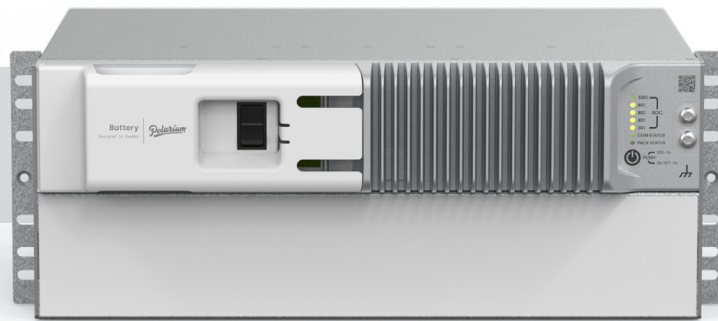




Battery 19" 4U / 100Ah

SLB48-100-144-1
13s Series, Generation 5

770-00249 Rev 1.3



Polarium Battery is an advanced power backup system. Its rechargeable 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	19" 4U
Lithium Chemistry	Nickel based
Rated Voltage	48 V
Rated Capacity (0.2 C, 25 °C to LVBD)	100 Ah
Rated Energy (0.2 C, 25 °C to LVBD)	4680 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)**	50 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. 35 Kg (77.2 lbs)
Dimensions	W 440 D 352 H 173 mm (W 17.3" D 13.9" H 6.9")
Circuit Breaker	100 A, BMS Controlled, single 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 2.5 V, 13 cells in series.

Data subject to change without notice

**If the charge current is 100 A or higher, the battery will automatically reduce the charge current to 6-12 A temporarily.

Data subject to change without notice

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
47	36.7	20.1	14.0	10.7	8.7	7.3	6.3	5.5	4.9	4.4	3.7	3.2	2.8	2.2	1.8
46	47.3	25.9	17.9	13.7	11.1	9.3	8.0	7.0	6.3	5.6	4.7	4.0	3.5	2.8	2.3
45	58.7	31.9	21.9	16.7	13.5	11.3	9.8	8.6	7.6	6.9	5.8	4.9	4.3	3.5	2.9
44	70.1	37.7	25.8	19.6	15.8	13.3	11.4	10.0	8.9	8.0	6.7	5.8	5.1	4.1	3.4
43	80.5	42.8	29.2	22.1	17.8	14.9	12.8	11.2	10.0	9.0	7.5	6.5	5.7	4.6	3.8
42	89.0	46.7	31.6	23.8	19.2	16.0	13.7	12.0	10.7	9.7	8.1	6.9	6.1	4.9	4.1
41	94.6	48.8	32.8	24.7	19.8	16.5	14.2	12.4	11.0	9.9	8.3	7.1	6.3	5.0	4.2
40	96.8	49.0	32.8	24.7	19.8	16.5	14.2	12.4	11.0	9.9	8.3	7.1	6.3	5.0	4.2
39	96.8	49.0	32.8	24.7	19.8	16.5	14.2	12.4	11.0	9.9	8.3	7.1	6.3	5.0	4.2

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
47	1851	1026	715	549	445	374	322	282	251	225	187	159	138	109	89
46	2338	1292	897	688	557	468	403	353	314	283	236	201	175	139	114
45	2850	1564	1083	829	671	563	485	426	379	342	285	244	213	170	141
44	3352	1824	1258	960	777	652	561	493	439	396	331	284	248	199	165
43	3804	2048	1405	1070	864	725	624	548	488	440	368	316	277	222	186
42	4164	2213	1511	1147	925	775	667	585	521	470	393	338	296	238	199
41	4399	2303	1562	1183	952	796	685	600	535	482	403	346	303	244	204
40	4483	2306	1562	1183	952	796	685	600	535	482	403	346	303	244	204
39	4483	2306	1562	1183	952	796	685	600	535	482	403	346	303	244	204

Energy / Wh @ 25 °C

Duration / Hours

End of Discharge Voltage	1	2	3	4	5	10
47	1851	2053	2146	2196	2225	2252
46	2338	2583	2692	2751	2786	2831
45	2850	3129	3249	3315	3354	3416
44	3352	3649	3774	3841	3883	3958
43	3804	4096	4216	4281	4322	4403
42	4164	4426	4532	4589	4625	4702
41	4399	4605	4687	4731	4759	4821
40	4483	4612	4687	4731	4759	4821
39	4483	4612	4687	4731	4759	4821

State of Charge vs Discharge Voltage

Current / C-rate

State of Charge	0.2 C	0.5 C	1.0 C
100 %	54.0	54.0	54.0
90 %	52.1	52.0	51.4
80 %	50.7	50.6	49.9
70 %	49.4	49.3	48.6
60 %	48.1	48.0	47.4
50 %	47.2	47.1	46.4
40 %	46.6	46.4	45.8
30 %	46.1	45.9	45.2
20 %	45.4	45.3	44.6
10 %	44.2	44.2	43.7
0 %	39.8	39.7	39.4

Technical Drawings

