



**HIGH-PERFORMANCE
ENERGY STORAGE BATTERY
SOLUTION PROVIDER**



PHYLION CHINA

PHYLION BATTERY CO., LTD. (HEADQUARTER & 1ST PRODUCTION BASE)

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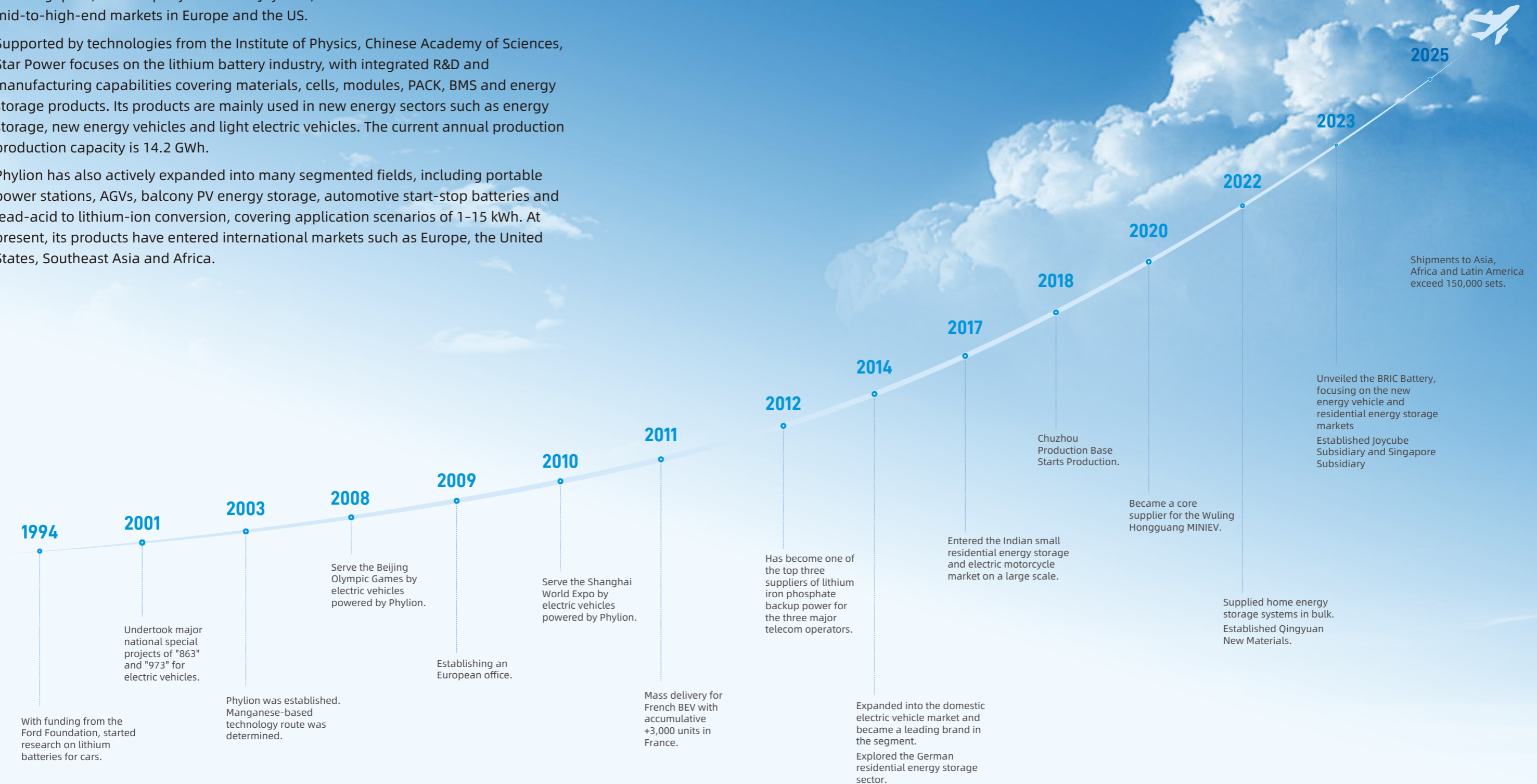
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ABOUT PHYLION

Phylion, founded in 2003 and headquartered in Suzhou, Jiangsu Province, is a leading domestic high-tech enterprise in the new energy industry. With production bases in Suzhou, Chuzhou, Indonesia, and Hungary, and subsidiaries in the Netherlands, India, and Singapore, the company also owns Joycube, a sub-brand focused on mid-to-high-end markets in Europe and the US.

