THYTRON
Power and Energy Solution
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E4810-T Sodium Nickel Chloride Battery

Durathon® Battery

Technology Engineered by General Electric Company and AM Power under

General Data		
Nominal Energy	11.8	kWh
Nominal Capacity	230	Ah
Ambient Conditions[1]	-40 to 65	℃
Humidity	<95% (no condensation)	RH
Altitude	<3,000	m
Warm-up Time[2]	<16	hours
Max Internal Heater Power	450	W
Avg Heater Power Consumption, CDC[3]	<10	W
Heater Power Consumption, Float	<140	W
Internal Low Voltage Disconnect[4]	-40 to -45.6	Vdc
Dimensions (H×D×W)	374×654×520	mm
Weight	122±2	kg
Battery Certifications	UL9540A, CE, UL1973 (on-going)	

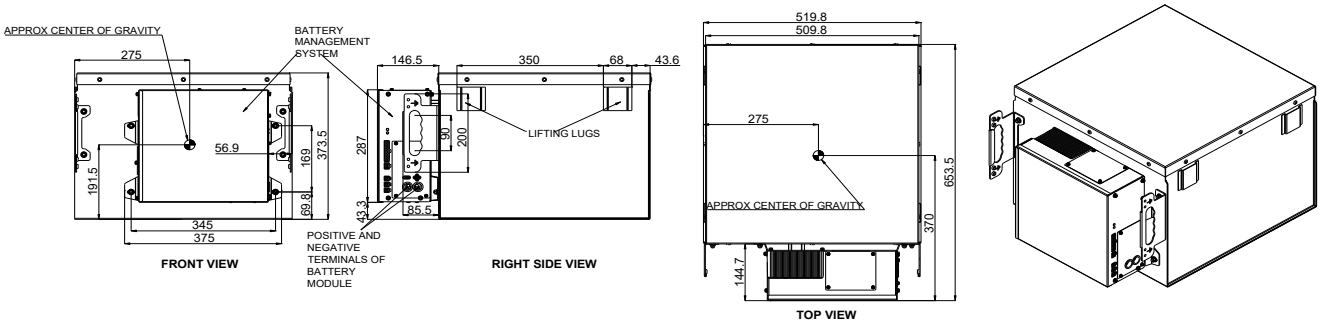
Technical Data

Power Availability/Backup		
Usable Energy[5]	10	kWh
Usable Capacity[5]	200	Ah
Operating Voltages:		
Equalizing charge	-53.1	Vdc
Floating charge	-52.9	Vdc
Open Circuit	-51.6	Vdc
Discharge Load Range[6]	0.6 to 4.1	kW
Max Recharge Current	80	A
Projected Float Life	15	Yr

Charge Discharge Cycling		
CDC Operating Voltages:		
Recharge	-53.1	Vdc
Charge Start[4]	-41.2 to -45.3	Vdc
Cycling Load Range	0.6 to 3.1	kW
Max Recharge Current	80	A
Cycles Between Return to Top of Charge (TOC)[7]	40	cycles

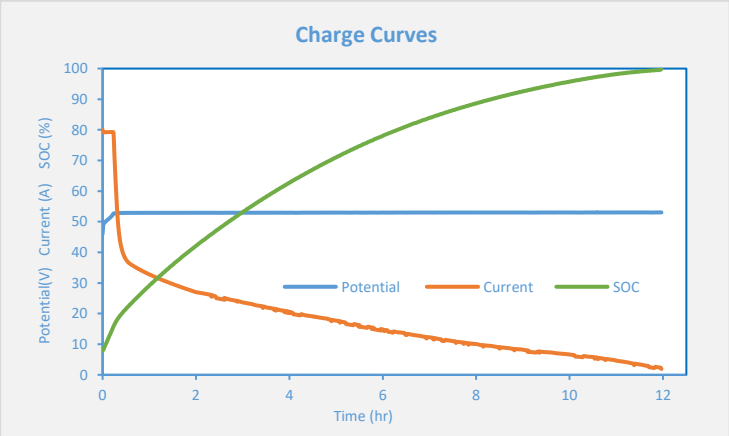
Interconnects	
Battery Terminals	Two pole, M6 Ring Terminal
Ground Connection	Standard: Single M6
Communication	RS485, CAN, DI/DO
Communication Protocol	MODBUS
Ingress Protection (IP)	IP 20
Status Lights	2 LEDs

