ZYNAVEX+

Sodium-Nickel Chloride Battery System

Sodium-Nickel Chloride Battery
E1109

Utilities | Oil&Gas | Rails | Telecom | Renewables

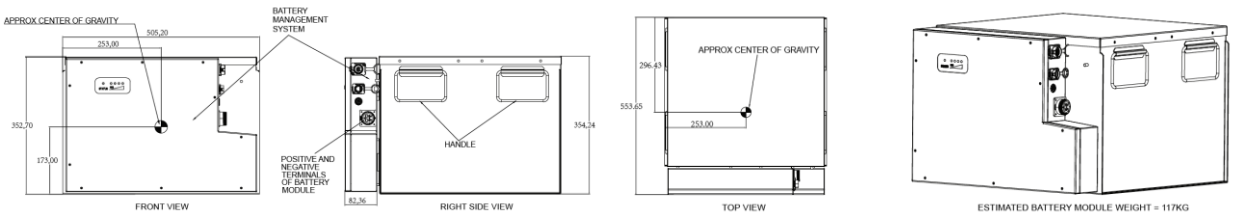
General Data		
Nominal Energy	10	kWh
Nominal Capacity	92	Ah
Ambient Condition[1]	-40 to 65	℃
Humidity	<95% (no condensation)	RH
Altitude	<3,000	m
Warm-up Time[2]	≤16 (from 25℃)	hours
Max Internal Heater Power	450	W
Avg Heater Power Consumption, CDC[1]	<10	W
Avg Heater Power Consumption, Float	<120	W
End of Discharge Voltage[2]	88	VDC
Dimensions[3] (H×D×W)	353×556×506	mm
Weight	117±2	kg
Design Life	20	yrs
Battery Certification	UL9540A, CE, UL1973, IEC62984 (in progress)	

Basic Parameters		
Usable Energy[4]	9	kWh
Usable Capacity[4]	82	Ah
Max Recharge Current	16	A
Recharge Voltage Range	120 to 160	VDC
Open Circuit Voltage	113.5	VDC

Operating Parameters		
Continuous Load Range	0.9 to 2.7	kW
Continuous DischargeCurrent	8 to 24	A
Max Discharge Current (1h)	60	A
Max Discharge Current (1min)	120	A
Max Cycles Between Return to Top of Charge (TOC)[5]	40	Cycles

Interconnects	
Battery Terminals	Quick Plug Terminal
Ground Connection	M6 Hex Nut
Communication	RS485, MODBUS
Communication (Optional)	CAN/LAN
Ingress Protection (IP)	IP55

Dimension

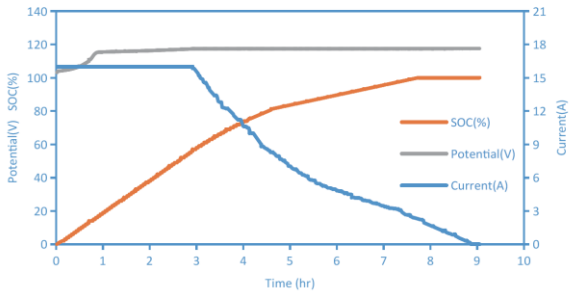


*Specifications may change without notice as part of continuous improvement.
*Images are illustrative; actual product/configuration may vary.

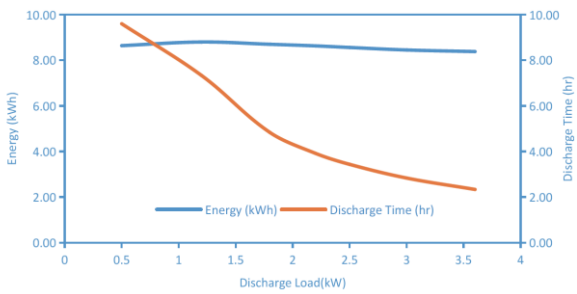
Performance Characteristics

The performance data presented below is based on testing done at labs at 25°C and applies to ambient temperatures from -40°C to 65°C at beginning of life (BOL). Actual performance may vary. Discharge curves apply after 24-hour charge cycle.

Charge Curves



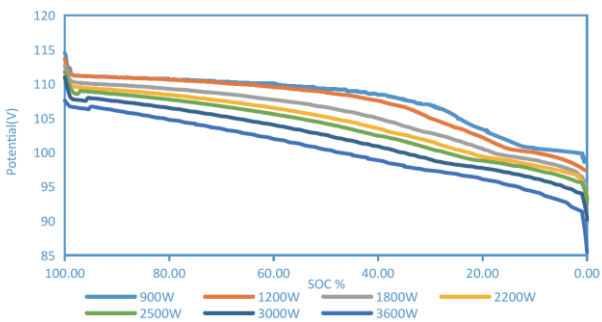
Constant Power Discharge Energy



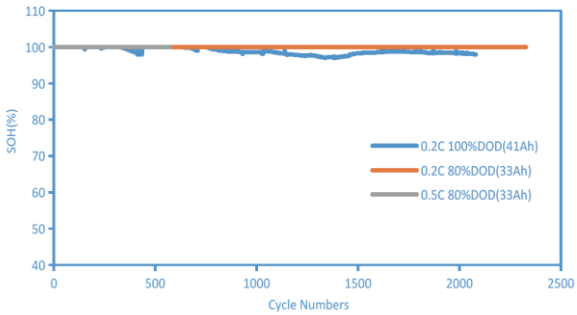
	From 13% State of Charge to...					
	50%	60%	70%	80%	90%	95%
Charge Time (hr)	2.6	3.1	3.7	4.5	6	7

	Load (W)						
	900	1,200	1,800	2,200	2,500	3,000	3,600
Energy (kWh)	8.64	8.8	8.7	8.63	8.56	8.45	8.38
Discharge Time (hr)	9.60	7.33	4.83	3.92	3.43	2.83	2.33

Discharge Curves at Varing Laods



10-cells String Life Test



Cycle Life Projection – At Varying Loads

The performance data presented on 10-cells String Life Test chart is the lab testing results at ambient temperature (25°C). Basing the testing results, the predicted cycle life at 0.5C 80%DOD is > 6000 cycles with > 80%SOH.

*Notes:

1. When continuously charged and discharged at rated load.
2. Exact voltage is load-dependent. Extendable end of discharge voltage up to 80V during overload discharge.
3. Dimensions are nominal.
4. C/10 rate at beginning of life.
5. Battery does not need to be taken off line to return to top of charge.

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