Pytes

COMPANY PROFILE



Pytes B.V.

BATTERY EXPERT-GREEN ENERGY PROVIDER

LI-ION BATTERY FOR ENERGY STORAGE



Pytes B.V.

COMPANY PROFILE

LI-ION BATTERY FOR ENERGY STORAGE

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Pytes

PYTES, a national high-tech enterprise founded in 2004, focuses on Lithium-ion battery solutions for e-bikes, e-motorcycles, 3C products, vacuum cleaners and energy storage systems, etc. Headquartered in Shanghai, PYTES has been expanding globally, setting up three production bases in Shanghai (China), Shandong (China) ,and Vietnam, two marketing & service centers in Europe and North America. PYTES is strong in R&D, with advanced laboratories certified by TUV, DEKRA, SGS & BV, etc.



$125M
Total Asset

19 Years
Industry experience

1000+
Employee

$177M
Turnover in 2022

3.95Gwh
Annual capacity

Headquarter in Shanghai



Add: No. 3492 Jinqian Road, Fengxian District, Shanghai,China

Global Marketing & Service





Europe

PYTES EU office
(The Netherlands)



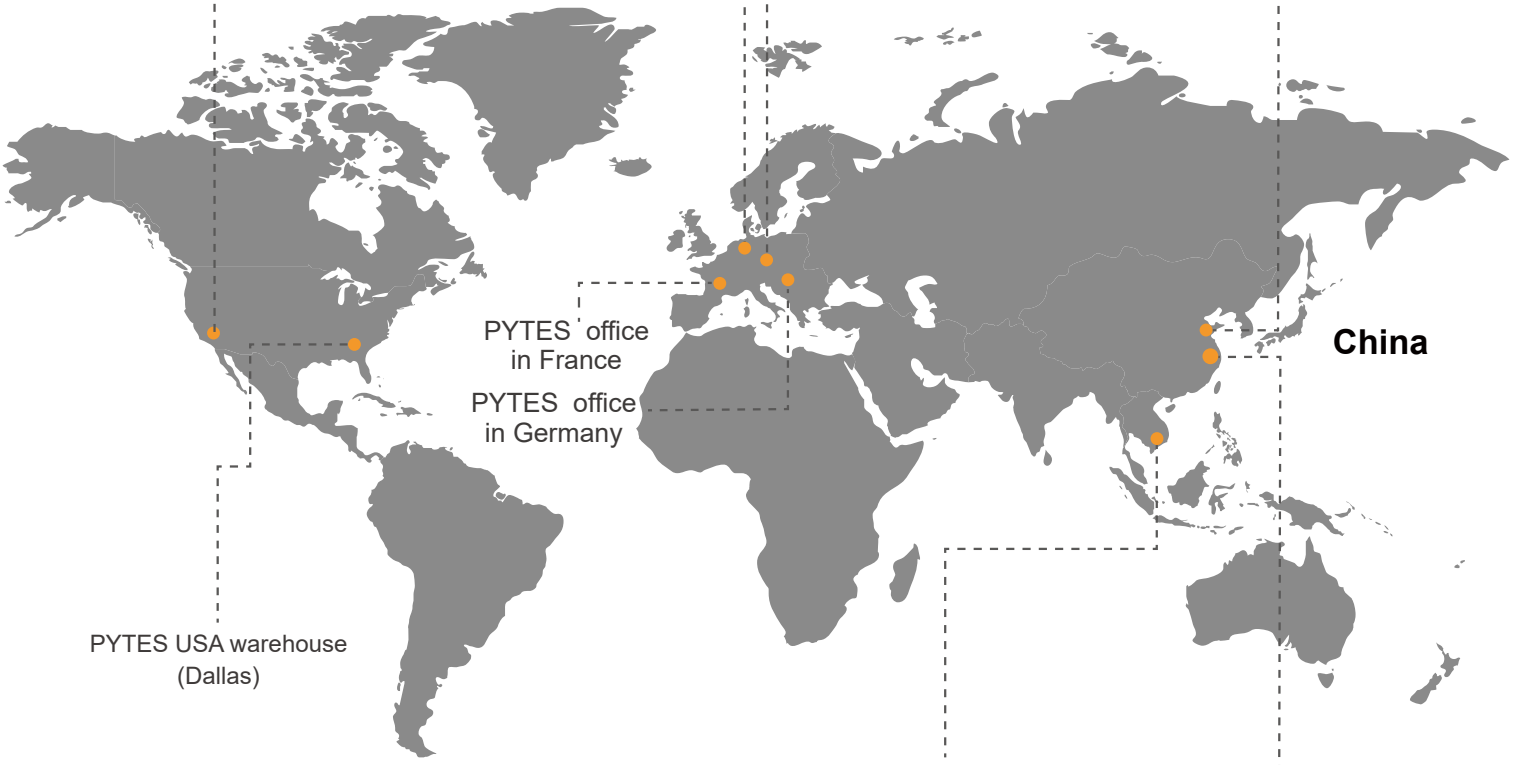
Factory in
Hungary



Factory in Shandong

North America

PYTES USA office
(LA)



PYTES office
in France

PYTES office
in Germany

China

PYTES USA warehouse
(Dallas)

