	CASING TYPE	Heat-resistant recyclable EPP		
	PACKING	1 pcs/box, 20pcs/pallet		



SPECIFIC GRAPHS



Note that all data is obtained directly from the cell manufacturer and verified by 3rd party testing lab.

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