


## BATTERY MODULE ASTERION RTL 48V100AH

Asterion RTL lithium-ion battery module (BM) based on LiFePO4 chemistry for telecommunication equipment and energy storages consists of the following components:


- System of lithium-ion cells connected in series in a single module;
- Battery management system (BMS) ensuring battery cut-off in case of overcharge, deep discharge, overcurrent or short circuit inside the battery;
- Software to configure BMS interface.




Asterion RTL modules are installable into 19" rack systems.


 3 times longer lifetime compared to VRLA

 Wide range of operating temperatures (up to +60°C)

 Compact and lightweight

 The safest LiFePO4 technology

 High energy density

 Remote monitoring function

### Technical specification

Configuration	15S2P
Rated voltage, V	48
Rated capacity, Ah	100
Maximum discharging current, A	100
Maximum charging current, A	100
Recommended charging current (2 hours full charge), A	50
Charging voltage, V	51,8-54,7
Peak power consumption	7kW for 30 s
Operating temperature range, °C	-20 ... +60
Relative humidity	0-95%
Protection degree	IP20
Service life at DoD 80%	>4000 cycles, 15+ years
Service life at DoD 90%	>3500 cycles, 10+ years
Rated current of the main switch, A	125

### Connection

Modules power connection:

2 P+ and 2 P- pairs of poles for parallel connection of modules

Communication interface: RS232, RS485, CAN

Communication protocol: Modbus

Control via analog signal: 2 dry contacts

Number of modules connected in parallel ≤ 16

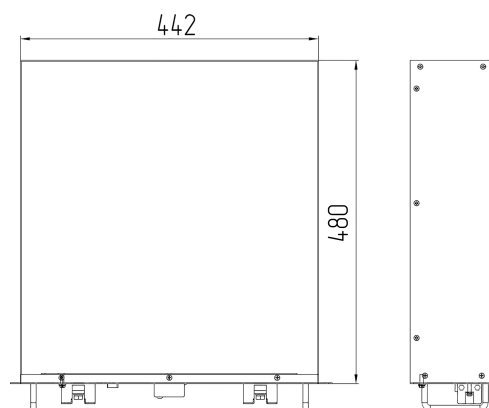
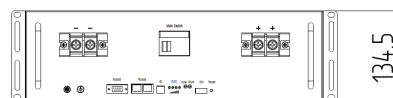
Series connection of modules is not supported

Recommended power cable cross-section 35 sq.mm

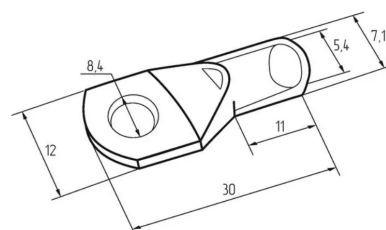
Torque, Nm 8

### Dimensions

Width, mm	442
Depth, mm	480
Height, mm	134,5
Module size (in 45 mm units)	3U
Net weight, kg	39,5±0,3



### Cable lugs



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## Optional features

- LCD display
- Modular circuit breaker - used as the main switch
- Heater - allows the battery module to effectively operate at low temperatures (down to -40°C)
- Anti-theft protection - battery GPS-tracking system (requires local SIM-card)
- Remote monitoring function and SNMP protocol

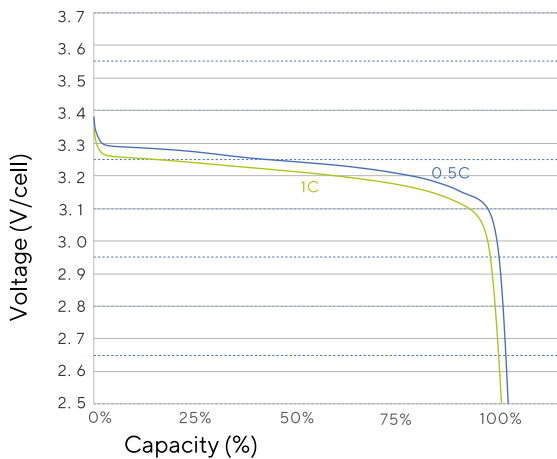
## Heat dissipation

Charging for 2 h with 50 A	540 kJ
Discharging for 1 h with 100 A	1080 kJ

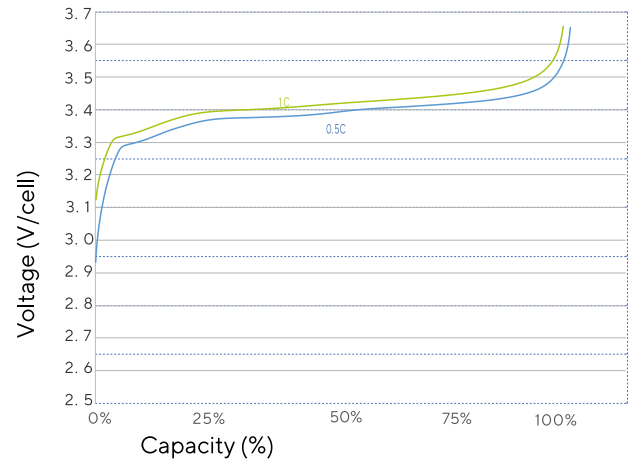
## Discharge characteristics at 25°C

End point, V	0,1C	0,15C	0,2C	0,3C	0,4C	0,5C	0,6C	0,7C	0,8C	0,9C	1C
	Time, h										
47,00	9,40	6,23	4,66	3,67	3,30	2,22	1,78	1,18	1,10	1,12	0,70
46,00	9,57	6,29	4,73	3,75	3,08	2,31	1,86	1,36	1,26	1,13	0,82
45,00	9,69	6,33	4,80	3,86	3,14	2,40	1,93	1,38	1,28	1,18	0,93
44,00	9,83	6,46	4,86	3,88	3,24	2,43	1,98	1,39	1,29	1,23	0,97
43,50	9,85	6,47	4,87	3,89	3,30	2,45	1,99	1,41	1,31	1,23	0,98
43,20	9,87	6,48	4,90	3,90	3,30	2,45	1,99	1,41	1,31	1,24	0,98
43,00	9,93	6,50	4,90	3,90	3,28	2,45	2,00	1,41	1,31	1,24	1,00
42,00	10,10	6,58	4,97	3,96	3,31	2,50	2,01	1,41	1,31	1,25	1,00

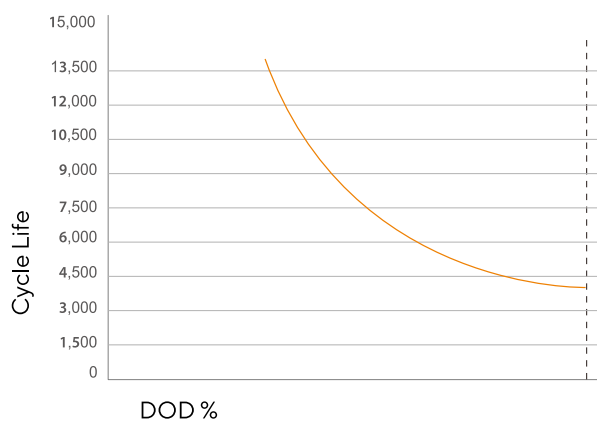
Discharge characteristic at 25°C



Charge characteristic at 25°C



Cycle life at EOL 80% of residual capacity



Self-discharge over time