Vietnam



Factory in Ho Chi Minh City



Headquarter/
Factory in Shanghai

· Global pre-sales & after-sales services
· 7*24H support，Efficient feedback



Testing Labs



SGS



BV



TUV



DEKRA

Mechanical Tests



Vibration Test



Drop Test



Shocking Test



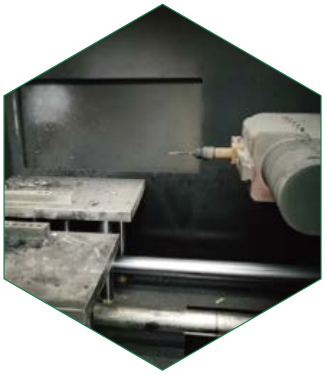
Safety Tests



Short circuit Test



Impact Test



Needle Test

Environmental Tests



Altitude Simulation



Thermal Shock

Electrical Tests



Qualification & Certification



ISO9001:2015



ISO14001:2015



RoHS



CB



UL



PSE



KC



REACH



UN38.3



GB31241



CU



IEC62133



Standard Products Introduction

E-BOX-48100R



Introduction

E-BOX series, the new generation LFP battery for home energy storage system. It provides safe,well-designed and high-performance standard LFP battery pack for you. The battery pack is compact, easy to install, free of maintenance, and could be deployed to the building block of energy storage system by being assembled in parallel. It is widely applied in home applications, small commercial and industrial energy storage system as well as Telecom stations.

Features

Self-Consumption
store excess energy generated by solar panels and use it whenever needed

Back-Up Power Supply
provide emergency power supply during grid outage

Electricity Bills Reduction
charge the battery during off-peak period and discharge the battery during peak period

Smart Energy Management
measure, monitor and manage the system in real-time
optimize the system life span by intelligent algorithms

Longest Life and Highest Safety
more than 6000 cycles @90%DOD

Wide Compatibility
compatible with 16 mainstream inverters in the market

10 Years Warranty

CE CLEAN ENERGY COUNCIL UL SAA UN38.3 IEC

Batteries

E-BOX-4850

440mm * 420mm * 89mm (2U)
48V 50Ah 2.4kWh

110402100004



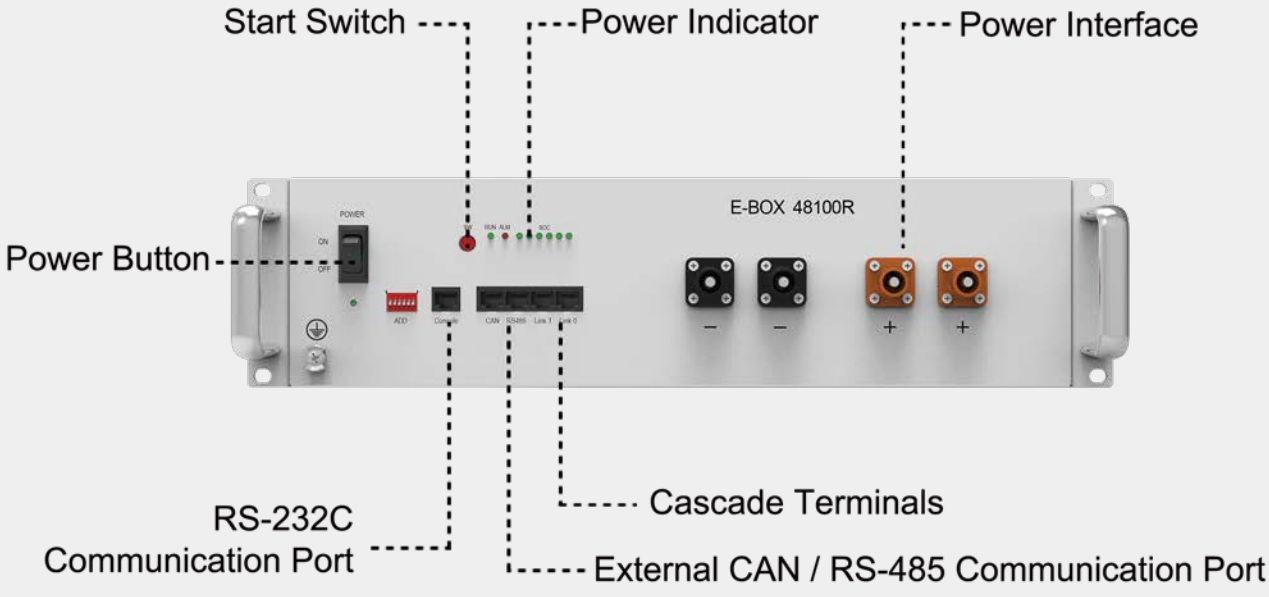
110402100003



E-BOX-48100R

L440mm* W620mm * H117mm (2.6U)
51.2V 100Ah 5.12kWh

Operation Panel



Technical Specifications

Battery Model	E-BOX-48100R	E-BOX-4850
Chemistry	LFP	LFP
Nominal Voltage	51.2V	48V
Voltage Range	47.5V-57.6V	45V-54V
Nominal Capacity	100Ah	50Ah
Nominal Energy	5.12kWh	2.4kWh
Unit Dimension	L440mm* W620mm * H117mm (2.6U)	440mm* 420mm * 89mm (2U)
Unit Weight	51kg	25kg
Maximum Charge Current	100A	50A
Recommended Charge Current	50A	25A
Maximum Discharge Current	100A	50A
Recommended Discharge Current	50A	25A
Round-Trip Efficiency	≥95%	≥95%
Communication Protocol	RS232, RS485, CAN	RS232, RS485, CAN
Cycle Life	≥6000cycles	≥6000cycles
Calendar Life	≥10years	≥10years
Operating Temperature	Discharge:-10°C~50°C Charge:0-50°C	Discharge:-5°C~45°C Charge:0-45°C
Connect style	Parallel	Parallel
Storage Temperature	Within 1month: -20~55°C, 1-3months: 0~35°C, 3-12months: 20~25°C	Within 1month: -20~55°C, 1-3months: 0~35°C, 3-12months: 20~25°C

* : The recommended and max. continuous operation current is for a battery cell temperature within 10~40°C to consider, out of such temp. range will cause a derating on operation current.







