



## **SDA10-4820**

**Lithium-ion battery system  
for telecommunication**



Add: Economic Development Zone, Jiangyan district, Taizhou, Jiangsu, China.  
Zip: 225500  
Tel: +86 523-88521888  
Fax: +86 523-88521244  
E-mail: [office@shuangdeng.com.cn](mailto:office@shuangdeng.com.cn)

**shoto**<sup>®</sup>





Make full use of internet platform  
Big Data cloud storage  
Service for customers worldwide

With market share ranking first in the mainstream of China's telecom operators for many years and have get the net certificate in many regions around the world and sell to 127 nations and districts in five continents.

Shoto firmly promote green low-carbon career and always fulfill the concept of "new energy, circularity and high-tech", to manage from the five link key aspects: design, development, green purchasing, system management, recycling, energy conservation and emissions reduction to create green model for the industry, to create a green life for human beings and store a green future for the earth.

Pursue the perfection  
To build up a strong  
and sustainable enterprise

Shoto has owned several honors such as "National environment friendly enterprise", "National key high-tech industry group", "China's top 100 electronic information enterprises", "Global 500 new energy enterprises".

Explore actively  
To find an ever-increasing energy new world

Communication

Possess all series of energy storage solutions and provide firm green energy security;

Telecom

Becoming the core of constructing the future smart grid center;

Power

New clean and efficient power energy, to provide endless power for the social development;

Recycling

Take the lead in building circulation industry chain, make renewable energy, restore a healthy earth.

Converge global industry experts  
and unite research institutes  
Collaborate with customers to develop  
the world's leading energy storage systems

The establishment of the Chinese Academy of Sciences in cooperation with the establishment of the Advanced Energy Development Research Center, academicians workstation, post-doctoral research station, state-level enterprise technology center have take on the 863 and other national research projects and research and develop the world forward-looking high-end new energy projects.



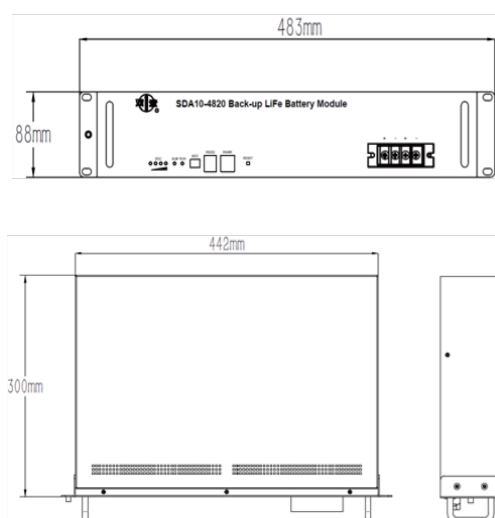
## Application Scenarios

- Telecommunication
- UPS
- Renewable energy

## Product Certificates

- ISO9001
- ISO14001
- CE
- UL
- TÜV

## size



The SDA-4820 series uses new LiFePO<sub>4</sub> technology, this reliable SHOTO product is safe, durable and easy to install in any new or existing telecom sites; especially suitable for outdoor cabinets.

Key advantages

- High energy density: more energy with less weight and footprint.
- High charge currents (short charge period)
- High discharge currents
- Long battery life (up to three times the battery life of a conventional battery)
- High efficiency between charging and discharging
- Higher continual power available
- Wide operating temperature
- Predictable end of life due BMS controller

## Technical Parameters

Item	Parameters	
1. Performance Parameter		
Nominal voltage	48V	
Rated capacity	20Ah ( C <sub>s</sub> , 0.2C to 40V at 25 °C )	
Operating voltage range	40V-56.4V	
Charging voltage	56.4V	
Charging current (current-limiting )	5A	
Discharge current (Maximum)	20A	
Discharge cut-off voltage	40V	
Dimensions	Width	442mm
	Height	88mm
	Depth	300mm
Weight	About 13.8 kg	
2. Function Description		
Installation method	Rack mounted / Wall mounted	
Communication interface	RS232 / RS485	
Indicator state	ALM / RUN / SOC	
Parallel communication	Maximum support for 16 sets of parallel	
Terminal stud	M6	
Alarm and protection	Over voltage, under voltage, short circuit, overload, over current, over temperature, low temperature protection, etc.	
3. Working Condition		
Cooling mode	Automatic cold and hot	
Altitude	≤4000m	
Humidity	5%-95%	
Operating temperature	Charge	-5 °C ~+45 °C
	Discharge	-20 °C ~+50 °C
Recommended operating temperature	Charge	+15 °C ~+35 °C
	Discharge	+15 °C ~+35 °C
	Storage	-10 °C ~+35 °C

