



# Creating Undertaking & Sharing



PYTES (USA) Energy Inc.  
BATTERY EXPERT-GREEN ENERGY PROVIDER

## LI-ION BATTERY FOR ENERGY STORAGE



# CONTENTS

<b>03</b>	About Us
<b>07</b>	Laboratory Introduction
<b>09</b>	Qualification & Certification
<b>10</b>	Product Portfolio
<b>35</b>	Cases Gallery
<b>37</b>	Inverter Compatibility List

# Pytes

Pytes embarked on its journey in 2004, focusing on developing solutions for energy storage systems. Our goal is to assist individuals in cutting costs and feeling assured during power outages, offering continuous support and leveraging over 20 years of technological expertise.

Driven by a commitment to better serve clients, Pytes operates three fulfillment centers in the US. These centers enable us to expand coverage areas, ensuring quicker delivery and faster responses to customer inquiries.

At the heart of operations lie values of Creating, Undertaking, and Sharing. Guided by this philosophy, Pytes is committed to delivering safe, reliable, and affordable clean energy to homes and communities, contributing to a more carbon-free future.



**\$810M**

Total Asset

**20 Years**

Industry experience



**1000+**

Employee

**4Gwh**

Annual capacity





# Global Marketing & Service

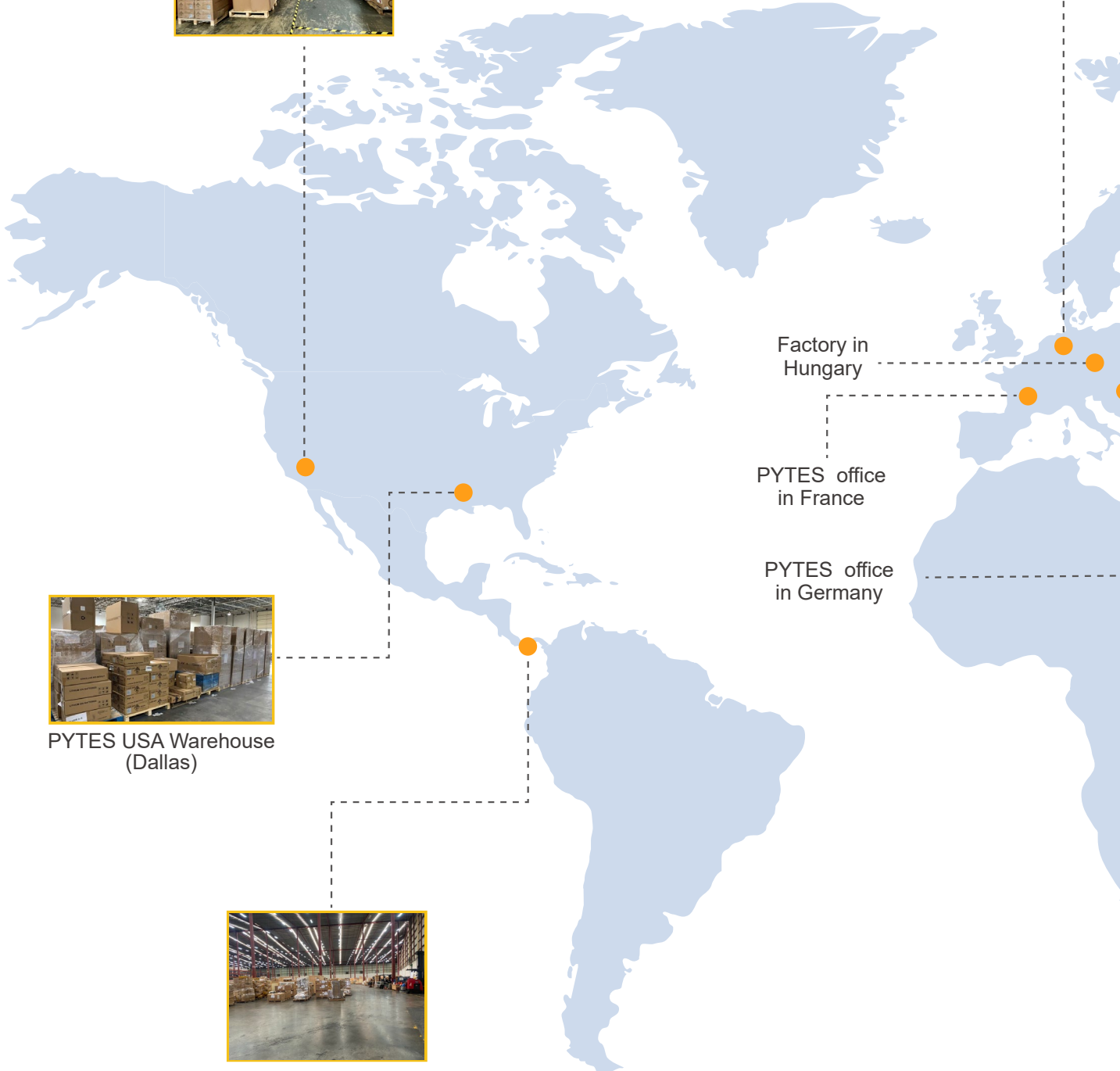
## North America

PYTES USA office & Warehouse  
(Los Angeles)



## Europe

PYTES EU office  
(The Netherlands)



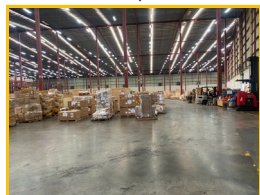
Factory in  
Hungary

PYTES office  
in France

PYTES office  
in Germany



PYTES USA Warehouse  
(Dallas)



