



# Battery 19" 3U / 100Ah

SLB48-100-135-6

16s Series, Generation 5

770-00268 Rev 1.2



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" 3U
Lithium Chemistry	Iron 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)	5120 Wh
Calendar Life @ 80 % SOC	20 years
Peak Discharge Power	6 kW for 60 seconds
Discharge Cutoff Current	100 A, 300 seconds
End-of-Discharge Voltage (LVBD)*	40 V
Charge Current Limitation (CLD)**	100 A
Charge Voltage for 100 % SOC	58.4 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	39.3 Kg (87 lbs)
Dimensions	W 440 D 441 H 132 mm (W 17.3" D 17.4" H 5.2")
Circuit Breaker	125 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 2.5 V, 16 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



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## Constant Current / A @ 25 °C

Duration / Hours

End of Discharge Voltage	Duration / Hours														
	1	2	3	4	5	6	7	8	9	10	12	14	16	20	24
50	72.8	40.3	27.9	21.3	17.2	14.4	12.4	10.9	9.7	8.8	7.3	6.3	5.5	4.4	3.7
49	79.7	42.6	29.2	22.2	17.9	15.0	12.9	11.3	10.1	9.1	7.6	6.5	5.7	4.6	3.8
48	85.9	44.7	30.3	23.0	18.5	15.5	13.3	11.7	10.4	9.4	7.8	6.7	5.9	4.7	3.9
47	91.3	46.4	31.3	23.7	19.0	15.9	13.7	12.0	10.7	9.6	8.0	6.9	6.0	4.8	4.0
46	95.6	47.8	32.1	24.2	19.4	16.3	14.0	12.2	10.9	9.8	8.2	7.0	6.1	4.9	4.0
45	98.7	48.8	32.6	24.6	19.7	16.5	14.2	12.4	11.0	9.9	8.3	7.1	6.2	4.9	4.1
44	99.0	49.4	33.0	24.8	19.9	16.6	14.3	12.5	11.1	10.0	8.3	7.1	6.2	5.0	4.1
43	99.0	49.5	33.0	24.8	19.9	16.6	14.3	12.5	11.1	10.0	8.3	7.1	6.2	5.0	4.1
40	99.0	49.5	33.0	24.8	19.9	16.6	14.3	12.5	11.1	10.0	8.3	7.1	6.2	5.0	4.1

## Constant Power / W @ 25 °C

Duration / Hours

End of Discharge Voltage	Duration / Hours														
	1	2	3	4	5	6	7	8	9	10	12	14	16	20	24
50	3739	2081	1444	1105	895	751	647	568	506	457	381	327	287	230	191
49	4075	2196	1509	1151	930	780	671	589	525	473	395	339	296	237	197
48	4379	2297	1566	1190	960	805	692	607	541	487	407	349	305	243	202
47	4640	2383	1614	1223	985	825	710	622	554	499	416	357	312	248	206
46	4554	2450	1651	1249	1005	841	723	634	564	508	424	363	317	252	209
45	4455	2498	1678	1267	1018	852	732	642	571	514	429	367	321	255	211
44	4356	2525	1693	1276	1026	858	737	646	575	518	431	369	322	256	212
43	4257	2531	1696	1278	1027	858	737	646	575	518	431	369	323	257	212
40	3960	2531	1696	1278	1027	858	737	646	575	518	431	369	323	257	212

## Energy / Wh @ 25 °C

Duration / Hours

End of Discharge Voltage	Duration / Hours					
	1	2	3	4	5	10
50	3739	4162	4332	4421	4474	4565
49	4075	4391	4528	4603	4649	4731
48	4379	4594	4699	4761	4801	4875
47	4640	4765	4842	4892	4926	4992
46	4848	4900	4954	4995	5024	5083
45	4994	4996	5033	5066	5092	5144
44	5073	5050	5078	5106	5129	5176
43	5082	5061	5087	5113	5134	5177
40	5082	5061	5087	5113	5134	5177

## State of Charge vs Discharge Voltage

Current / C-rate

State of Charge	Current / C-rate		
	0.2 C	0.5 C	1.0 C
100 %	55.6	55.6	54.4
90 %	52.7	52.4	51.7
80 %	52.6	52.3	51.6
70 %	52.5	52.1	51.5
60 %	52.2	51.9	51.3
50 %	52.0	51.7	51.1
40 %	51.9	51.6	50.9
30 %	51.7	51.3	50.6
20 %	51.2	50.9	50.2
10 %	50.3	49.9	49.0
0 %	40.0	40.0	40.0

## Technical Drawings