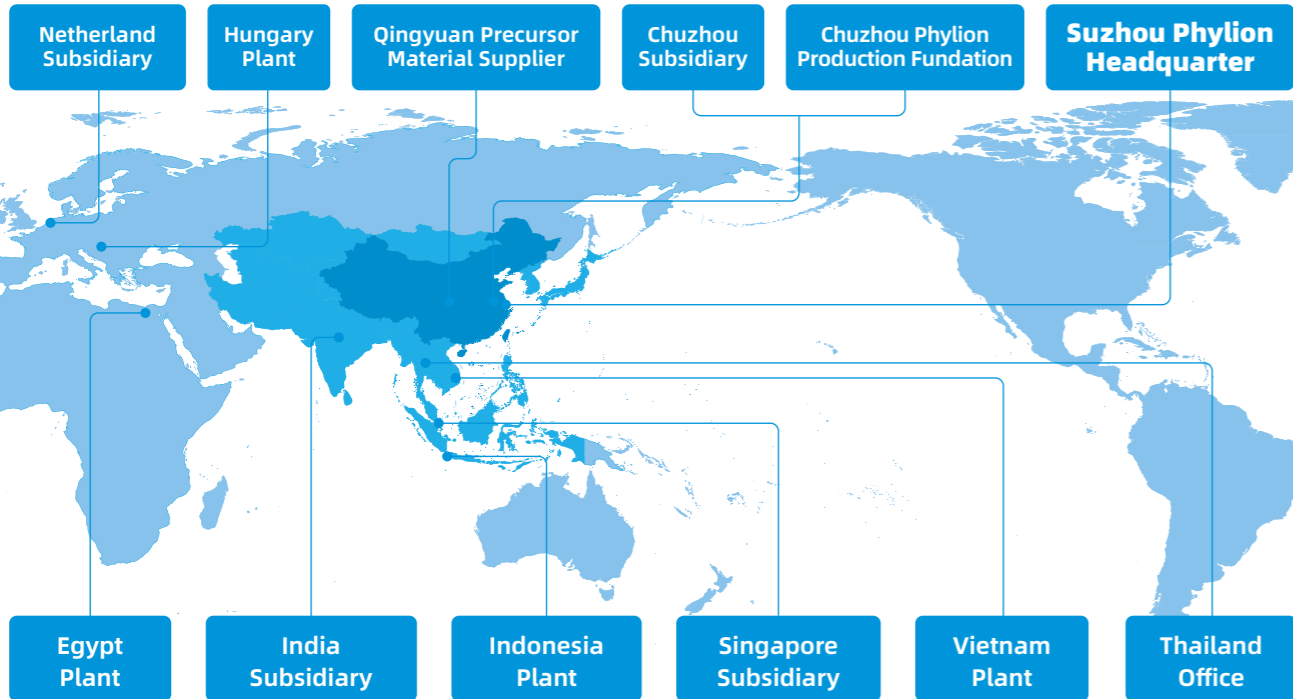
Supported by technologies from the Institute of Physics, Chinese Academy of Sciences, Star Power focuses on the lithium battery industry, with integrated R&D and manufacturing capabilities covering materials, cells, modules, PACK, BMS and energy storage products. Its products are mainly used in new energy sectors such as energy storage, new energy vehicles and light electric vehicles. The current annual production capacity is 14.2 GWh.

Phylion has also actively expanded into many segmented fields, including portable power stations, AGVs, balcony PV energy storage, automotive start-stop batteries and lead-acid to lithium-ion conversion, covering application scenarios of 1-15 kWh. At present, its products have entered international markets such as Europe, the United States, Southeast Asia and Africa.



GLOBAL LAYOUT

CHINA: **23** Years | EU: **18** Years | INDIA: **9** Years | SOUTHEAST ASIA: **4** Years



QUALIFICATION

CERTIFICATIONS



IP & PATENTS

Intellectual property:
Lithium-ion Manganate (property code: 01134448.2).

Battery Researching Center (BRC):
Committed to the forefront of lithium-ion battery technology research from the innovation materials to the cut edge process.



Battery Engineering Center (BEC):
Specialized in the product development and optimization based on the deep understanding of the applications.

NATIONAL PROJECTS

11 China national "863" EV battery projects, 2 China national "973" projects.



WHY PHYLION

23 years experience & know-how committed to continuous innovation of lithium-ion battery technology for EES.

