



Creating Undertaking & Sharing



Shanghai PYTES Energy Co, LTD
BATTERY EXPERT-GREEN ENERGY PROVIDER

LI-ION BATTERY FOR ENERGY STORAGE



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As a leading lithium battery solution provider, Pytes is committed to providing energy storage solutions. Started in 2004, with continuous support and technical experience, more than 1,000 Pytes employees are now working to build a greener future.

Grasping the general trend of globalization, Pytes not only has multiple production bases in China, but also runs branches, offices and factories in North America, Europe, Vietnam and other sites to achieve multi-regional coverage of the service network, with faster delivery and quicker response.

Creating, Undertaking, Sharing, we practice our philosophy and fulfill the mission that to deliver safe, reliable and affordable clean energy to home and community for a more carbon-free future.



\$810M

Total Asset

20 Years

Industry experience



1000+

Employee

4Gwh

Annual capacity



Global Marketing & Service

North America

PYTES USA office & Warehouse
(Los Angeles)



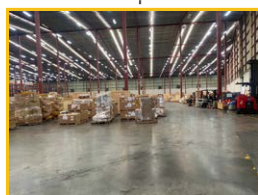
Europe

PYTES EU office
(The Netherlands)

PYTES EU office
in France



PYTES USA warehouse
(Dallas)



PYTES Panama Warehouse



PYTES EU office in Germany

PYTES Factory in Hungary



Shandong PYTES New Energy Technology



Shandong PYTES Electronics



China



Headquarter/
Factory in Shanghai

Vietnam



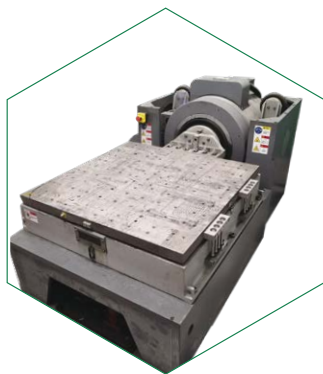
Factory in Ho Chi Minh City



SGS, TÜV, BV, DEKRA

Accredited Cooperative Testing Labs

Mechanical Tests



Vibration Test



Drop Test



Shocking Test



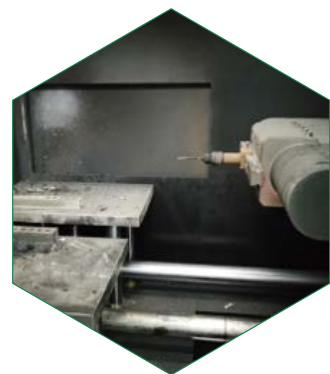
Safety Tests



Short Circuit Test



Impact Test



Needle Test

Environmental Tests



Altitude Simulation



Thermal Shock

Electrical Tests







Standard Products

Introduction



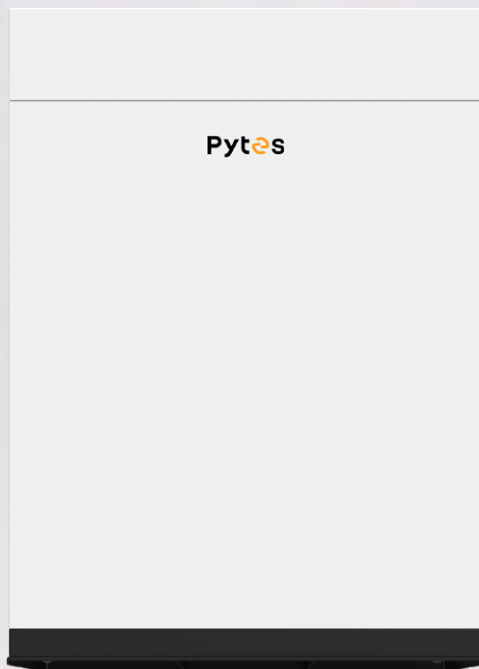
E-BOX 4850G



V5°α



E-BOX 12100



R-BOX



V-BOX-OC





HV48100



Pi LV1



E-BOX 48100R on R-Bracket

E-BOX 48100R



Features



Scalable

- From 5.12kWh to 491.52kWh



Long-lasting

- ≥ 6000 cycles @ 90%DOD



Safe & Reliable

- Tier 1 Automotive Grade A LiFePO₄ cells
- Self-designed & Field-proven BMS



Compact, Flexible and Easy Install



Wide Compatibility

10 Years Warranty



UN38.3



CEC

SGIP

E-Box 48100R Specs

Electrical

Nominal Voltage	51.2V
Voltage Range	47.5V~57.6V
Nominal Capacity	100Ah
Nominal Energy	5.12kWh
Recommended Charge/ Discharge Current	50A (2.56kW DC)
Maximum Charge/ Discharge Current	50A (2.56kW DC)
Peak Discharge Current	102A (5.22kW@15s)

General

Chemistry	LFP
Communication Protocol	CAN/RS485
Dimensions (L*W*H)	440 * 620 * 117mm (2.6U) / 17.3 * 24.4 * 4.6 inch (2.6U)
Weight	51 kg / 112.5 lbs
Ambient Temperature	-10°C~50°C / 14°F~122°F
Round-Trip Efficiency	≥95%
Cycle Life*	≥6000cycle
Warranty	10 Years