Pytes

V5°



Introduction

V5°, the new generation LFP battery for home energy storage system. It provides safe,well-designed and high-performance standard LFP battery pack for you. The battery pack is compact, easy to install, free of maintenance, and could be deployed to the building block of energy storage system by being assembled in parallel. It is widely applied in home applications, small commercial and industrial energy storage system as well as Telecom stations.

Features

Basic Functions
self-consumption, time-of-use bills reduction, back-up power supply, wide-compatibility

Smart Energy Management
add dry contacts and IoT interfaces for remote upgrades and real-time monitoring

Short-Time Charging/Discharging
maximum continuous charge/discharge current: 100A

Longest Life and Highest Safety
more than 6000 cycles @90%DOD

Easy Connection
new terminals are compatible with copper bar/wire connection
up to 3 pcs connected in parallel without using busbars

Self-Heating System
low temperature resistance to ensure normal charging

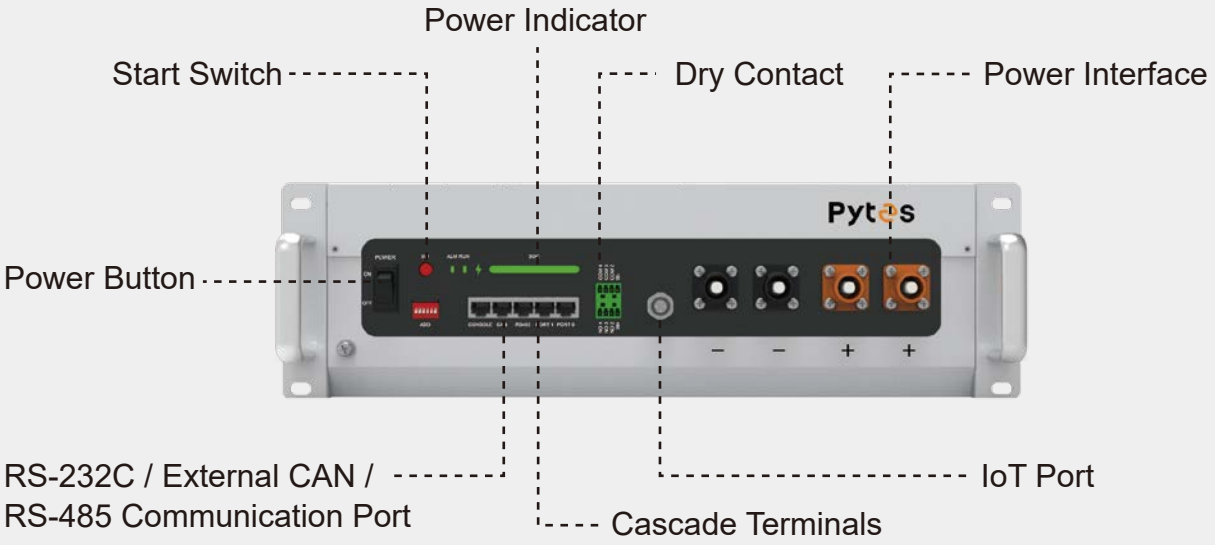
10 Years Warranty

CE TUV UN38.3 IEC

Technical Specifications

Battery Model	V5°
Chemistry	LFP
Nominal Voltage	51.2V
Voltage Range	44.8V-57.6V
Nominal Capacity	100Ah
Nominal Energy	5.12kWh
Unit Dimension	L483mm* W530mm* H140mm (3.2U)
Unit Weight	46.2kg
Standard Charge/Discharge	75A
Maximum Continuous Charge/Discharge	100A
Peak Charge/Discharge	150A(15s)
Round-Trip Efficiency	≥95%
Communication Protocol	CAN/RS485/RS232
Cycle Life	≥6000cycles
Calendar Life	≥10years
Operating Temperature	-10°C~55°C
Connect style	Parallel
Heating system	8~10°C/h

Operation Panel



Pytes

E-BOX 12100

Flexible configuration | Heating module system

Fully intelligent design | Self-protecting function



Introduction

PYTES E-BOX 12100 is high current carrying Lithium Iron Phosphate ($LiFePO_4$) battery pack specially designed for the safe, reliable and long term operation in different high current applications. It has high energy density, robust design and long life. The pack has an inbuilt heating system and a BMS for centralized monitoring and protection against unexpected situation.

Features

1. **High reliability, high energy density and high temperature cycling performance**

   Long lifespan and high performance Lithium Iron Phosphate (LFP) cells are adopted in the battery module, which effectively ensures safety, and lifespan over 6000 cycles.

2. **High-performance power management module (BMS)**

   The BMS provides protection against over discharge, overcharge, overcurrent, short circuit, reverse connection, and high or low temperature to ensure the battery safety.