SAFETY FIRST

Multiple mechanisms on cell design to ensure safety.



Safety Valve

Safety valve automatically releasing the internal gas pressure in extreme condition.



Cover

Cover sealed by laser welding, efficient and reliable.



Material

Material of the international patented materials laying the foundation on cell safety. Ceramic PP separator enhancing the cell thermostability.



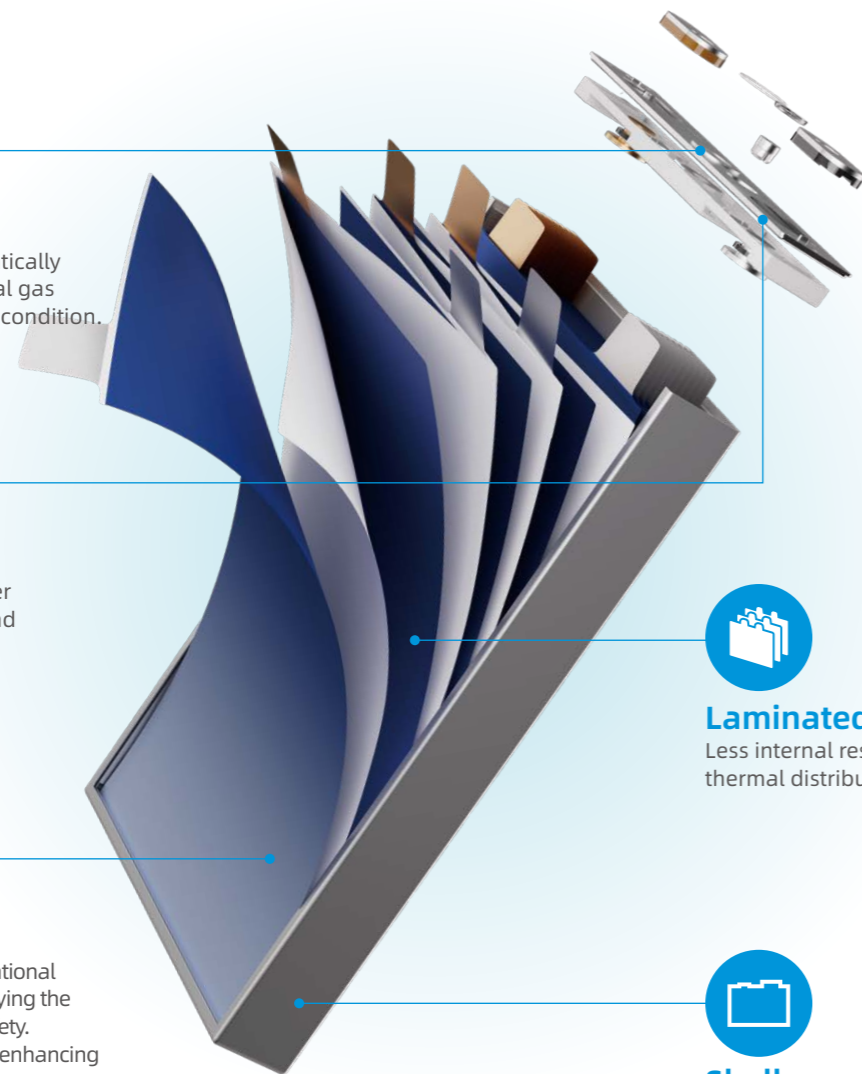
Laminated Foils

Less internal resistance, balanced thermal distribution.



Shell

Shell protecting internal foils from the external force.



TECHNOLOGY INNOVATION



Positive Electrode High-Energy Ion Release

- Precursor grain boundary strengthening for enhanced capacity.
- Multi-element composite modification for improved conductivity.
- Microparticle coating to boost conduction speed.



Anode Improves low-temperature performance and preserves energy

- Carbon coating provides efficient transport pathways.
- Interface toughening reduces lithium loss.
- Directional granulation improves low-temperature performance.



Output Enhancement High-Conductivity Network

- Multi-metal conductive network reduces internal resistance.
- 3D stereo conductive network accelerates dynamic response.
- Conductivity-enhanced coating improves transmission efficiency.
- Composite solid electrolyte enhances stability.



Conduction Enhancement Self-Healing Electrolyte

- Improves the high-low temperature shelf life and cycling performance of the cathode.
- Strengthens the formation of a stable, flexible SEI film on the anode.
- Optimizes the solvent to repair microcracks.