* Test Condition 0.5C, 25°C @90%DOD

Certifications

UL9540 Ed.2 (2020), UL9540A, UL1973, CEC, SGIP, CE, IEC62619, UN38.3

R-BOX

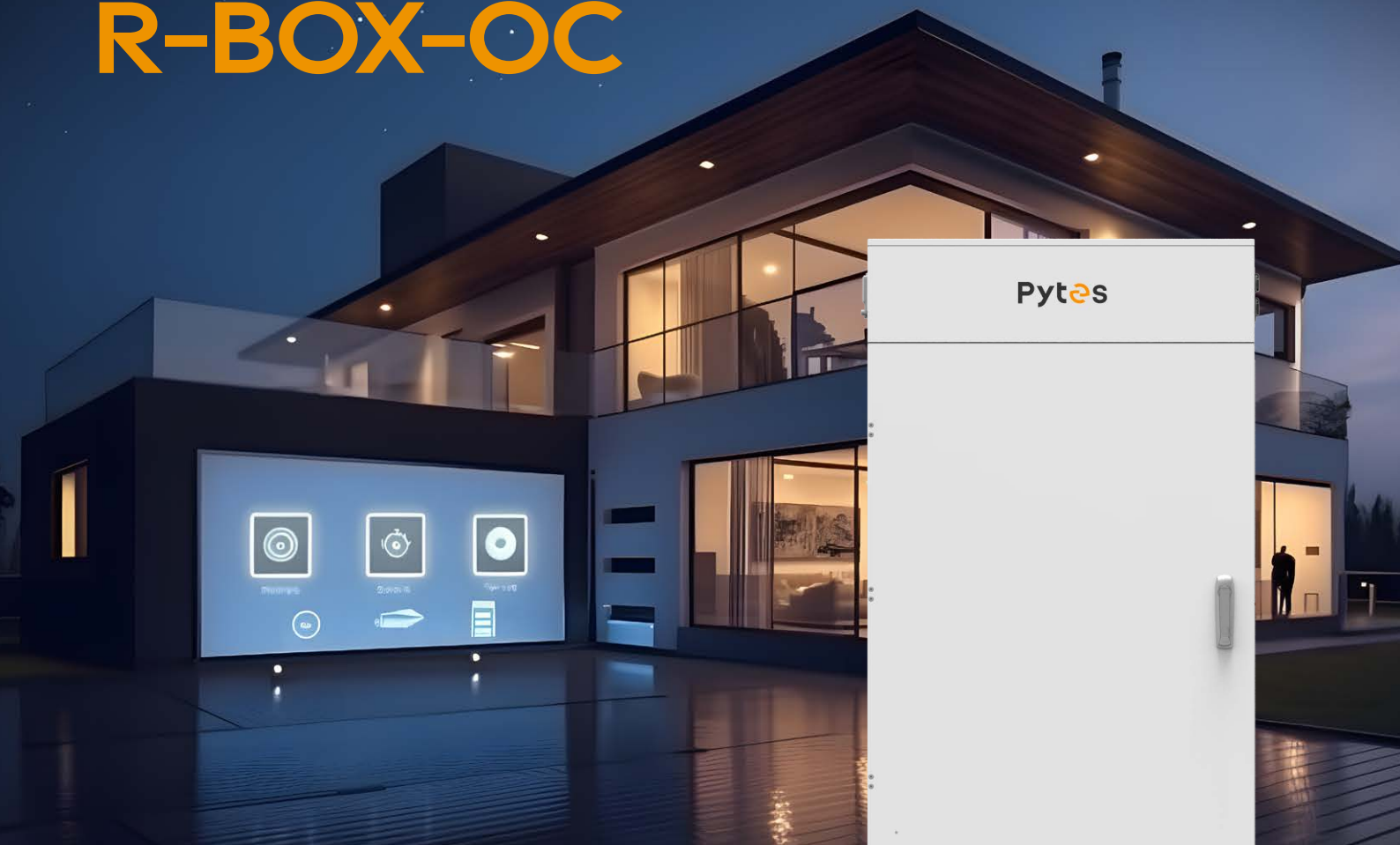


R-Box Specs

Mechanical

Load capacity	2*E-Box 48100R
Dimensions(L*W*H)	280 * 510 * 700 mm (780 mm H w holder)/ 11.0 * 20.1 * 27.5 inch (30.8 inch H w holder)
Weight	17 kg / 37.5 lbs
Mount	Wall / Floor mount
Enclosure rating	IP20
Enclosure material	Cool-rolled steel
Cooling	Natural convection