3. **Supports CAN and RS485 communication**

   The battery panel provides a M12 port for RS485 and CAN communication.

4. **Excellent discharge rate performance.**

   The battery can continue to discharge at 1C to meet high power output.

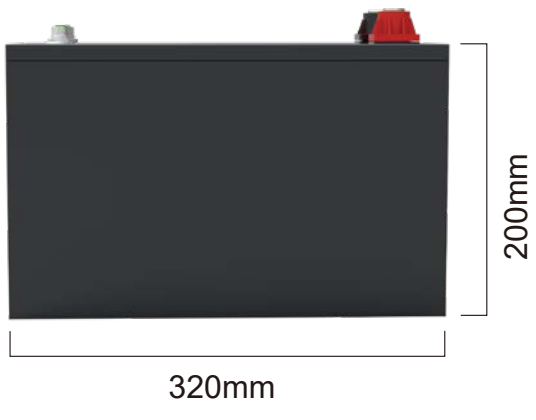
Technical Specification

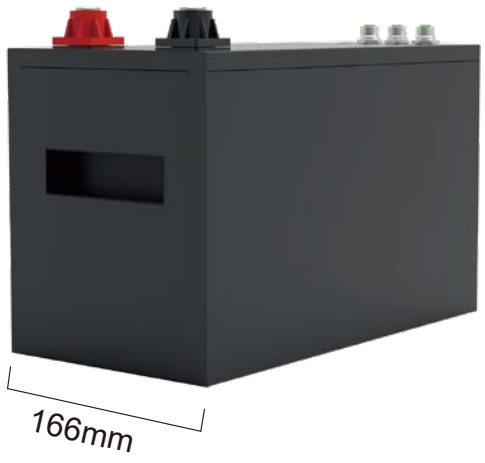
Battery Model	E-BOX 12100
Nominal Capacity	100Ah
Nominal Voltage	12.8Vdc
Voltage Range	DC 10.8V~14.4V
Maximum Continuous Charging Current	DC 50A
Maximum Continuous Discharge Current	DC 100A
Charge working temperature(℃)	-10℃~55℃
Discharge working temperature(℃)	-20℃~55℃
Operating Relative Humidity	5~95% No Condensation
Unit Dimension	320mm*166mm*200mm
Unit Weight	≤15.2kg
Protection class	IP65
BMS Communication	RS485, CAN
Parallel Connect	Up to 8 batteries can be connected in a system
Heating	Supported
Certification	UN38.3, CE, IEC62619

Suitable For

PYTES E-BOX 12100 is suitable for diverse applications requiring high discharge current and least supervised operations. A few of the applications of the battery pack are:

- Van life and Van building
- RV Camper Trailers
- Construction and Work Trucks
- Solar Energy Storage
- Off Grid Electrical Systems
- Recreational Vehicles
- Overland and Truck Builds
- Marine Applications
- Off-Grid Homes





110409100002：R-BOX



Introduction

The R-BOX is a state-of-the-art home energy storage system solution. It has a total usable energy capacity of 10kWh. Product features include quick and easy installation, a compact and elegant home style design and great extensibility. The R-BOX can provide smart configurable backup power during grid outages and power smart homes with solar energy, day and night.

Technical Specifications

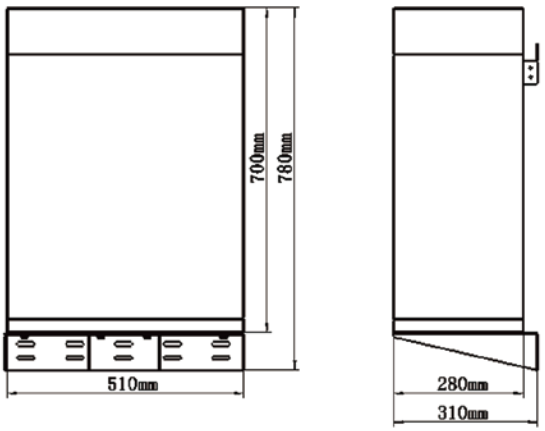
Model	R-BOX
Total capacity	10.24kWh
Usable capacity	9.22kWh
Chemistry	Lithium iron phosphate(LFP)
Nominal voltage	51.2V
Max. charge/ discharge current	100A
Communication	CAN, RS485
Certificate	UL1973, IEC62619, CE, UN38.3
Operating Temperature	Charge:0~50°C; Discharge:-10~50°C
Altitude	Max.2000 meters
Compatibility	Deye, Solis, Victron, Voltronic, Sol-ark, Growatt, SRNE, Luxpower, Kelong, Goodwe, Studer, SMA,Sermatec, Megarevo etc.