Structure Enhancement Thermal Shutdown Separator

- Composite-coated separator prevents thermal runaway.
- High-speed ion channels enable fast lithium-ion transport.
- Optimized high wettability avoids localized capacity fading.

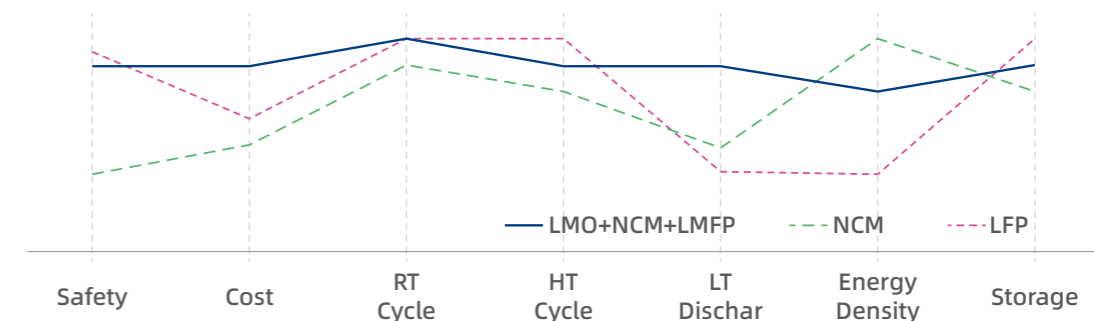
LMO+NCM+LMFP

Carbon coated LMFP can establish a decent conductive net with CNTs/SP. Nanoscale primary particle LMFP improves Electrolyte adsorption and building the unobstructed ion shifting channel. Ameliorative LMFP above will contribute to a better cycle life and low temperature performance.

LFP


The LFP material with nano-sized particles is adopted to increase the energy density of the cell. The proper positive and negative material conductive network is constructed through carbon nanotubes and graphene, etc., to improve the cycle performance. Optimized electrolyte and additives improve the low temperature performance of the cell.


Combined competitiveness





PRODUCT SPECIFICATION


CELLS


1833 SERIES	Model No.	IMP18/66/129(12)HA	ISP18/66/129(14)HA
	Nominal Capacity	12Ah	14Ah
	Dimension(TxWxH)	18*66*133mm	18*66*133mm
	Material	LMO+LMFP	LMO+NCM+LMFP
	Nominal Voltage	3.7V	3.7V
	Discharge cut off voltage	2.7V	2.7V
	Charge cut off voltage	4.2V	4.2V
	Max discharge current	2C	2C
	Charge method	CC/CV	CC/CV
	Working Temp	Charge 0°C ~ +55°C Discharge -20°C ~ +60°C	
	Cycle Life(1C)	≥1200	≥2200
Weight(Appr.)	315g	320g	


15119 SERIES	Model No.	IMP15/119/129(20)EA	ISP15/119/129(24)EA	IFP15/119/129(24)EA
	Nominal Capacity	20Ah	24Ah	24Ah
	Dimension(TxWxH)	15*119*133mm	15*119*133mm	15*119*133mm
	Material	LMO+LMFP	LMO+NCM+LMFP	LFP
	Nominal Voltage	3.7V	3.7V	3.2V
	Discharge cut off voltage	2.7V	2.7V	2.5V
	Charge cut off voltage	4.2V	4.2V	3.65V
	Max discharge current	2C	2C	3C
	Charge method	CC/CV	CC/CV	CC/CV
	Working Temp	Charge 0°C ~ +55°C Discharge -20°C ~ +60°C		
	Cycle Life(1C)	≥1500	≥2200	≥3000
Weight(Appr.)	525g	530g	505g	

17119 SERIES	Model No.	IMP17/119/129(24)EA	IFP17/119/129(27)EA
	Nominal Capacity	24Ah	27Ah
	Dimension(TxWxH)	17*119*133mm	17*119*133mm
	Material	LMO+LMFP	LFP
	Nominal Voltage	3.7V	3.2V
	Discharge cut off voltage	2.7V	2.5V
	Charge cut off voltage	4.2V	3.65V
	Max discharge current	2C	3C
	Charge method	CC/CV	CC/CV
	Working Temp	Charge 0°C ~ +55°C Discharge -20°C ~ +60°C	
	Cycle Life(1C)	≥1500	≥3000
Weight(Appr.)	575g	565g	

