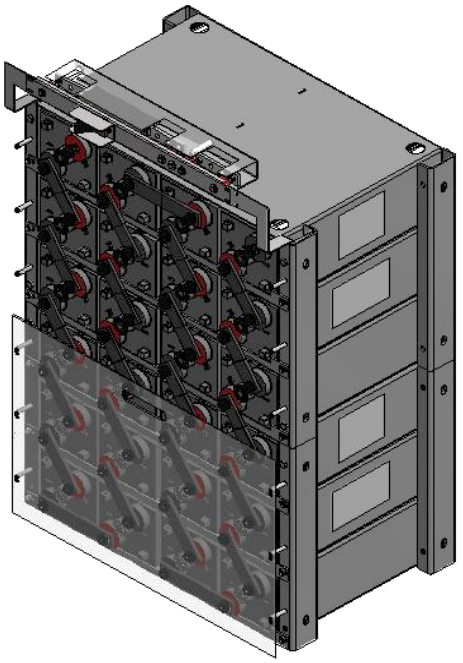
24kWH system

Advanced lead nano carbon deep cycle battery

SYSTEM CHARACTERISTICS		
System Parts Number		RE-SLRC50048-01
Total Energy		24kWH@25°C(77°F)
Usable Energy		16.8kWH@Max DOD70% @25°C(77°F)
Cycle performance		5,000cycles@DOD70%, 4,000cycle@DOD80%
Warranty		10 years limited warranty
Nominal Voltage		48VDC(24pcs of battery)
Battery cell(SLR500-2)	Capacity	500Ah@10hr
	Voltage	2VDC
Max Charge Current		200A(*1)
Max Discharge Current/time		250A(*2) (Current Configuration)
		3,000A(5sec), 1,500A(1min)*3(Custom)
Acceptable		Partial State of Charge condition
Operating temperature		-15°C～45°C(5°F～113°F)
Recommend storage temperature		5°C～30°C(41°F～86°F)
Short Circuit Current		10,500
Internal Resistance		0.3mΩ
Scalability	Strings	Max 600V (>600V required custom)
	Parallel	Max 6
CERTIFICATION		
Safety	Cell	UL
	System	UL1973 with BMS
Performance		IEC61427(proven over 17 years of life)
Hazardous Materials Classification		8
Transportation		UN2800
Ingress Rating		IP30
DIMENSIONS AND WEIGHT		
Dimensions	Width	30.53 inch
	Height	46.37 inch
	Depth	23.22 inch
Empty Rack Weight		150 LBS(68kg)
System Weight		1880 LBS(853kg)



ACCESSORY
Rack 6H shelf
Circuit Breaker (250A)
Insulated Terminal Bolts
Short/Long Bus Bar
Lexan Shield
Flex Conductor POS/NEG
Wiring Kit

*1) Please refer separate document for recommending charge method

*2) Limited by 10Kamps interrupting current, 100% single pole circuit breaker

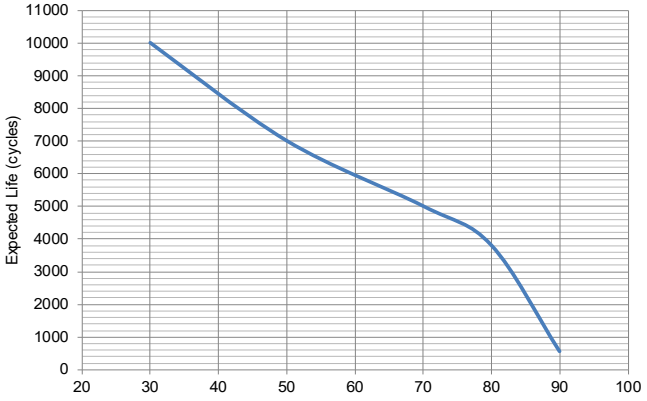
*3) Please ask consult for system configuration

DOD:Depth of Discharge

FINAL VOLTAGE PER CELL
by DEPTH OF DISCHARGE & DISCHARGE RATE

HOUR		20	12	10	9	8	7
CA/Ah		0.061/30.5	0.088/44	0.1/50	0.11/55	0.12/60	0.13/65
DOD							
30	%	2.07	2.07	2.05	2.05	2.05	2.05
40	%	2.06	2.06	2.04	2.04	2.04	2.03
50	%	2.04	2.04	2.00	2.00	2.00	2.00
60	%	2.02	2.02	1.98	1.98	1.98	1.98
70	%	2.00	2.00	1.95	1.95	1.95	1.95
80	%	1.97	1.97	1.94	1.93	1.93	1.93

DEPTH OF DISCHARGE and EXPECTED LIFE @25

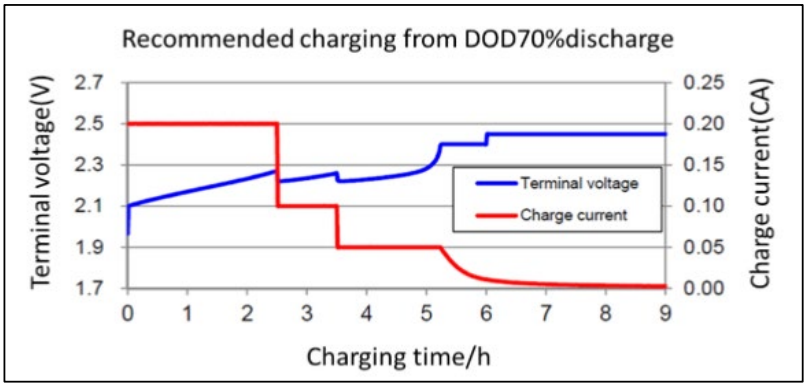


※Note: It is time to replace all batteries when the batteries reach the expected life (cycles) or the maximum length of use (15 years), whichever comes first.

CHARGING EFFICIENCY

RECOMMENDED CHARGING (CONSTANT CURRENT)

- Bulk : 0.2CA(200A) MAX, Constant Current Charge up to 2.4VPC
- Absorption : 0.1CA(100A) MAX, Constant Voltage Charge 60-90 mins
- Float Application : Not Applicable
- Equalization : 0.025CA(25A) MAX Constant Voltage Charge 2.8VPC for 3 hours
    - Recommended equalization charge frequency (whichever comes first):
        - Once per month or,
        - When discharge amount reaches 3.5-5 times of rated capacity or,
        - Longer if individual cell voltage are monitored



Maximum DOD: 70%DOD/30%SOC
Recommended DOD: 50%DOD/50%SOC
Example Charge and Discharge Cycle: Most Chargers have charging current limits on average 120A

- Discharge condition: DOD70%(0.1CA*6h)
- Charging condition
    - Normal charge:
        - 0.1CA for 6h, estimated 90%SOC
    - Equalization charge:
        - 0.025CA for 2.5h after charged (to 104% of rated capacity)

Efficiency of discharge and charge:

-Approximately 88% at normal charge condition
-Approximately 83% at equalization charge condition