Passion for Storage  
and Green Energy

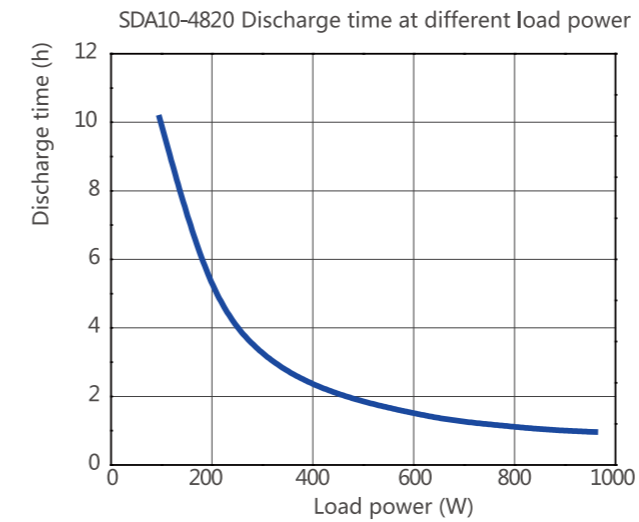
SDA10-4820 series Constant Current Discharge Characteristics (25°C,77°F)

Voltage	Current/A									
	0.1C	0.2C	0.3C	0.4C	0.5C	0.6C	0.7C	0.8C	0.9C	1C
46.5V	9.35	4.60	2.86	1.99	1.50	1.17	0.90	0.77	0.52	0.34
45.0V	9.89	4.77	3.10	2.24	1.75	1.44	1.17	1.03	0.85	0.77
43.5V	10.02	4.87	3.14	2.29	1.80	1.49	1.22	1.09	0.96	0.87
42.0V	10.10	4.95	3.22	2.36	1.85	1.54	1.26	1.13	0.99	0.91
40.0V	10.16	5.05	3.32	2.44	1.92	1.60	1.32	1.18	1.04	0.97

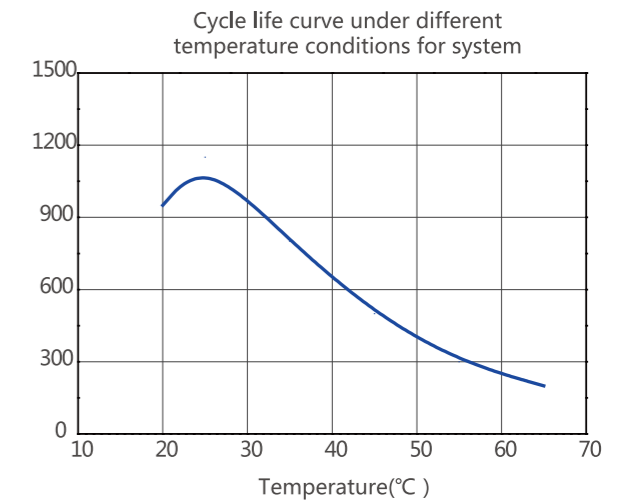
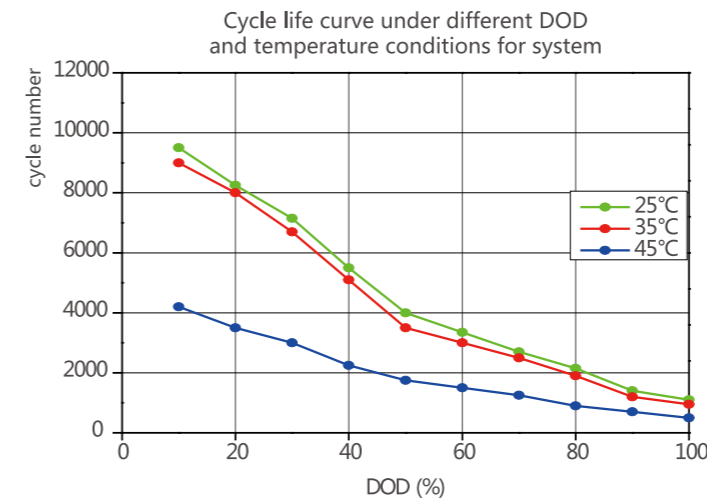
SDA10-4820 Constant Power Discharge Characteristics (25°C,77°F)

Voltage	Power/W									
	96	192	288	384	480	576	672	768	864	960
46.5V	9.32	4.56	2.82	1.97	1.49	1.15	0.88	0.75	0.51	0.34
45.0V	9.86	4.74	3.07	2.23	1.74	1.42	1.16	1.01	0.84	0.77
43.5V	9.99	4.84	3.10	2.27	1.79	1.47	1.20	1.07	0.94	0.86
42.0V	10.07	4.91	3.18	2.34	1.84	1.52	1.24	1.11	0.97	0.91
40.0V	10.13	5.02	3.28	2.42	1.91	1.58	1.30	1.16	1.02	0.96

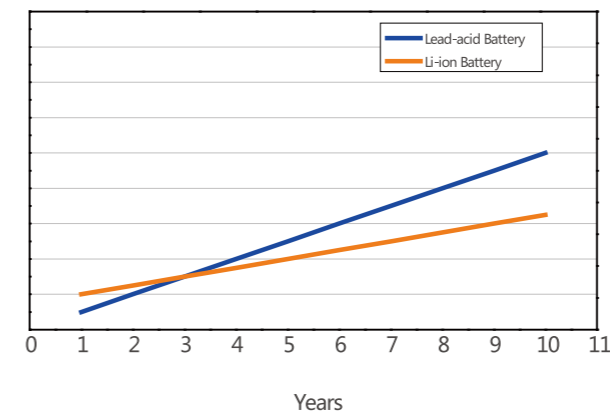
Discharge Curves



Cycle Life Curves



The TCO curve of different battery



Calendar life curve of battery design at different temperatures