PYTES Panama Warehouse



Shandong PYTES New Energy Technology



Shandong PYTES Electronics



**China**



Headquarter/  
Factory in Shanghai

**Vietnam**



Factory in Ho Chi Minh City

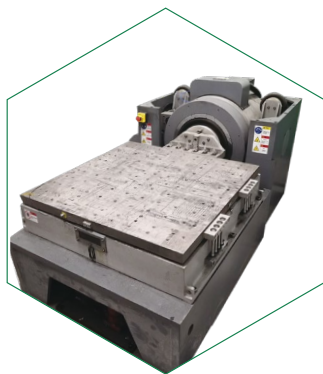


# SGS, TÜV, BV, DEKRA

Accredited Cooperative Testing Labs

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## Mechanical Tests



Vibration Test



Drop Test



Shocking Test



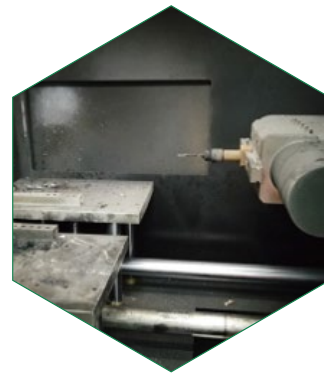
Safety Tests



Short Circuit Test



Impact Test



Needle Test

Environmental Tests



Altitude Simulation



Thermal Shock

Electrical Tests

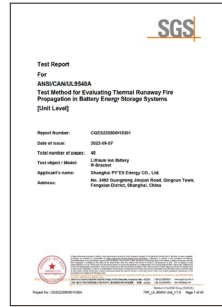




## Qualification & Certification



UL9540



UL9540A



UL1973



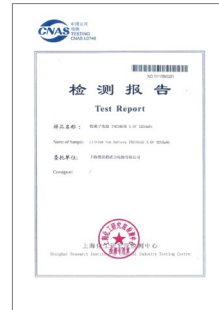
UL1642



IEC62619



CE



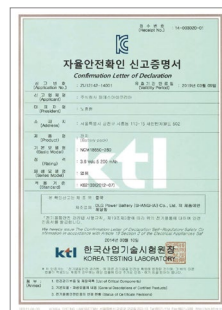
UN38.3



RoHS



REACH



KC



ISO9001:2015



ISO14001:2015