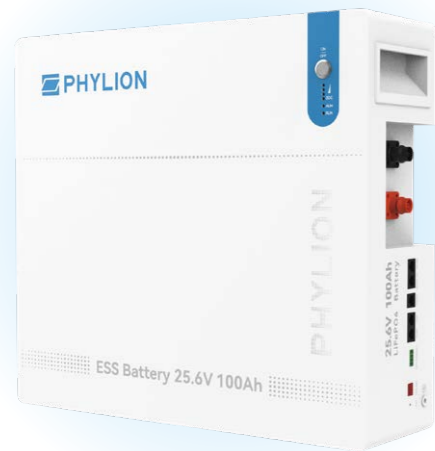
21119 SERIES	Model No.	IMP21/119/129(30/32)EA	IFP21/119/129(32/35)EA
	Nominal Capacity	30/32Ah	32/35Ah
	Dimension(TxWxH)	21*119*132mm	21*119*132mm
	Material	LMO+LMFP	LFP
	Nominal Voltage	3.7V	3.2V
	Discharge cut off voltage	2.7V	2.5V
	Charge cut off voltage	4.2V	3.65V
	Max discharge current	2C	3C
	Charge method	CC/CV	CC/CV
	Working Temp	Charge 0°C ~ +55°C Discharge -20°C ~ +60°C	
	Cycle Life(1C)	≥1500	≥3000
Weight(Appr.)	695g	666/700g	

21119 SERIES	Model No.	IMP21/119/152(40)EA	IFP21/119/152(43)EA
	Nominal Capacity	40Ah	43Ah
	Dimension(TxWxH)	21*119*155mm	21*119*155mm
	Material	LMO+LMFP	LFP
	Nominal Voltage	3.7V	3.2V
	Discharge cut off voltage	2.7V	2.5V
	Charge cut off voltage	4.2V	3.65V
	Max discharge current	2C	3C
	Charge method	CC/CV	CC/CV
	Working Temp	Charge 0°C ~ +55°C Discharge -20°C ~ +60°C	
	Cycle Life(1C)	≥1500	≥3000
Weight(Appr.)	880g	850g	

21119 SERIES	Model No.	IMP21/119/175(50)EA	IFP21/119/175(50)EA
	Nominal Capacity	50Ah	50Ah
	Dimension(TxWxH)	21*119*178mm	21*119*178mm
	Material	LMO+LMFP	LFP
	Nominal Voltage	3.7V	3.2V
	Discharge cut off voltage	2.7V	2.5V
	Charge cut off voltage	4.2V	3.65V
	Max discharge current	2C	3C
	Charge method	CC/CV	CC/CV
	Working Temp	Charge 0°C ~ +55°C Discharge -20°C ~ +60°C	
	Cycle Life(1C)	≥1500	≥3000
Weight(Appr.)	975g	930g	

30110 SERIES	Model No.	IFP30/110/300(100)EA
	Nominal Capacity	100Ah
	Dimension(TxWxH)	30*110*300mm
	Material	LFP
	Nominal Voltage	3.2V
	Discharge cut off voltage	2.5V
	Charge cut off voltage	3.65V
	Max discharge current	2C
	Charge method	CC/CV
	Working Temp	Charge 0°C ~ +55°C Discharge -20°C ~ +60°C
	Cycle Life(1C)	≥3000
Weight(Appr.)	2035g	

ENERGY STORAGE SYSTEM



LOW-VOLTAGE SYSTEM SCHEME LV2.5KWH

Battery model	30110-100Ah LFP
Rated capacity of the battery cell	100Ah
Arrangement of electric core	1P8S
Nominal module	25.6V/100Ah, 2560Wh
Operating voltage range	20~29.2V
System size	454*410*135mm
Communication method	CAN or 485
Fixing method	Wall Mount
Cycle life	25°C, 0.5Pcharging/discharging, 6000times/70%EOL, 90%DOD



LOW-VOLTAGE SYSTEM SCHEME LV5KWH

Battery model	30110-100Ah LFP
Rated capacity of the battery cell	100Ah
Arrangement of electric core	1P16S
Nominal module	51.2V/100Ah, 5120wh
Operating voltage range	40~58.4V
System size	580*480*153mm
Communication method	CAN or 485
Fixing method	Wall Mount
Cycle life	25°C, 0.5Pcharging/discharging, 6000times/70%EOL, 90%DOD



