ZYNAVEX+

Sodium-Nickel Chloride Battery System

Sodium-Nickel Chloride Battery
E4815

Utilities | Oil&Gas | Rails | Telecom | Renewables

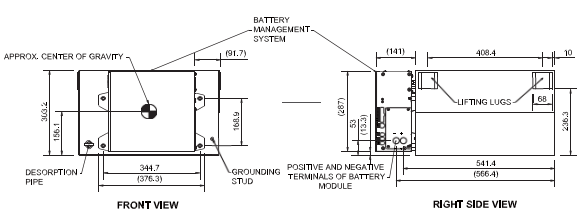
General Data		
Nominal Energy	15	kWh
Nominal Capacity	276	Ah
Ambient Condition[1]	-40 to 65	℃
Humidity	<95% (no condensation)	RH
Altitude	<3,000	m
Warm-up Time[2]	≤16 (from 25℃)	hours
Max Internal Heater Power	600	W
Avg Heater Power Consumption, CDC[3]	<10	W
Avg Heater Power Consumption, Float	<140	W
End of Discharge Voltage[4]	43.3 to 47.8	VDC
Dimensions[3] (H×D×W)	303×637×511	mm
Weight	145±2	kg
Design Life	15	yrs
Battery Certification	UL9540A, CE, UL1973 Listed	

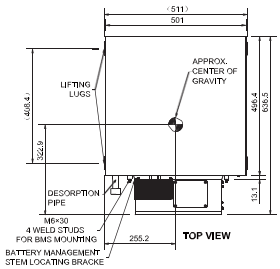
Power Availability/Backup		
Usable Energy[5]	13	kWh
Usable Capacity[5]	250	Ah
Equalizing Charge	55.8	VDC
Float Charge	55.5	VDC
Open Circuit Voltage	54.2	VDC
Discharge Load Range[6]	0.8 to 5	kW
Max Recharge Current	100	A

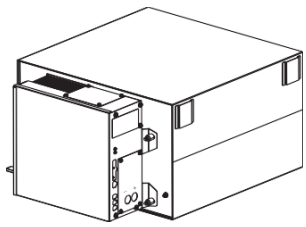
Charge Discharge Cycling		
Recharge	55.8	VDC
Charge Start[4]	44 to 47.8	VDC
Cycling Long Range	0.8 to 4	kW
Max Recharge Current	100	A
Max Cycles Between Return to Top of Charge (TOC)[7]	40	Cycles

Interconnects	
Battery Terminals	Two Pole M6 Ring Terminal
Ground Connection	Standard Single M6
Communication	RS485, CAN, DI/DO
Communication (Optional)	MODBUS
Ingress Protection (IP)	IP20

Dimension





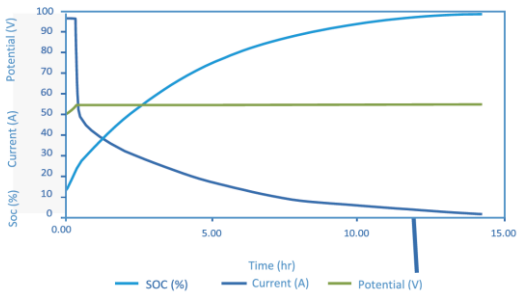


*Specifications may change without notice as part of continuous improvement.
*Images are illustrative; actual product/configuration may vary.

Performance Characteristics

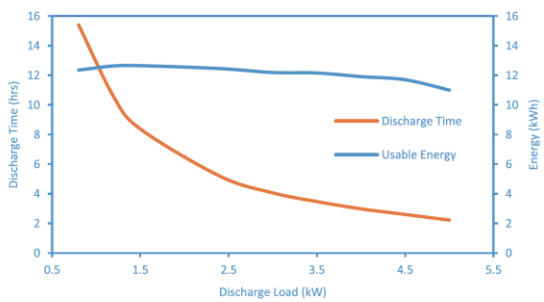
The performance data presented below is based on testing done at labs at 25°C and applies to ambient temperatures from -40°C to 65°C at beginning of life (BOL). Actual performance may vary. Discharge curves apply after 24-hour charge cycle.

Charge Curves



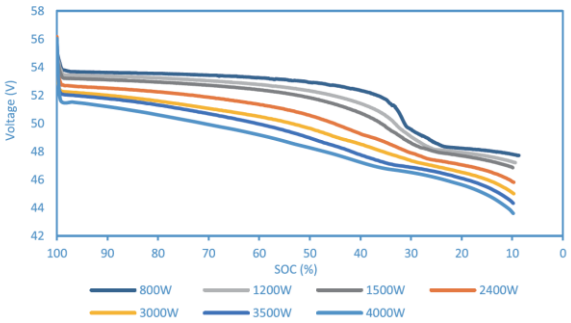
	From 13% State of Charge to...					
	50%	60%	70%	80%	90%	95%
Charge Time (hr)	2.1	3.0	4.2	5.7	8.2	10.2

Constant Power Discharge Energy

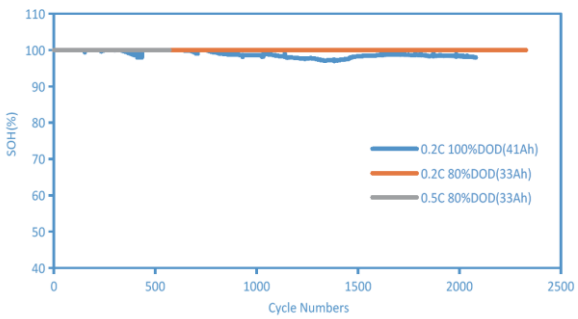


	Load (W)							
	800	1,200	1,500	2,400	3,000	3,500	4,000	5,000
Energy (kWh)	12.4	13.0	12.7	12.5	12.2	12.2	11.9	11.0
Discharge Time (hr)	15.4	10.8	8.4	5.2	4.1	3.5	3.0	2.2

Discharge Curves at Varying 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. Ambient conditions apply to BMS electronics:

. 5°C to 55°C no performance impact.

. -40°C to 5°C and 55°C to 60°C reduced performance.

. 60°C to 65°C non-destructive with ability to automatically reconnect.

2. After warm-up, battery is ready to charge or discharge.

3. When continuously charged and discharged at rated load.

4. Exact voltage is load-dependent.

5. C/10 rate at beginning of life.

6. Discharge above kW must be preceded by -hour charge.

7. Battery does not need to be taken offline to return to top of charge.

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