R-BOX-OC

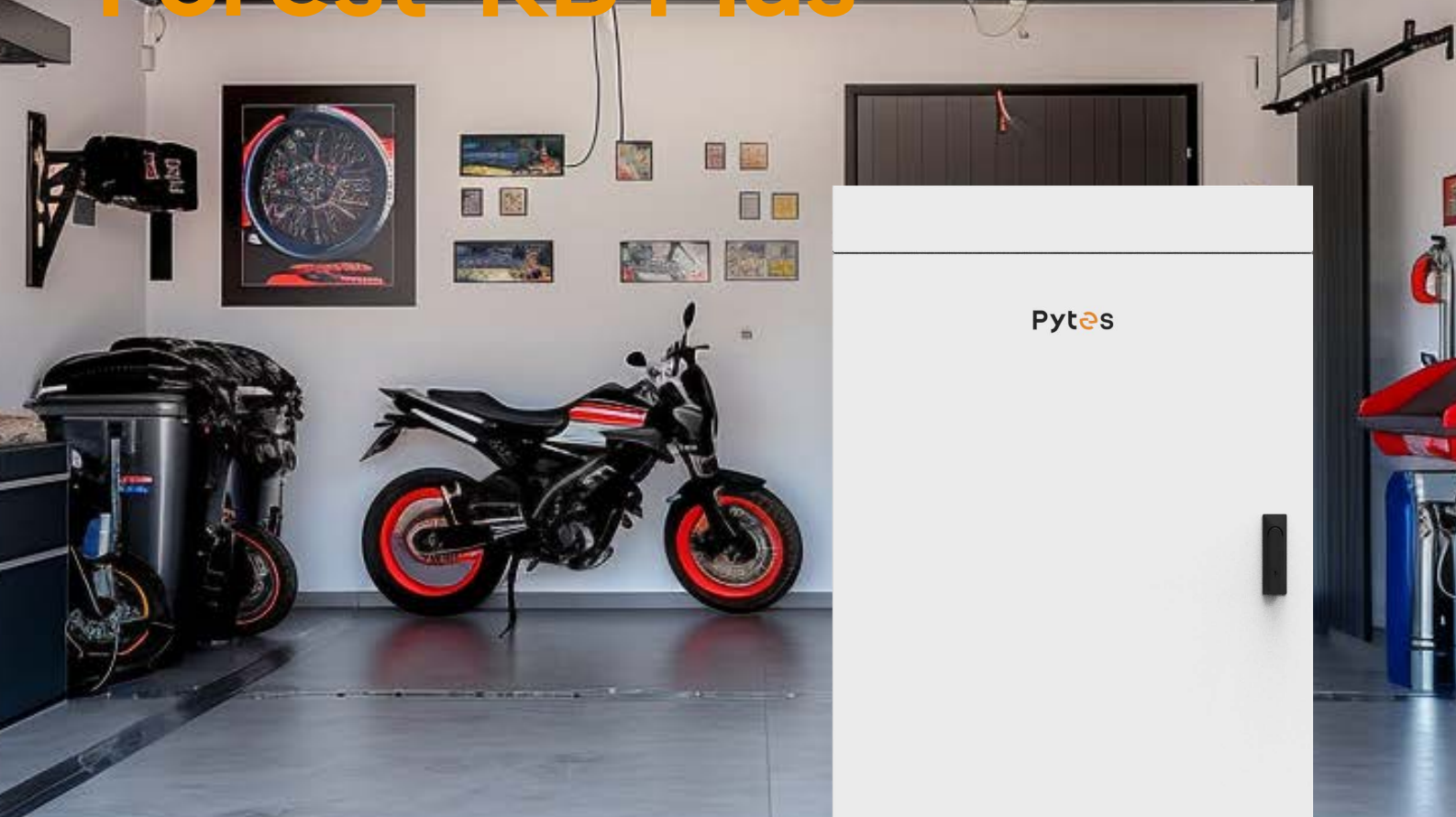


R-Box-OC Specs

Mechanical

Load capacity	4*E-Box 48100R
Structure	Busbar & DC Circuit Breaker Integrated
Dimensions(L*W*H)	800 * 330 * 1575 mm / 31.5 * 13.0 * 62.0 inch
Weight	80 kg / 176.4 lbs
Mount	Floor mount
Enclosure rating	IP55
Enclosure material	SGCC(Galvanized steel)
Cooling	Natural convection

Forest-RB Plus



Forest-RB Plus Specs

Mechanical

Load capacity

6*E-Box 48100R

Structure

Busbar Integrated

Dimensions(L*W*H)

720 * 400 * 1150 mm / 28.3 * 15.7 * 45.3 inch

Weight

68 kg / 150 lbs

Mount

Floor mount

Enclosure rating

IP20

Enclosure material

SGCC(Galvanized steel)

Cooling

Natural convection



E-Box 4850G



Features



Scalable

- From 2.4kWh to 115.2kWh



Long-lasting

- ≥ 6000 cycles @ 80%DOD



Safe & Reliable

- Tier 1 Automotive Grade A LiFePO₄ cells
- Self-designed & Field-proven BMS



Compact, Flexible and Easy Install



Wide Compatibility

10 Years Warranty

CE UN38.3

E-Box 4850G Specs

Electrical

Nominal Voltage	48V
Voltage Range	45V-54V
Nominal Capacity	50Ah
Nominal Energy	2.4kWh
Recommended Charge/ Discharge Current	25A
Maximum Charge/ Discharge Current	50A

General

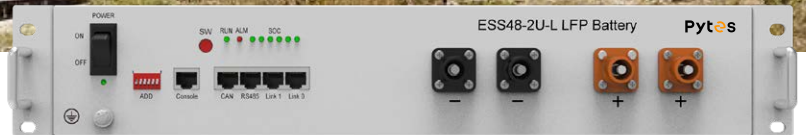
Chemistry	LFP
Communication Protocol	CAN/RS485
Dimensions (L*W*H)	440 * 450 * 80 mm / 17.3 * 17.7 * 3.2 inch
Weight	23.5 kg / 51.8 lbs
Ambient Temperature	Charge:0°C~45°C Discharge:-10°C~50°C
Round-Trip Efficiency	≥95%
Cycle Life*	≥6000cycle
Warranty	10 Years
Connect style	Parallel
Storage Temperature	Within 1month: -20~45°C, 1-3months: -20~35°C, 3-12months: 20~25°C