# Standard Products

## Standard Products

# Introduction

## Introduction

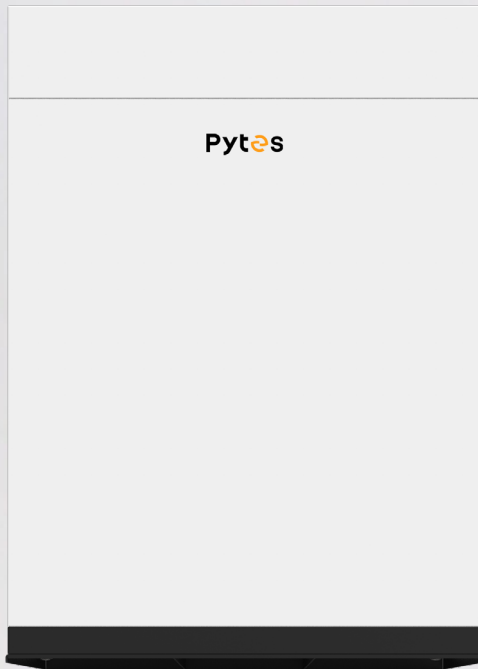




V5°



E-BOX 48100R



R-BOX



V-BOX-OC





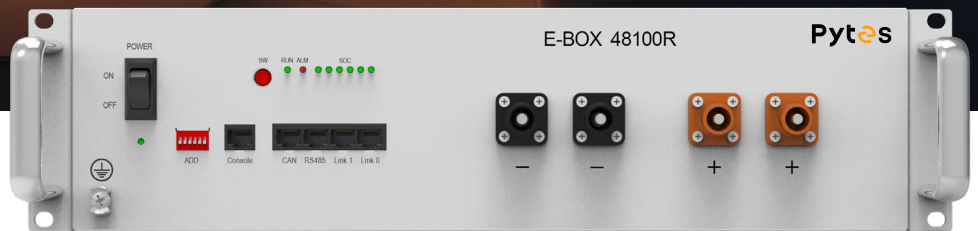
HV48100

Pi LV1





# E-BOX 48100R



## Features



### Scalable

- From 5.12kWh to 491.5kWh



### Easy to Install



### Long-lasting

- $\geq 6000$  Cycles @ 90%DOD



### Wide Compatibility



### Safe & Reliable

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

10 Years Warranty



# E-Box 48100R Specs

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## 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)

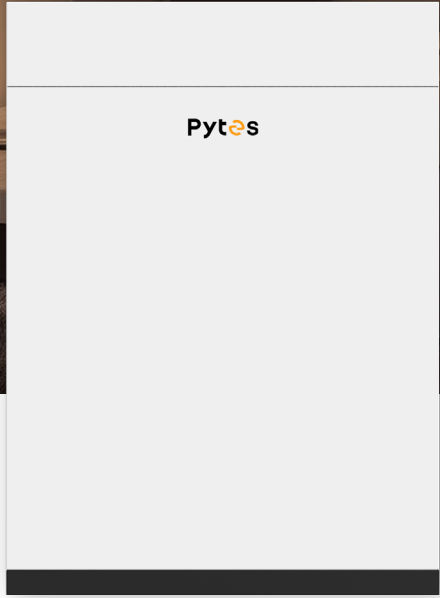
## General

Chemistry	LFP
Communication Protocol	CAN/RS485
Dimensions (L*W*H)	17.32 * 24.41 * 4.61 inch (2.6U)
Weight	112.5lbs
Ambient Temperature	14°F~122°F
Round-Trip Efficiency	≥95%
Cycle Life	≥6000cycle
Warranty	10 Years
Scalability	16 pcs (81.92kWh) in a group 6 groups (491.52kWh) in a system w/a Hub