Mechanical Design	Parameter
Dimensions(W*D*H)	280*510*700mm 310*510*780mm(including holder)
Weight	120kg
Mount	Wall/Floor mount
Enclosure rating	IP20/IP64
Enclosure material	Cool-rolled steel
Cooling	Natural convection
Warranty	6000 cycles or 10 years

3D image

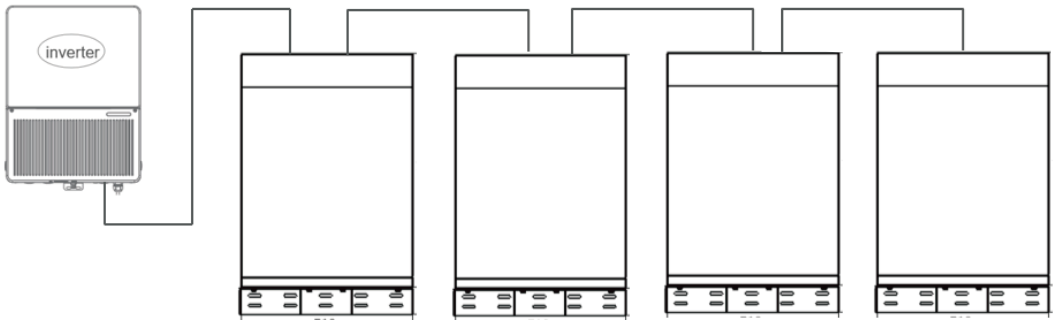


Mechanical drawing



Battery Expansion

Home Energy Storage System can connect R-BOX up to 4 pcs without additional kit.
You can use our 1uHUB to get max 28 R-BOX connected in parallel.



Energy Storage Battery

Forest RB



- Easy to install
- Expandable up to 6 units E-BOX-48100R (30kWh in total)
- Long usage life
- Adapt to multiple inverters

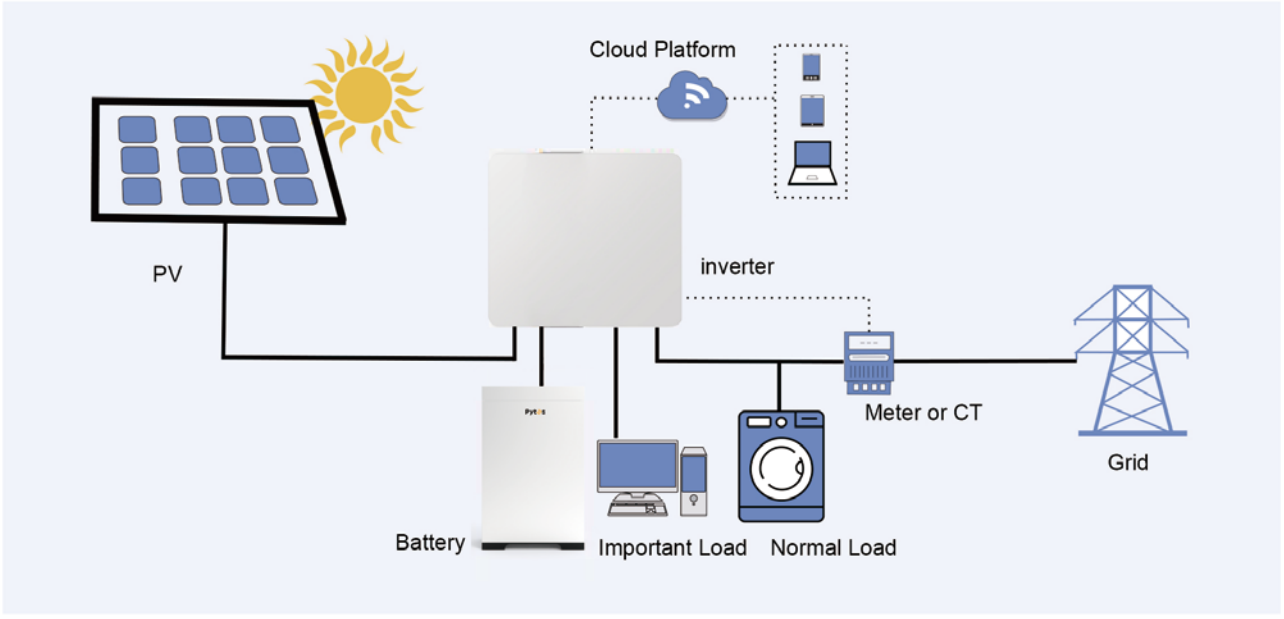
Application Scenario



Introduction

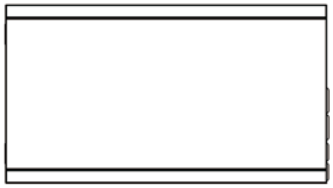
Expand your energy storage with the Forest RB Cabinet! This iron enclosure stores up to 6 E-BOX-48100R batteries. The Forest RB Cabinet paired with multiple batteries can build a 48V UPS server rack or provide storage capacity to home solar arrays.