* Test Condition 0.5C, 25°C @80%DOD

Certifications

UN38.3, CE, IEC62619

E-Box 4850



Features



Scalable

- From 2.4kWh to 115.2kWh



Compact, Flexible and Easy Install



Long-lasting

- ≥6000 cycles @ 80%DOD



Wide Compatibility



Safe & Reliable

- Tier 1 Automotive Grade A LiFePO4 cells
- Self-designed & Field-proven BMS

10 Years Warranty

  **UN38.3**

E-Box 4850 Specs

Electrical

Nominal Voltage	48V
Voltage Range	45V-54V
Nominal Capacity	50Ah
Nominal Energy	2.4kWh
Recommended Charge/ Discharge Current	25A
Maximum Charge/ Discharge Current	50A

General

Chemistry	LFP
Communication Protocol	RS485/CAN
Dimensions (L*W*H)	440 * 410 * 89 mm (2U) / 17.3 * 16.1 * 3.5 inch
Weight	25 kg / 55.1 lbs
Ambient Temperature	-10°C~50°C
Round-Trip Efficiency	≥95%
Cycle Life*	≥6000cycle
Warranty	10 Years
Connect style	Parallel
Storage Temperature	Within 1month: -20~55°C, 1-3months: 0~35°C, 3-12months: 20~25°C

* Test Condition 0.5C, 25°C @80%DOD

Certifications

UN38.3, CE, IEC62619, KC

V5° / V5°α



Features



Remote Monitoring and Upgrading



Higher Charge/Discharge Rate



Wider Operation Temperature



Higher Energy Density



Greater scalability

10 Years Warranty



UN38.3



CEC SGIP

V5°/ V5°α Specs

Electrical

Nominal Voltage	51.2V
Voltage Range	47.5V~57.6V
Nominal Capacity	100Ah
Nominal Energy	5.12kWh
Recommended Charge/ Discharge Current ^[1]	75A
Max Continuous Charge/ Discharge Current ^[2]	100A
Peak Charge/Discharge Current	101A~120A(3min) ; 121A~180A(15sec)
Connection Options	V5°: PHOENIX M6 Bolt V5°α: Amphenol SurLok Plus 8.0mm

[1], [2]: The recommended and Max continuous charge and discharge current is for a battery cell temperature within 10°C~40°C(50°F~104°F) to consider. It will result in a derating on current if out of the temperature range.

General

Chemistry	LFP
Communication Protocol	CAN / RS485
Dimensions (L*W*H)	442 * 530 * 140 mm (3.2U) / 17.4 * 20.87 * 5.51 inch (3.2U)
Weight	44 kg / 97 lbs
Ambient Temperature	-10°C~50°C/14°F~122°F
Round-Trip Efficiency	≥95%
Cycle Life ^[3]	≥6000cycle
Warranty	10 Years

[3]: Test conditions 0.2C Charging/Discharging, @25°C(77°F), 90% DOD.

Add-on Functionalities

WIFI Connection	Remote monitoring and upgrade
Heating Pad	Temperature Rise: 10°C/ h/18°F/h Operation Temperature: -18°C~10°C/-0.4°F~50°F
Scalability	16 pcs (81.92kWh) in a group 6 groups (491.52kWh) in a system w / a Hub

Certifications (On-going)

UL9540 Ed.2 (2020), UL9540A, UL1973, CEC, SGIP, CE, IEC62619, UN38.3

V-BOX-OC



V-Box-OC Specs

Mechanical

Load capacity	4*V5°/4*V5°α
Structure	Busbar & DC Circuit Breaker Integrated
Dimensions(L*W*H)	645 * 395 * 1395 mm / 25.4 * 15.6 * 54.9 inch
Weight	88 kg / 194 lbs
Mount	Floor mount
Enclosure rating	IP55
Enclosure material	SGCC(Galvanized steel)
Cooling	Natural convection

SMART MONITOR

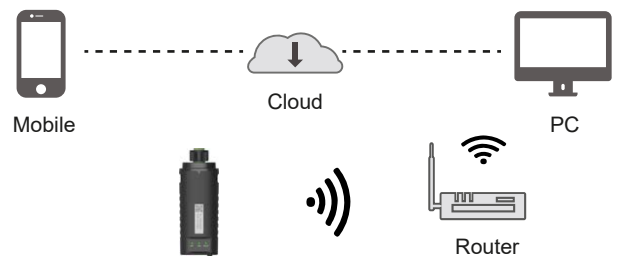


Smart Monitor feature

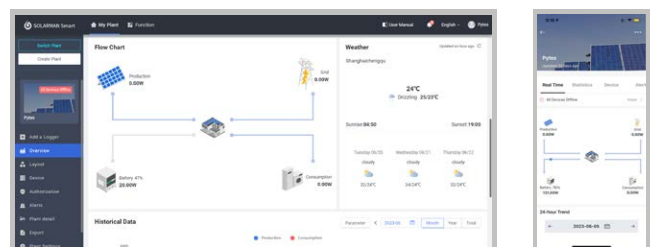
- Real-time Monitoring
- Data Visualization
- Remote Upgrading
- Error Detection
- Alarm Notification



Diagram



WEB/APP



V-BOX-IC

Effortless to Upgrade
Your System in 3 minutes



Features



Easy to install with minimal
tools required



Capable of easy mobility and
secure fixation



Scalable to meet demands



Less footprint

Multi Combinations Customized



Basic Rack



Mobile Cabinet



Scalable System

V-BOX-IC Specs

Mechanical

Load capacity	3 * V5° / 3 * V5°α
Dimensions(L*W*H)	533 × 616 × 650 mm / 21.0 × 24.3 x 25.6 inch
Weight	42.2 kg / 93 lbs
Mount	Floor mount
Enclosure rating	IP20
Enclosure material	SGCC(Galvanized steel)
Cooling	Natural convection