LOW-VOLTAGE SYSTEM SCHEME LV5KWH

Battery model	30110-100Ah LFP
Rated capacity of the battery cell	100Ah
Arrangement of electric core	1P16S
Nominal module	51.2V/100Ah, 5120wh
Operating voltage range	40~58.4V
System size	580*480*153mm
Communication method	CAN or 485
Fixing method	Rack-mounted, supporting multiple packages in parallel
Cycle life	25°C, 0.5Pcharging/discharging, 6000times/70%EOL, 90%DOD



LOW-VOLTAGE SYSTEM SCHEME LV10KWH

Battery model	30110-100Ah LFP
Rated capacity of the battery cell	100Ah
Arrangement of electric core	2P16S
Nominal module	51.2V/200Ah, 10240Wh
Operating voltage range	40~58.4V
System size	454*240*635mm
Communication method	CAN or 485
Fixing method	Floor or Wall Mounting
Cycle life	25°C, 0.5Pcharging/discharging, 6000times/70%EOL, 90%DOD



**LOW-VOLTAGE SYSTEM SCHEME
LV2.5KWH**

Battery model	21119-50Ah LFP
Rated capacity of the battery cell	50Ah
Arrangement of electric core	2P8S
Nominal module	25.6V/100Ah, 2560Wh
Operating voltage range	20~29.2V
System size	454*300*200mm
Communication method	CAN or 485
Fixing method	Wall Mount
Cycle life	25°C, 0.5Pcharging/discharging, 6000times/70%EOL, 90%DOD



**LOW-VOLTAGE SYSTEM SCHEME
LV10KWH**

Battery model	54173-205Ah LFP
Rated capacity of the battery cell	205Ah
Arrangement of electric core	1P16S
Nominal module	51.2V/205Ah, 10496Wh
Operating voltage range	40~58.4V
System size	710*400*230mm
Communication method	CAN or 485
Fixing method	Wall Mount
Cycle life	25°C, 0.5Pcharging/discharging, 6000times/70%EOL, 90%DOD



**LOW-VOLTAGE SYSTEM SCHEME
LV5KWH**

Battery model	21119-50Ah LFP
Rated capacity of the battery cell	50Ah
Arrangement of electric core	2P16S
Nominal module	51.2V/100Ah, 5120wh
Operating voltage range	40~58.4V
System size	454*410*200mm
Communication method	CAN or 485
Fixing method	Wall Mount
Cycle life	25°C, 0.5Pcharging/discharging, 6000times/70%EOL, 90%DOD



**LOW-VOLTAGE SYSTEM SCHEME
LV16KWH**

Battery model	71173-314Ah LFP
Rated capacity of the battery cell	314Ah
Arrangement of electric core	1P16S
Nominal module	51.2V/314Ah, 16076.8Wh
Operating voltage range	40~58.4V
System size	850*400*230mm
Communication method	CAN or 485
Fixing method	Wall Mount
Cycle life	25°C, 0.5Pcharging/discharging, 6000times/70%EOL, 90%DOD



**HIGH-VOLTAGE SYSTEM SCHEME
LV19.2KWH**

Battery model	21119-50Ah LFP
Rated capacity of the battery cell	50Ah
Arrangement of electric core	1P120S
Nominal module	384V/50Ah, 19200Wh
Operating voltage range	348 ~ 438V
System size	620*1000*220mm
Communication method	CAN or 485
Fixing method	Floor or Wall Mounting
Cycle life	25°C, 0.5Pcharging/discharging, 6000times/70%EOL, 90%DOD



**HIGH-VOLTAGE SYSTEM SCHEME
HV5KWH**

Battery model	30110-100Ah LFP
Rated capacity of the battery cell	100Ah
Arrangement of electric core	1P16S
Nominal module	51.2V/100Ah, 5120Wh
working voltage range	40~58.4V
System size(mm)	580*480*153mm
Communication method	CAN
Fixing method	Rack
Number of battery packs connected in series	2-16
Cycle life	25°C, 0.5Pcharging/discharging, 6000times/70%EOL, 90%DOD



**HIGH PERFORMANCE LITHIUM SUBSTITUTE
LEAD STANDARD BATTERY MODULE**

Battery model	21119-50Ah LFP
Rated capacity of the battery cell	50Ah
Arrangement of electric core	2P4S
Nominal module	12.8V/100Ah, 1280Wh
Working voltage range	10~14.6V
Module size	260*168*209mm
Cycle life	25°C, 0.5Pcharging/discharging, 90%DOD, 3000times/80%SOC, 4500times/70%SOC