



Battery 19" 3U / 100Ah

SLB48-100-135-5H

15s Series, Generation 5

770-00354 Rev 3.0



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)	4800 Wh
Calendar Life @ 80 % SOC	15 years
Cycle life	8000 cycles, 0.2C, 25 °C, DoD 100%, SOH 80%
Peak Discharge Power	6 kW for 60 seconds
Discharge Cutoff Current	100 A
End-of-Discharge Voltage (LVBD)*	40.0 V
Charge Current Limitation (CLD)**	100 A
Charge Voltage for 100 % SOC	54.75 V
Operating Temperature Charging	-5 to +55 °C (23 to 131 °F)
Operating Temperature Discharging	-20 to +55 °C (-4 to 131 °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. 38.3 Kg (84 lbs)
Dimensions	W 440 D 461 H 132 mm (W 17.3" D 18.1" H 5.2")
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, 15 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.

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Polarium Energy Solutions AB

Solnavägen 3H (6th floor) | PO Box 1037 | SE-113 63, Stockholm, Sweden
Phone: +46 8 5454 4000 | info@polarium.com | www.polarium.com



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Constant Current / A

Duration / Hours

End of Discharge Voltage

	1	2	3	4	5	6	7	8	9	10	12	14	16	20	24
50	48.6	31.3	22.6	17.6	14.4	12.1	10.5	9.2	8.2	7.4	6.2	5.4	4.7	3.8	3.2
49	56.3	34.3	24.4	18.9	15.3	12.9	11.1	9.8	8.7	7.9	6.6	5.7	5.0	4.0	3.4
48	64.2	37.2	26.1	20.1	16.3	13.7	11.8	10.3	9.2	8.3	7.0	6.0	5.2	4.2	3.5
47	71.9	39.9	27.7	21.2	17.1	14.4	12.4	10.9	9.7	8.7	7.3	6.3	5.5	4.4	3.7
46	79.2	42.4	29.1	22.1	17.9	15.0	12.9	11.3	10.1	9.1	7.6	6.5	5.7	4.5	3.8
45	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
44	91.6	46.5	31.4	23.7	19.1	16.0	13.7	12.0	10.7	9.6	8.0	6.9	6.0	4.8	4.0
43	96.1	48.0	32.2	24.3	19.5	16.3	14.0	12.3	10.9	9.8	8.2	7.0	6.1	4.9	4.0
42	99.1	49.0	32.7	24.6	19.8	16.5	14.2	12.4	11.1	10.0	8.3	7.1	6.2	4.9	4.1

Constant Power / W

Duration / Hours

End of Discharge Voltage

	1	2	3	4	5	6	7	8	9	10	12	14	16	20	24
50	2378	1533	1110	865	706	595	514	452	403	364	305	263	231	187	158
49	2739	1673	1193	924	752	633	546	480	428	386	323	278	244	197	166
48	3104	1808	1272	979	795	668	576	506	451	407	340	292	256	206	172
47	3462	1936	1345	1030	834	701	603	530	472	426	356	305	267	214	179
46	3800	2052	1411	1076	870	729	628	551	491	443	369	317	277	222	184
45	4105	2154	1468	1116	900	754	649	569	507	457	381	327	286	228	189
44	4364	2239	1516	1148	925	775	666	584	520	469	391	335	293	233	193
43	4566	2304	1552	1173	944	790	679	596	530	477	398	341	298	237	196
42	4702	2349	1577	1190	957	800	688	603	536	483	403	345	301	239	198

Energy / Wh @ 25 °C

Duration / Hours

End of Discharge Voltage

	1	2	3	4	5	10
50	2378	3065	3331	3459	3529	3640
49	2739	3346	3580	3694	3758	3861
48	3104	3617	3816	3916	3973	4068
47	3462	3871	4035	4121	4171	4258
46	3800	4103	4233	4304	4348	4426
45	4105	4307	4405	4463	4501	4570
44	4364	4477	4547	4593	4625	4687
43	4566	4608	4656	4693	4720	4774
42	4702	4697	4730	4760	4783	4831

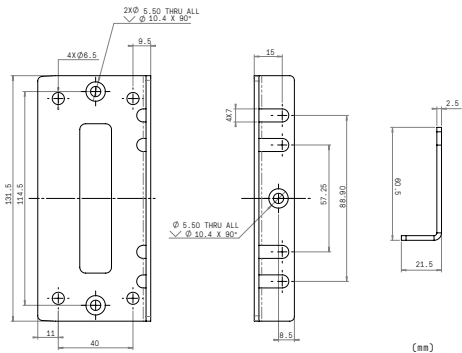
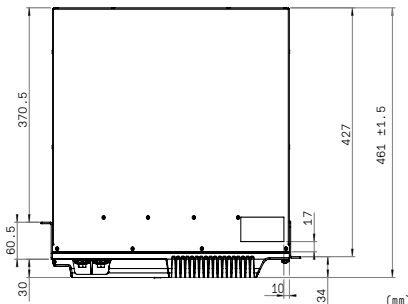
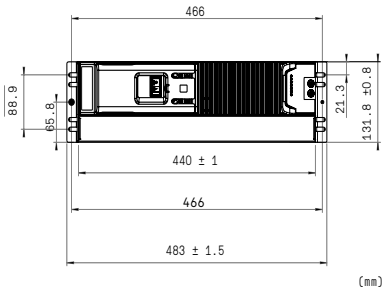
State of Charge vs Discharge Voltage

Current / C-rate

State of Charge

	0.2 C	0.5 C	1.0 C
100 %	52.1	52.4	51.0
90 %	49.4	49.1	48.5
80 %	49.3	49.0	48.4
70 %	49.2	48.9	48.3
60 %	48.9	48.7	48.1
50 %	48.8	48.5	47.9
40 %	48.7	48.3	47.7
30 %	48.5	48.1	47.5
20 %	48.0	47.7	47.0
10 %	47.2	46.8	45.9
0 %	37.5	37.5	37.5

Technical Drawings



Authorised, valued-added distributor

Australia & New Zealand



Powerbox Australia Pty Ltd

Sydney Head Office
4 Beaumont Road,
Mt Kuring-Gai, NSW 2080
Australia



1800 251 380



sales@powerbox.com.au



powerbox.com.au

Powerbox Pacific Ltd

New Zealand Sales Office
1a Henry Rose Place,
Albany, Auckland
New Zealand 0632



09 4158 320



sales@powerbox.co.nz



powerbox.co.nz