V-BOX-IC se

Specs



Mechanical

Load capacity	3 * V5° / 3 * V5°α
Dimensions(L*W*H)	533 × 565 × 660 mm / 21.0 × 22.2 x 26.0 inch
Weight	27.7 kg / 61.1 lbs
Mount	Floor mount
Enclosure material	SGCC(Galvanized steel)
Cooling	Natural convection

Pi LV1



Features



Safe

- LFP Chemistry, Field-Proven BMS Integrated in Individual Module, DC Breaker & Fuse Adapted



Powerful

- Up to 14.08kW Continuous Output



Plug-and-play (15-min installation)

- Quick Connectors, Hand-wiring Free



Scalable on Demand

- Flexible Configuration from 10.24 to 30.72 kWh per Stack, Up to 4 Stacks



Outdoor Rated Enclosure

- Water & Dust proof for Both Indoor and Outdoor



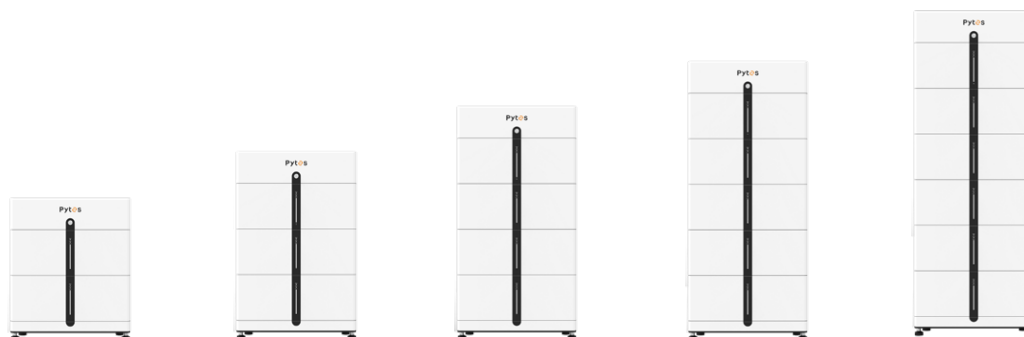
Smart

- Remote Upgrading & Monitoring

Pi LV1

Battery Module Unit:

Cell Type	LFP
Nominal Energy	5.12kWh
Nominal Voltage	51.2V
Voltage Range	47.5V~56.8V
Nominal Capacity	100Ah
Recommended Continuous Discharge Current	50A
Recommended Continuous Charge Current	50A
Certifications	CE, IEC62619, UL1973, UN38.3, UL9540, UL9540A



Model	2	3	4	5	6
Cell Type	LFP				
Nominal Voltage	51.2V				
Voltage Range	47.5V~56.8V				
Nominal Capacity	100Ah				
Nominal Energy	10.24kWh	15.36 kWh	20.48 kWh	25.6 kWh	30.72 kWh
Recommended Power	5.12kW	7.68kW	10.24kW	10.24kW	10.24kW
Dimensions (L*W*H) (mm/inch)	681*242*800 26.8*9.5*31.5	681*242*1060 26.8*9.5*41.7	681*242*1320 26.8*9.5*52.0	681*242*1580 26.8*9.5*62.2	681*242*1840 26.8*9.5*72.4
Weight(kg/lbs)	130/285.5	187/411.2	244/536.8	301/662.5	358/788.2
Communication	CAN, RS485				
Cycle Life	≥6000 cycles				
Protection level	IP55				
Ambient Temperature	-10°C~55°C / 14°F~131°				
Storage Temperature	Within 1 month: -20°C~50°C / -4°F~122°F 1~3 months: -10°C~40°C / 14°F~104°F 3~12 months: 0°C~30°C / 32°F~86°F				

* The maximum power and peak power are tested based on an ambient temperature of 25 °C .

E-Box 12100



Features



Powerful

- 1C Discharge Rate, Continuous Output Power



Reliable

- Upgraded BMS
- Heating Pad Integrated for Wider Operation Temperature



Long-lasting

- ≥ 4000 Cycles @ 80%DOD



Scalable

- Easy to Expand Up to 19.2kWh, Maximum 2 in Series per 8 in Parallel



Smart

- Remote Monitoring & Upgrading



Wide Applicability

- High Protection Level Enriches More Applications

5 Years Warranty

CE UN38.3

E-Box 12100 Specs

Electrical

Nominal Capacity	100Ah
Nominal Voltage	12.8V
Voltage Range	10.8V~14.4V
Maximum Continuous Charging Current	50A
Maximum Continuous Discharge Current	100A
Cycle Life	4000 cycle (@80%DOD)

Environment

Working Temperature	-10°C~55°C / 14°F~131°F
Storage Temperature	Within 1 month: -20°C~55°C / -4°F~131°F, 1-3 months: 0°C~35°C / 32°F~95°F, 3-12 months: 20°C~25°C / 68°F~77°F
Operating Relative Humidity	0%~95%RH No Condensation

Structure

Dimension(W*D*H)	320 * 166 * 200 mm / 12.6 * 6.5 * 7.9 inch
Weight	15.2 kg / 33.6 lbs
BMS Communication	RS485 / CAN
System Connection	Up to 2S8P
Heating	Supported

Certification

UN38.3, CE, IEC62619

Warranty

5 Years

HV48100



Features



Higher Energy Density



Lower Resistive Losses



Superior Performance



Remote Upgrading & Monitoring



Enhanced Safety Features

10 Years Warranty

CE UN38.3



HV48100 Specs

HV48100 BCU

Controller Working Voltage	200V~870V
Self-consumption Power	7.56W
Dimensions (W*D*H)	484*510*140 mm / 19.1*20.1*5.5 inch
Weight	13.3 kg / 29.3 lbs
Communication	CAN, RS485, Dry Contact, WiFi