## Certifications

UL9540 Ed.2 (2020), UL9540A, UL1973, CEC, SGIP, OGP<sub>e</sub>

# R-BOX



## R-Box Specs

### Mechanical

Load Capacity	2*E-Box 48100R
Dimensions (L*W*H)	11.0*20.1*27.5 inch (30.8 inch H w/holder)
Weight	37.5lbs
Mount	Wall/Floor Mount
Enclosure Rating	IP20
Enclosure Material	Cool-rolled Steel
Cooling	Natural Convection

# R-BOX-NEMA3



## R-BOX-NEMA3 Specs

### Mechanical

Load Capacity	2*E-Box 48100R
Dimensions (L*W*H)	20.8*15.7*28.9 inch
Weight	66.1 lbs
Mount	Floor/Wall Mount
Enclosure Rating	NEMA3
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)	31.5*13.0*62.0 inch
Weight	176.4lbs
Mount	Floor Mount
Enclosure Rating	IP55, NEMA 3
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)	28.3*15.7*45.3 inch
Weight	150 lbs
Mount	Floor Mount
Enclosure Rating	IP20
Enclosure Material	SGCC(Galvanized Steel)
Cooling	Natural Convection





**R-BOX**



**R-BOX-IP64**





Forest-RB





V5°



## Features



Remote Monitoring and Upgrading



Higher Charge/Discharge Rate



Wider Operation Temperature



Higher Energy Density



Greater scalability

10 Years Warranty



UN38.3

# V5° Specs

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## Electrical

Nominal Voltage	51.2V
Voltage Range	47.5V~57.6V
Nominal Capacity	100Ah
Nominal Energy	5.12kWh
Recommended Charge/ Discharge Current <sup>[1]</sup>	75A
Max Charge/ Discharge Current <sup>[2]</sup>	100A
Peak Charge/Discharge Current	101A~120A(3min) ; 121A~180A(15sec)

[1], [2]: The recommended and Max continuous charge and discharge current is for a battery cell temperature within 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)	16.70*20.87*5.51 inch (3.2U)
Weight	97lbs
Ambient Temperature	14°F~122°F
Round-Trip Efficiency	≥95%
Cycle Life <sup>[3]</sup>	≥6000 cycles
Warranty	10 Years
Scalability	16 pcs (81.92kWh) in a group 6 groups (491.52kWh) in a system w/ a Hub

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

## Add-on Features

WIFI Connection	Remote monitoring and upgrade
Heating Pad	Temperature Rise: 18°F/h Operation Temperature: -0.4°F~50°F

## Certifications

UL9540 Ed.2 (2020), UL9540A, UL1973, CEC, SGIP

# Pytes V5° & Sol-Ark Packages

Grid-tie, Off-grid, DC and AC Coupled, Outdoor or Indoor Applications



• Brackets for V5° x 2 sets  
• V5° x 2

Sol-Ark 5k + Pytes 10kWh



• V-BOX-IC x 1  
• V5° x 3

Sol-Ark 8k + Pytes 15kWh



• V-BOX-OC x 1  
• V5° x 4

Sol-Ark 12k + Pytes 15kWh



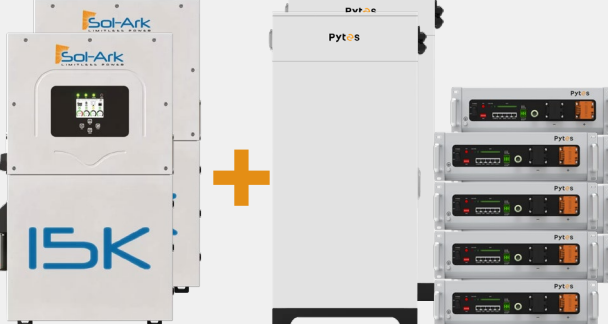
• V-BOX-OC x 1  
• V5° x 4

Sol-Ark 15k + Pytes 20kWh



• V-BOX-IC x 2  
• V5° x 6

Sol-Ark 15k + Pytes 30kWh



• V-BOX-OC x 2  
• V5° x 8

Sol-Ark 15k x 2 + Pytes 40kWh

\*Typical packages are listed above.

