

Data Center Smart Li-ion Battery Solution

SmartLi

Introduction

SmartLi is a battery energy storage system developed by Huawei for UPS, which has the features of safety and reliability, long lifespan, space saving and easy maintenance. LFP is the safest cell of Li-ion battery. The unique active current balance control technology supports the mix use of new and old batteries, which reduces Capex. Three-level BMS system realizes intelligent battery management with Huawei UPS and Network management system, which reduces Opex.

Features

Reliable

- Long cycle lifespan, cycle lifetime can be up to 5000 times
- Highly stable LFP cell, no fire after thermal runaway
- Smart active voltage balance control, one battery module failure, the system can work normally
- Three-level BMS system ensures reliability
- Cabinet-level fire extinguishing, precise and quick fire fighting, non-proliferation

Efficient

- High power density, saving 70% footprint
- Smart BMS system, saving 80% routine O&M costs

Simple

- Active current balance control, supporting new and old battery cabinets mixed using, flexible to expand



SmartLi

Specifications

	Item	Description
Basic Parameters	Product Model	SmartLi-512V-80AH
	Battery Cell Material	LiFePO ₄
	Nominal Voltage	512Vdc
	Nominal Charging Voltage	544Vdc
	Charging Current	≤ 1C, 0.5C by default
	Rated Max. Discharging Current	480A continuous discharge (6C)
	Cycle Life	5000 cycles @ 50% DOD
	Nominal Capacity	80Ah / 40.96kWh (6C)
	Weight	800kg
	Dimension (W*D*H)	600mm*850mm*2000mm
	Self Discharge	≤5% (0-30°C/3 months)
	Fire protection	Cabinet-level fire protection
	Communication Interface	FE, RS485, Dry contacts
	Protection	Over temperature, over current, short circuit, over charge/discharge, etc.
Certification	UL1642, UN38.3, IEC62619, IEC62040	

Item	Description	
Environment	Storage Temperature	0°C - 40°C
	Transportation Temperature	-40°C to 60°C
	Operating Temperature	0°C - 40°C (20-25°C is recommended)
	Relative Humidity	5% - 95%
	Max. Operating Altitude	0 - 4000m. Above 1000m, derating rate based on EN/IEC 62040-3.

Specifications

	Cell	Module	Full Cabinet	Half Cabinet
Configuration	Single cell	20S2P	16 module(2 groups)	8 module(1 groups)
Declared Capacity (6C)	> 20Ah	40Ah	80Ah	40Ah
Nominal Voltage	3.2Vdc	64Vdc	512Vdc	512Vdc
Operation Voltage Range	2.5 - 3.4Vdc	50 - 68.8Vdc	400 - 544Vdc	400 - 544Vdc
Dimension(W*D*H: mm)	21*100*140	200.5*592*157.5	600*850*2000	600*850*2000
Weight	605g	35kg	800kg	520kg

Back-up Time (in minutes)

Power	0.5 cabinet	1 cabinets	1.5 cabinets	2 cabinets	2.5 cabinets	3 cabinets	3.5 cabinets	4 cabinets
100kW	10	24	36	48	60	72	84	96
200kW	-	10	16	22	28	33	39	45
300kW	-	-	10	15	18	22	26	30
400kW	-	-	-	10	12	16	19	22
500kW	-	-	-	-	10	15	16	18
600kW	-	-	-	-	-	10	12	15
800kW	-	-	-	-	-	-	-	10

Power	4.5 cabinet	5 cabinets	5.5 cabinets	6 cabinets	6.5 cabinets	7 cabinets	7.5 cabinets	8 cabinets
100kW	108	120	132	144	156	168	180	192
200kW	52	58	65	72	78	84	90	96
300kW	35	39	44	48	52	56	60	64
400kW	25	28	32	36	39	42	45	48
500kW	20	22	25	28	30	33	36	38
600kW	17	19	21	23	25	27	29	32
800kW	11	13	16	17	19	20	22	24

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Version No.: M3-040174-20170224-E-4.0

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