HV48100 BMU

Cell Type	LFP
Nominal Energy	5.12kWh
Nominal Voltage	51.2V
Nominal Capacity	100Ah
Continuous Discharging/Charging Current	50Adc
Voltage Range	45.5~58V
Depth of Discharge	90%
Dimensions (W*D*H)	484*530*140 mm / 19.1*20.9*5.5 inch
Weight	43 kg / 94.8 lbs
Communication	CAN, RS485
Cycle Life	≥6000 cycles
Operation Temperature	Charge: 0°C~45°C(32°F~113°F), Discharge: -10°C~50°C(14°F~122°F)
Storage Temperature	Within 1month: -20°C~50°C(-4°F~122°F) 1-3months: -10°C~40°C(14°F~104°F) 3-12months: > 0°C~30°C(32°F~86°F)

HV48100 System

System Energy	5.12kWh*n
System Voltage	51.2V*n
System Capacity	100Ah
Battery System Charge Upper-Voltage	58V*n
Battery System Discharge lower-Voltage	45.5V*n
Continuous Discharging/ Charging Current	50Adc
BCU Model	HV48100 BCU
BMU Model	HV48100 BMU
BMU Qty. (Optional)	5~15
Depth of Discharge	90%
Dimensions (W*D*H)	600 * 640 * 1555 mm / 23.6 * 25.2 * 61.2 inch
Weight	89.6 kg + 13.3 kg + 43 kg*n / 197.5 lbs + 29.3 lbs + 94.8 lbs*n
Communication	CAN, RS485, Dry Contact, WiFi
Cycle Life	≥6000 cycles
Operation Temperature	Charge: 0°C~45°C(32°F~113°F), Discharge: -10°C~50°C(14°F~122°F)
Storage Temperature	Within 1month: -20°C~50°C(-4°F~122°F) 1-3months: -10°C~40°C(14°F~104°F) 3-12months: > 0°C~30°C(32°F~86°F)
Operation Humidity	0~95%, No Condensation
Protection level	IP20

Certifications

CE, IEC62619, UL1973, UL9540, UL9540A, UN38.3

HV4850



Features



Higher Energy Density



Lower Resistive Losses



Superior Performance



Remote Upgrading & Monitoring



Enhanced Safety Features

10 Years Warranty

CE UN38.3

HV4850 Specs

HV4850 BCU

Voltage Range	200V~900V
Communication	RS232/RS485/CAN/Dry Contact/WiFi
Dimensions	W440mm*D450mm*H120mm
Weight	13KG

HV4850 BMU

Cell Type	LFP
Nominal Energy	2.4KWH
Nominal Voltage	48VDC
Nominal Capacity	50Ah
Charging Voltage	53.25V
Discharging Cut-off Voltage	41.25V
Communication	RS232/RS485/CAN
Charging Temperature	0~55°C
Discharging Temperature	-10~55°C
Storage Temperature	-20~45°C
Cycle Life*	6000 cycles
Dimensions	W440mm*D450mm*H80mm
Weight	23KG