\*Sol-Ark 15k/12k/8k/5k inverters + Pytes batteries are all UL9540 certified and eligible for SGIP.  
Contact Pytes for more related info.

# UL9540 Certified ESS System



## Specifications

### Battery

<b>Model</b>	<b>V5°</b>
Nominal Voltage	512V
Nominal Capacity	100Ah
Recommended Charge/Discharge Rate	75A
Maximum Charge/Discharge Rate	100A
Peak Discharge Current	101A~120A (3min); 121A~180A (15sec)
Cycle Life	≥6000 cycles
Ambient Temperature	Charge: 0°C~45°C(32°F~113°F) Discharge: -10°C~50°C(14°F~122°F)
Weight	44KG / 97lbs
Dimensions (H * W * D)	440 * 530 * 140 mm (3.2U) / 17.3 * 20.9 * 5.5 inch (3.2U)
Warranty	10 Years

### Features

- Remote Monitoring and Upgrading
- Higher Charge/Discharge Rate
- Higher Energy Density
- Greater Scalability
- Wider Operation Temperature

### Certifications & Listings

UN38.3, CE, UL1973, UL9540A(4th edition), UL9540(2020), IEC62619  
CEC, SGIP

## About Sol-Ark & Pytes

### Pytes

A 20-year reputable battery maker for top players in ESS, LEV and 3C markets  
A vertically integrated manufacturer with full control on supply chain and quality



- #1 OFF-GRID Inverter sold in USA
- #1 Installer & Customer satisfaction in USA
- #1 Battery hybrid sold in Puerto Rico & #2 Battery hybrid sold in USA

## Service

- 10-year Warranty
- 24h\*7 Technical Support
- Regular Webinars & Training

## Fulfillment

- 4 Local Warehouses
- Delivery within One Week
- UL9540 Solution One-stop Purchase



# V-BOX-OC



## V-Box-OC Specs

### Mechanical

Load Capacity	4*V5°
Structure	Busbar & DC Circuit Breaker Integrated
Dimensions (L*W*H)	25.4*15.6*54.9 inch
Weight	194lbs
Mount	Floor Mount
Enclosure Rating	IP55, NEMA 3
Enclosure Material	SGCC(Galvanized Steel)
Cooling	Natural Convection

# SMART MONITOR



## Smart Monitor feature

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

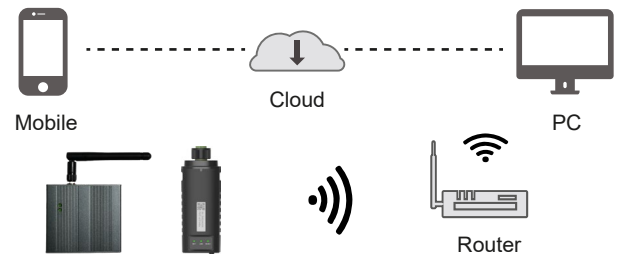


**LSW-5**  
Part No: 110409100151  
For E-BOX 48100R

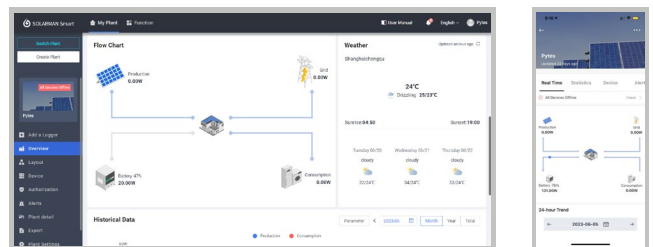


**WF01**  
Part No: 162002100019  
For V5°

## Diagram



## WEB/APP



# V-BOX-IC

Effortless to Upgrade  
Your System in 3 minutes



## Features



Easy to install with minimal tools required



Scalable to meet demands



Capable of easy mobility and secure fixation



Less footprint

## Multi Combinations Customized



Basic Rack



Mobile Cabinet



Scalable System

# V-BOX-IC Specs

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## