Battery 23" 2U / 210 Ah

SLB48-200-228-1
13S Series, Generation 5.5

770-00242-Rev 1.0



Polarium Battery is an advanced power backup system. Its re-chargeable smart lithium-ion battery provides reliable power backup for hybrid, off-grid and grid-connected sites worldwide.

Safe
All our products are designed with your safety in mind - thoroughly verified and certified for safe operation.

Simple
Advanced technology made super easy to use. easy to install, maintenance free, charge control.

Strong
Works in all conditions and environments. Extra protection against dust and moisture for prolonged life.

Smart
Automatic balancing, automatic reconnect, remote monitoring options and much more.

Secure
Our unique, patented Anti-Theft Device disables function of batteries if removed from site. It's prepared for optional GPS tracker.

Sustainable
The lifetime is extraordinary long. It's small, light, maintenance free and can be remotely controlled.

Technical Specification

Enclosure Size	23" 2U
Lithium Chemistry	Nickel based
Rated Voltage	48 V
Rated Capacity (0.2C, 25 °C to LVBD)	210 Ah
Rated Energy (0.2C, 25 °C to LVBD)	9912 Wh
Calendar Life @ 80 %SOC	20 years
Peak Discharge Power	6 kW for 60 seconds
Discharge Cutoff Current	100 A
End-of-Discharge Voltage (LVBD)*	39 V
Charge Current Limitation (CLD)**	100 A
Charge Voltage for 100 %SOC	54.6 V
Charge Voltage for 80 %SOC	52 V
Operating Temperature Charging	0 to +55 °C (32 to 131 °F)
Operating Temperature Discharging	-20 to +60 °C (-4 to 140 °F)
Operating Relative Humidity	According to ETSI 300 019-1-3 class 3.2 (0-95%)
Storage Temperature	-20 to +60 °C (-4 to 140 °F)
Weight	Approx 53 kg (117 lbs)
Dimensions	W 544 D 725 H 87 mm (W 21.4" D 28.5" H 3.4")
Circuit Breaker	100 A, BMS Controlled, dual pole
IP Class	IP20
Communication Protocols	RS485, RJ45 (2) ports, Modbus
Safety Standards	IEC62619, IEC62368, UN38.3
Management & Monitoring	Software for PC (Studio) included for full local monitoring and management. Remote connection via Modbus.

*Cut off when one cell reaches 3.0 V, 13 cells in series.
**If the charge current is 100 A or higher, the battery will automatically reduce the charge current to 6-12A temporarily.
Data subject to change without notice

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Constant Current (A) @ 25 °C

Duration / Hours

End of Discharge Voltage	1	2	3	4	5	6	7	8	9	10	12	14	16	20	24
46.5	95.0	52.0	36.1	27.6	22.4	18.8	16.2	14.2	12.6	11.4	9.4	8.0	7.0	5.5	4.5
45	N/A	60.8	41.9	32.0	25.9	21.8	18.7	16.4	14.6	13.2	11.0	9.4	8.2	6.5	5.3
43	N/A	72.4	49.6	37.7	30.5	25.6	22.0	19.3	17.2	15.5	12.9	11.1	9.7	7.7	6.4
41.5	N/A	80.5	54.8	41.7	33.6	28.2	24.3	21.3	19.0	17.1	14.3	12.3	10.7	8.6	7.1
39.5	N/A	89.7	60.7	46.0	37.1	31.1	26.8	23.5	20.9	18.9	15.8	13.6	11.9	9.5	7.9
38	N/A	94.8	64.0	48.4	39.0	32.7	28.1	24.7	22.0	19.8	16.6	14.2	12.5	10.0	8.3
36	N/A	98.8	66.4	50.1	40.3	33.7	29.0	25.5	22.7	20.5	17.1	14.7	12.9	10.3	8.6
34.5	N/A	99.3	66.6	50.2	40.4	33.8	29.0	25.5	22.7	20.5	17.1	14.7	12.9	10.3	8.6
32.5	N/A	99.3	66.6	50.2	40.4	33.8	29.0	25.5	22.7	20.5	17.1	14.7	12.9	10.3	8.6

Constant Power (W) @ 25 °C

Duration / Hours

End of Discharge Voltage	1	2	3	4	5	6	7	8	9	10	12	14	16	20	24
46.5	4634	2560	1795	1386	1128	950	819	718	639	574	475	403	349	271	219
45	N/A	2936	2046	1576	1283	1080	932	819	729	656	545	464	403	315	257
43	N/A	3425	2370	1820	1480	1247	1076	947	844	761	634	542	472	373	306
41.5	N/A	3764	2592	1986	1613	1358	1173	1032	921	831	694	594	519	411	339
39.5	N/A	N/A	2840	2169	1759	1480	1279	1125	1004	907	758	651	569	454	375
38	N/A	N/A	2979	2270	1838	1546	1334	1174	1048	946	792	680	595	475	394
36	N/A	N/A	3088	2346	1895	1591	1372	1206	1076	971	812	698	611	489	406
34.5	N/A	N/A	3108	2355	1899	1592	1372	1206	1076	971	812	698	611	489	406
32.5	N/A	N/A	3108	2355	1899	1592	1372	1206	1076	971	812	698	611	489	406

Energy / Wh @ 25 °C

Duration / Hours

End of Discharge Voltage	1	2	3	4	5	10
46.5	4634	5121	5385	5544	5641	5739
45	N/A	5872	6139	6305	6413	6561
43	N/A	6851	7110	7281	7399	7608
41.5	N/A	7529	7775	7944	8064	8309
39.5	N/A	N/A	8519	8678	8795	9066
38	N/A	N/A	8937	9082	9191	9460
36	N/A	N/A	9265	9385	9477	9711
34.5	N/A	N/A	9324	9421	9495	9711
32.5	N/A	N/A	9324	9421	9495	9711

State of Charge vs Voltage

Voltage (V)

State of Charge	0.2C	0.5C	1.0C
100%	54.4	54.4	N/A
90%	52.5	51.5	N/A
80%	51.5	50.6	N/A
70%	50.0	49.1	N/A
60%	48.9	48.1	N/A
50%	47.6	46.8	N/A
40%	46.5	45.5	N/A
30%	45.5	44.5	N/A
20%	44.2	43.3	N/A
10%	41.1	41.0	N/A
0%	32.5	32.5	N/A

Technical Drawings