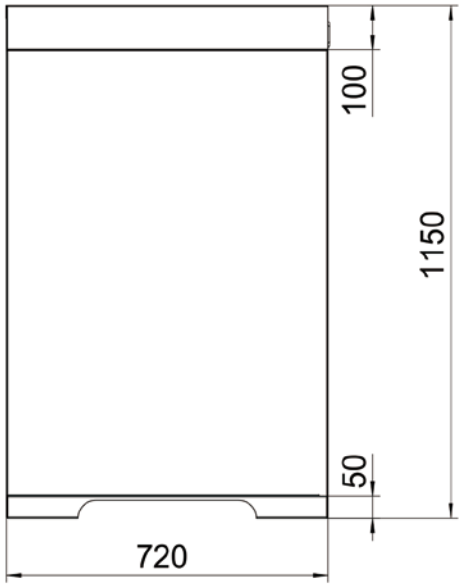
Product Topology

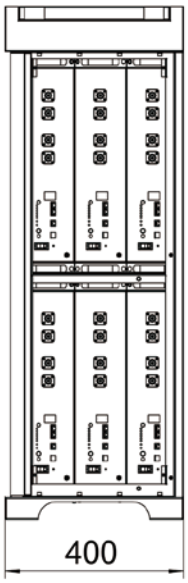


Product Topology

	B2	B3	B4	B5	B6
Battery capacity	10.24kWh	15.36kWh	20.48kWh	25.6kWh	30.72kWh
Nominal voltage	51.2V				
Recommeded Charge/Discharge Current	100A	150A	200A	250A	300A
Maximum Charge/Discharge Current	100A	150A	200A	250A	300A
Operating Temperature	Charging:0~50℃; Diacharge:-10~50℃				
Warranty	Cabinet: 3 years Battery: 10 years				
Positive and Negative Battery Busbars	2*8 points; M8 terminal rings				
Weight	120kg	170kg	220kg	270kg	320kg
Dimensions(W*D*H)	720mm*400mm*1150mm				
Enclosure Protection	IP20 (indoor)				
Alltitude	<4000m				
Certificate	UL1973, IEC62619, CE, UN38.3				









Introduction

The Forest R, a new generation of energy storage products that integrate inverters and batteries, and is a landmark "New Home appliance". Forest R can manage your energy usage throughout the day, provide smart configurable backup power during grid outages and power smart homes with solar energy, day and night.

Specification

General Specification

Capacity	5.12kWh per battery module, up to 6 modules
Transfer switch	Automatic, integrated
Listed and recognized certificates	Battery modules: UL1973, IEC62619, CE, UN38.3 Inverter : IEC62109, IEC61727, TOR, IEC62116, IEC60068, IEC61683, NRS 097-2-1
Warranty	Battery: 10 years or 6,000 cycles Inverter: 5 years Cabinet: 10 years
Temperature range	Charge: 0~45℃ Discharge: -10~50℃

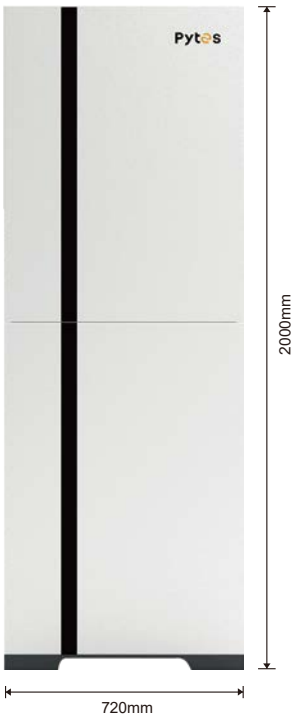
Battery Module Specification

DC battery input voltage	47.5–57.6V
Max charge current	50 A per module
Cell discharge	5.12kWh with 90% DoD
Overcharge Protection	MOSFET & Fuse protection

Technical Specification

	R2	R3	R4	R5	R6
Capacity	10.24kWh	15.36kWh	20.48kWh	25.6kWh	30.72kWh
Nominal voltage			51.2V		
Weight (approximate)	180kg	230kg	280kg	330kg	380kg
Dimensions W"/H"/D" (approximate)			720*400*2000mm		

Inverter			
	8K	10K	12K
PV input power	10400W	13000W	15600W
PV input voltage	550V(150V~800V)		
MPPT voltage range	200V~650V		
Start-up voltage	160V		
No.of MPPT trackers	2		
No.of strings per MPPT tracker	1+1	2+1	2+1
Rated AC output power	8000W	10000W	12000W
AC output rated current	12A	15A	18A
Grid type	Three Phases		







R Bracket

Introduction

In order to install the E-BOX-48100R Battery more conveniently and reduce installation costs, PYTES has developed this battery bracket. You can use it on a single battery or on multiple battery packs. Compared with cabinet storage, besides taking up less space, the bracket can ventilate and reduce the heat much more easily.









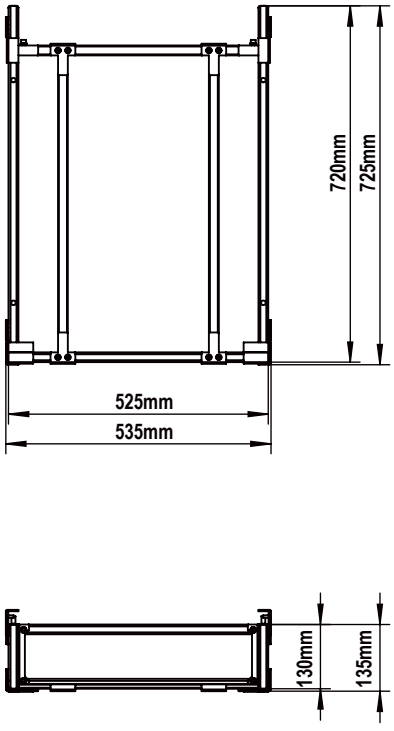
Parameters

Unit Dimension	532mm*725mm*135mm
Unit Weight	8kg
Installation	1.Install the parts by following the guide of the installation manual; 2.Screws are needed to assemble single battery and rack; 3.Multi-layer battery rack: after assembling all the single batteries and racks, stack them up vertically. Connection board is needed to install in between each two layers of battery racks; 4.Secure multi-layer battery rack with accessories to the wall; 5.Connect multi-layer battery rack to the distribution box.

Can bear more weight



Mechanical drawing



For E-Box-4850 (2U)



22-ABUJ00390： Front Bracket
22-ABUJ00389： Rear Bracket

For E-Box-48100R (2.6U)



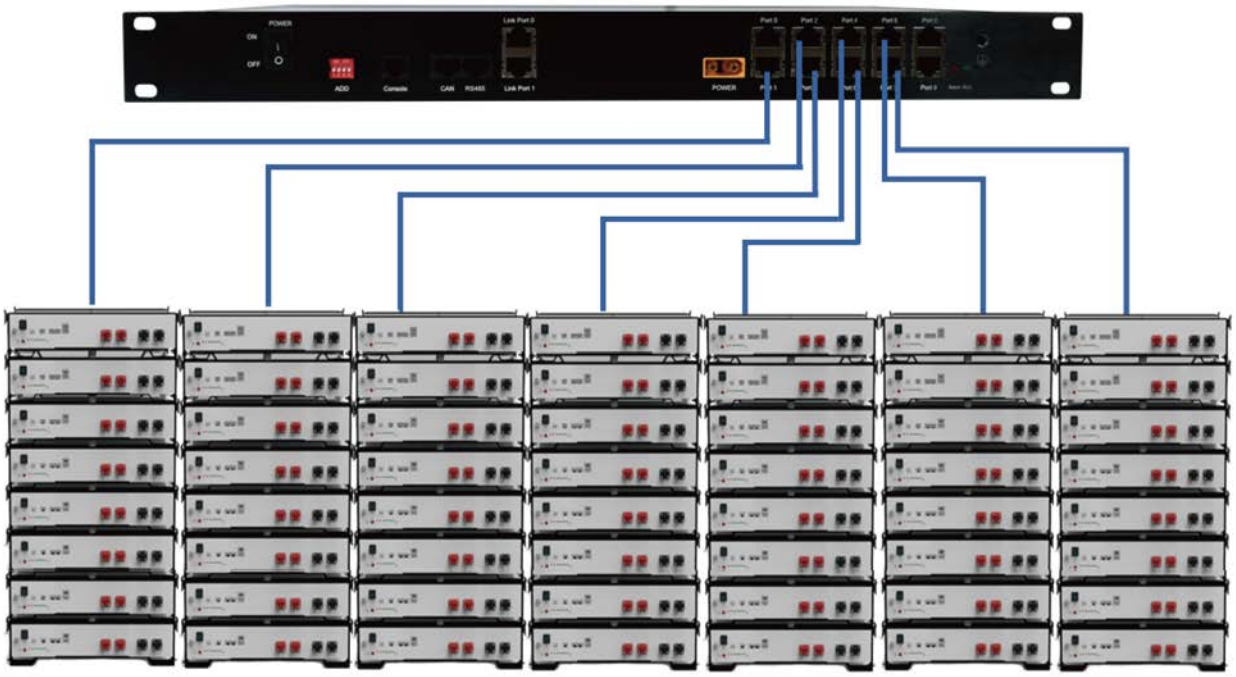
150215100012： Front Bracket
150215100011： Rear Bracket

HUB

110409100001：HUB



Each communication hub connects maximum 7 battery groups



Each group supports maximum 8 pcs E-BOX-4850 or E-BOX-48100 in parallel

Accessories



Battery to Battery

161412100251：160mm Positive Power Cable
161412100252：160mm Negative Power Cable
161412100249：560mm Positive Power Cable
161412100250：560mm Negative Power Cable



Battery to Inverter

161412100247：500 mm positives Power cable SC25-8*1
161412100248：500 mm negatives Power cable SC25-8*1
161412100244：2000 mm positives Power cable SC25-8*1
161412100245：2000 mm negatives Power cable SC25-8*1
161412100467：2000 mm positives Power cable SC25-10*1
161412100468：2000 mm negatives Power cable SC25-10*1



Battery to Battery

161412100228：220mm Standard communication cable
161412100231：350mm Standard communication cable
161412100133：500mm Standard communication cable



Battery to Inverter

161412100133：B Class 500 mm

161412100431：B Class 2000 mm

161412100229：B Class 3500 mm

Compatible：Deye Solis Growatt RS485/CAN SMA

GoodWe CAN SRNE RS485

161412100444：B Class 3500 mm

Compatible：Victron CAN

161412100451：B Class 2000 mm

Compatible：Voltronic Off-Grid RS485

161412100452：B Class 2000 mm

Compatible：Voltronic On-Grid RS485



161412100700：RS 232 communication cable



161412100230：1000mm Earth Cable







161506100001：

Busbar 300 A 2P with 12 screws and cover

110409100027：

Busbar 600 A 2P with 6 stud terminals and cover

161506100003：

Busbar 300 A 2P with 6 screws and cover



161412100461：

2000 mm positives Power Cable 0000AWG SC100-10*2

161412100462：

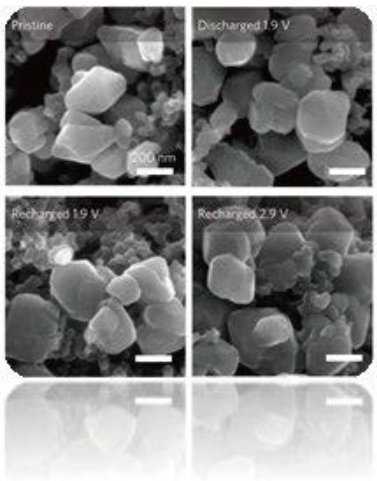
2000 mm negatives Power Cable 0000AWG SC100-10*2

161412100465：

2000 mm positives Power Cable 00AWG SC100-10*2

161412100466：

2000 mm negatives Power Cable 00AWG SC100-10*2



Cells& Packs

- The olivine structure and the stability of P-O bond of LFP cells guarantee much higher safety than those of NCM cells.
- 17 years experiences of pack R&D ensure longer cycle life of the battery.