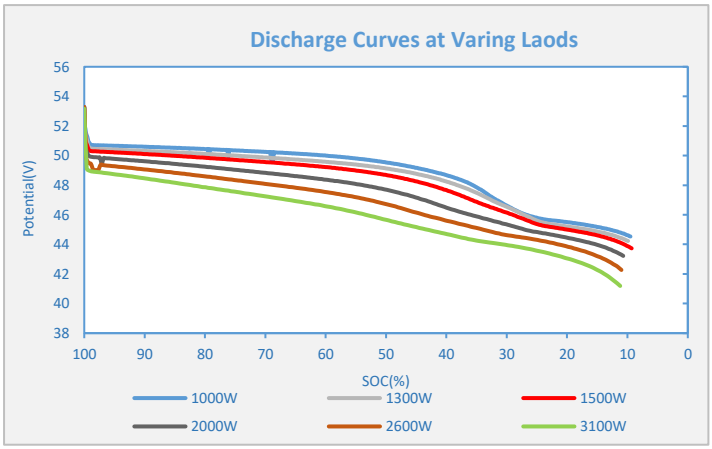
Dimension



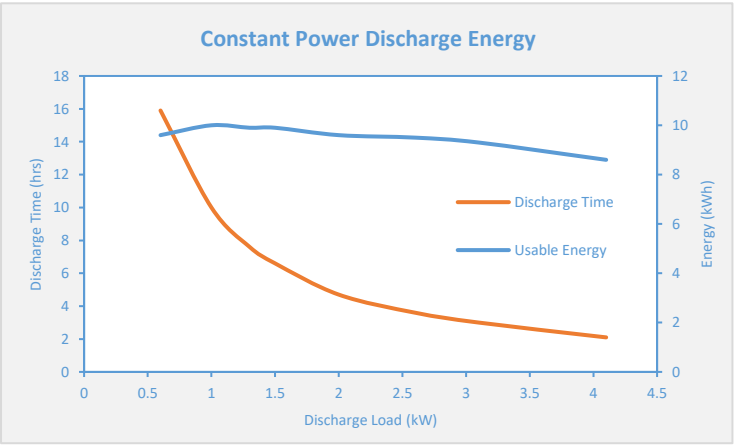
Performance Characteristics

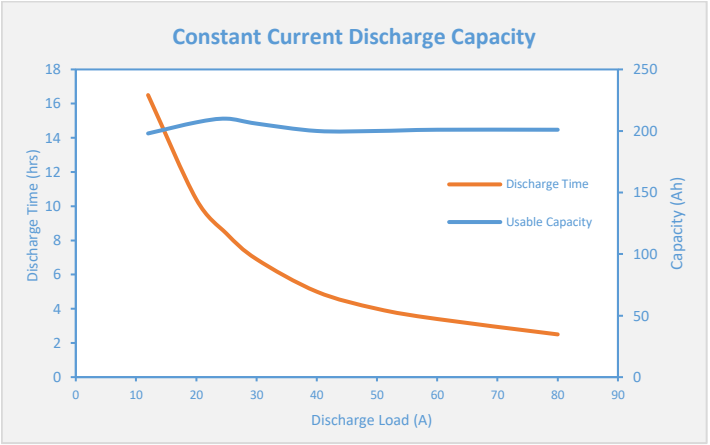
The performance data presented below is based on testing done at labs at 25°C and applies to ambient temperatures from -40°C to 65°C at beginning of life (BOL). Actual performance may vary. Discharge curves apply after 24-hour charge cycle.





	From 13% State of Charge to...					
	50%	60%	70%	80%	90%	95%
Charge Time (hr)	2.7	3.7	4.8	6.3	8.3	9.8



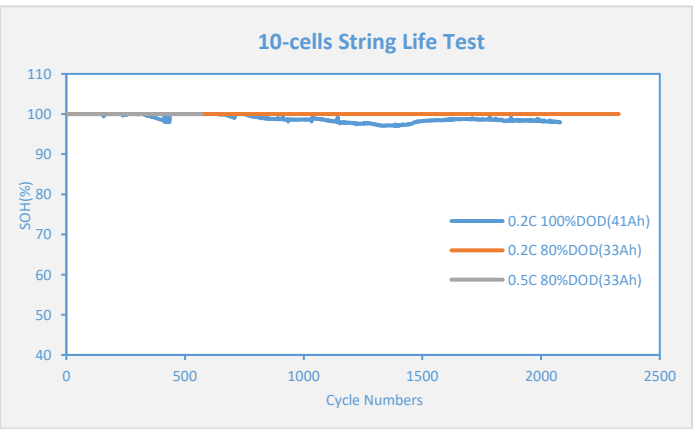


	Load (W)							
	600	1000	1,300	1,500	2,000	2,600	3,100	4,100
Energy (kWh)	9.6	10.0	9.9	9.9	9.6	9.5	9.3	8.6
Discharge Time (hr)	15.9	10.0	7.6	6.6	4.7	3.6	3.0	2.1

	Current (A)							
	12	20	25	30	40	50	60	80
Capacity (Ah)	198	207	210	206	200	200	201	201
Discharge Time (hr)	16.5	10.4	8.4	6.9	5.0	4.0	3.4	2.5

Cycle Life Projection

The performance data presented below 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.



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 offline to return to top of charge.

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