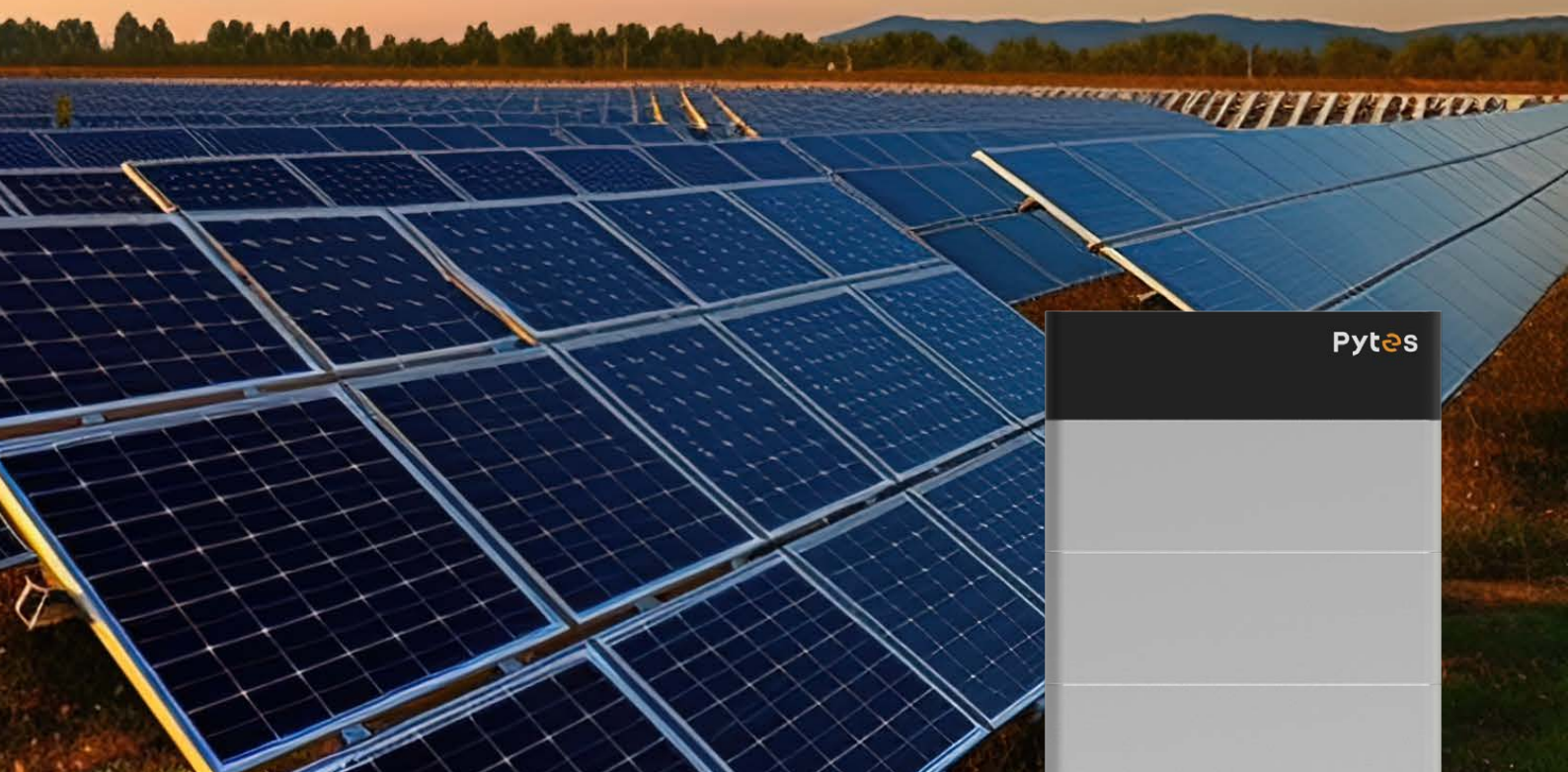
HV4850 System

Cell Type	LFP
Expansion	16
Nominal Energy	38.4KWH
Nominal Voltage	768VDC
Nominal Capacity	50Ah
Battery System Charging Voltage	852VDC
Discharging Cut-off Voltage	672VDC
Continuous Charging/Discharging Current	25A (0.5C)
Max Charging/Discharging Current	50A(1C)
Peak Discharging Current	100A@15S
Depth of Discharge	80%
Round-trip Efficiency	96%
External Communication	RS485/CAN/Dry Contact/Wifi
Monitoring Communication	RS232
Charging Temperature	0~55°C
Discharging Temperature	-10~55°C
Storage Temperature	-20~45°C
* Cycle Life	6000 Cycles
Warranty	10 Years
Rack Dimensions	W536mm*D513mm*H940mm
System Weight	381KG
Protection level	IP20
Certifications	CE/IEC62619/UN38.3

Certifications

UN38.3, CE, IEC62619

ST20



Features



Smart

- Energy Control Box on Top



Scalable

- Up to 20 kWh (4 modules) per Stack



Compact

- Brick-shaped Modular Design, Easy Installation, Save Labor Costs



Elegant

- Modern design, High Protection Suitable for Indoor & Outdoor Installation



Cost-effective

- Especially Applicable to High Electricity Price Areas & High Subsidy Areas

10 Years Warranty

CE UN38.3

ST20

Module

Number of modules	4
Total Energy (25 ± 2°C, 0.5C, New Battery State)	20.48 kWh
Nominal Voltage	409.6 V
Operating Voltage Range	320~467.2 V
Communication	CAN
Dimensions (W/D/H)	600 * 390 * 1025 mm / 23.6 * 15.4 * 40.4 inch
Weight	228 ± 4 kg / 502.7 ± 8.8 lbs
Operating Temperature	Charge: 0°C~50°C Discharge: -20°C~55°C
Cell Type	LFP
Standard Capacity	50Ah (25 ± 2°C, 0.5C, New Battery State)
Nominal Capacity	5.12kWh
Depth of Discharge	80%(Recommend)、100%(Max)
Operating Voltage	80~116.8V
Nominal Voltage	102.4V
Charge /Discharge Current	Recommend 25A(0.5C), Max 45A(1C)
Weight	51 ± 2 kg / 112.4 ± 4.4 lbs
Dimensions (W*D*H)	600 * 390 * 229 mm / 23.6 * 15.4 * 9.1 inch
Recommend Storage Temperature	5°C ~ 35°C / 41°F~95°F
Humidity	5%~95%
Altitude	≤4000m
Warranty	10 years

Energy Control Box

Dimensions (W*D*H)	600 * 390 * 165 mm / 23.6 * 15.4 * 6.5 inch
Weight	16 ± 1 kg / 35.3 ± 2.2 lbs

Certifications

UN 38.3 / IEC62619 / CE-EMC

Accessories

Brackets



Brackets for E-Box 48100R

150219100018 & 150219100019

F. & B. Bracket



110409100019

R-Bracket (Single Rack)

Single Bracket for 1 pc E-Box 48100R

Easy to expand up to 8 layers

110409100020

R-Bracket (8-in-1)

8 layers for holding 8 pcs E-Box 48100R



Brackets for V5°

150208100001

V-Bracket



Brackets for E-Box 4850

150208100010 & 150208100011

F. & B. Bracket

Equipments



HUB

110409100001

Hub

Enables communication with multiple groups of batteries



Busbar:

161506100003

300A Junction Box

300A/6*M5+2*M10 Terminals

110409100026

300A Busbar

300A/12*M6+2*M8 Terminals

110409100027

600A Busbar

600A/6*M10+2*M8 Terminals

Cables



Power Cables

161412100244 & 161412100245

4AWG/2000mm/Amphenol to M8 Bolt

161412100251 & 161412100252

4AWG/160mm/both Amphenol ends

161412100467 & 161412100468

4AWG/2000mm/Amphenol to M10 Bolt

161412100461 & 161412100462

4/0AWG/2000mm/both M10 ends

161412100465 & 161412100466

2/0AWG/2000mm/both M10 ends

Communication Cables

161412101071

Standard Communication Cable

Compatible with: Sol Ark, Megarevo, Luxpower, Growatt, APsystems, SMA, Studer

1614121010XX

Customized Communication Cable

Customized for: Victron, Voltronic, Phocos, MPP, SRNE

161412100916

Console Cable

USB to RJ45 cable for monitoring & upgrading





Netherlands



Netherlands



Germany



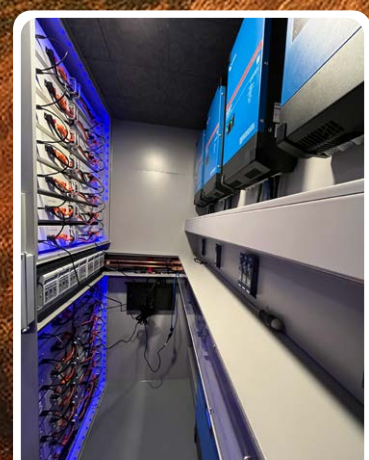
Africa



Germany



Austria



Austria




Curacao




Puerto Rico




Dominican Republic




Indiana




Puerto Rico

Compatibility List of PYTES ESS and Inverters

Low Voltage



High Voltage



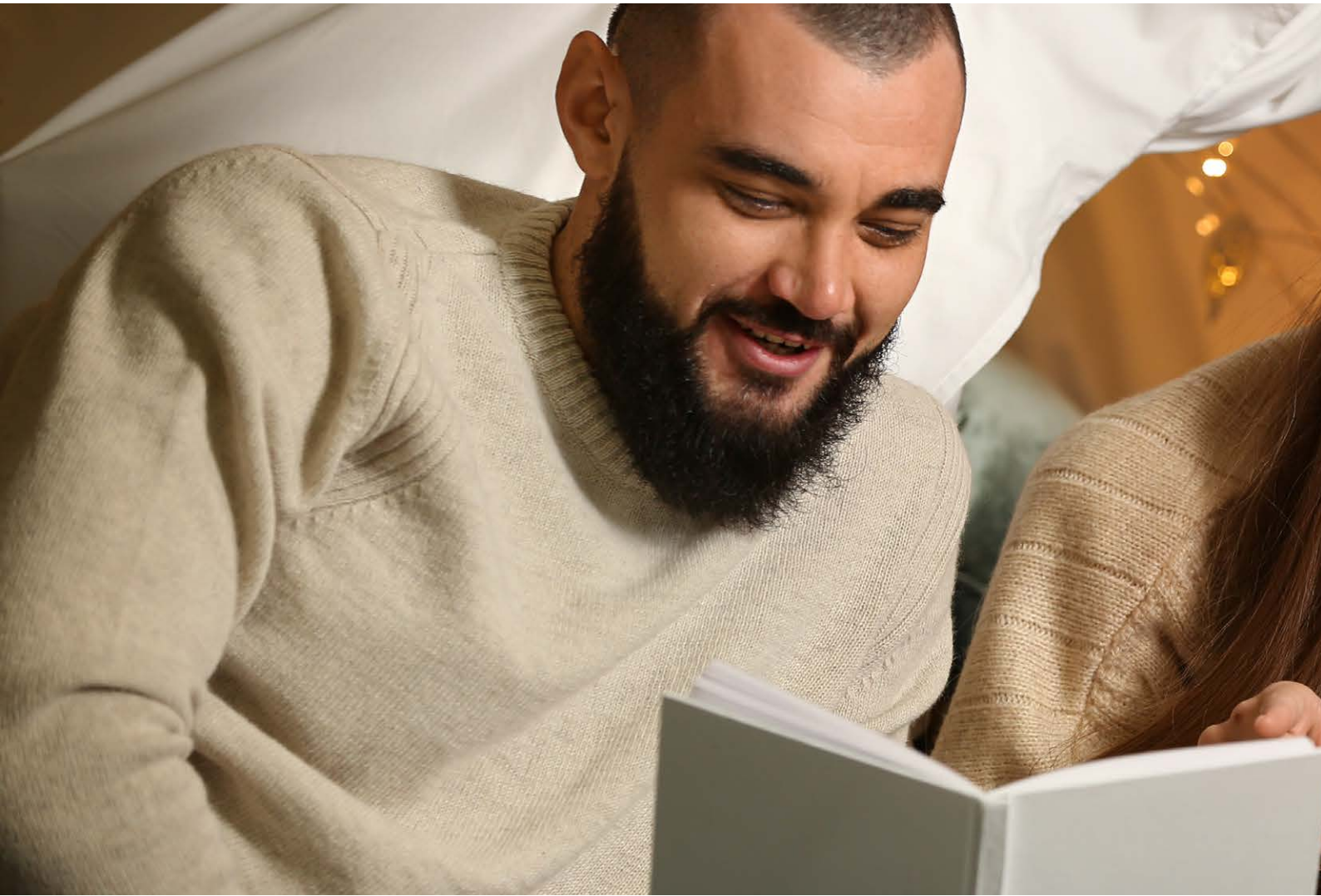


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More Catalogs



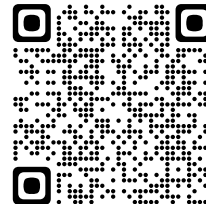
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www.pytesess.com

Pytes