Self-designed BMS

- Equipped with automotive grade chips by TI® system.
- Double protection by master chips. When the main chip fails, the back-up chip keeps protecting the system.
- Real-time temperature, current, voltage measuring and monitoring.
- Accurate SoC and SoH calculation.



Quality Assurance

- UL1973/ IEC62619/ CE/ UN38.3 Certificates
- TÜV, SGS, BV International Certified Cooperative Testing Laboratories.

Quick Response

Quick local after-sales response/ 24hours*7days.

24*7

Case Study











Compatibility List of PYTES ESS and Inverters

victron energy
BLUE POWER

Voltronic Power
Advancing Power

STUDER

MEGAREVO

GROWATT

LUXPOWER TEK

SRNE

Deye 德業

GOODWE
your solar engine

KEHUA
TECH

Afore

solis

SMA

EASUN
POWER

SUN SYNK

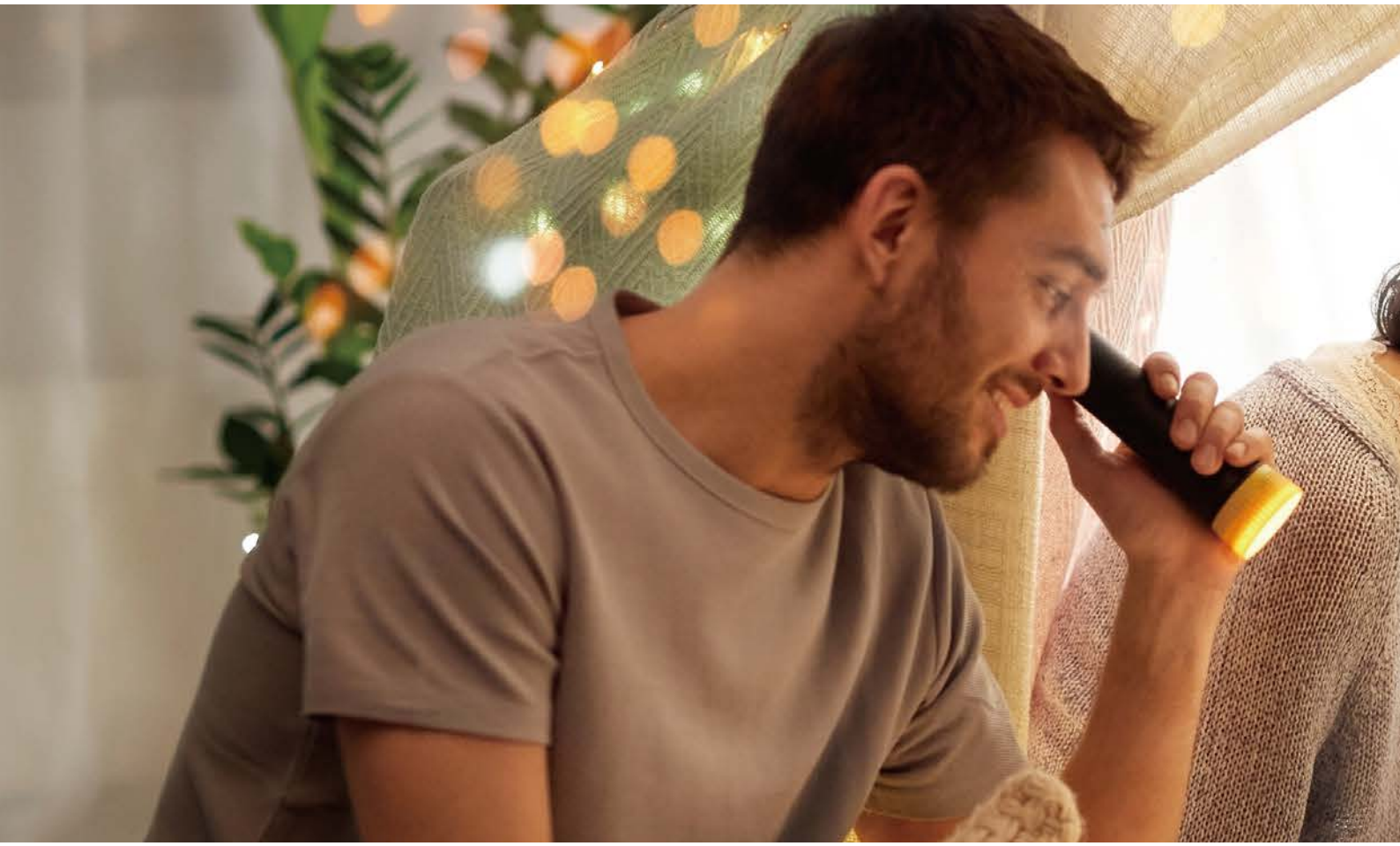
Ingeteam

MUST

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pytesbv@pytesgroup.com



Weitere Kataloge

Jetzt scannen,um uns zu folgen

www.pytesess.com

Pytes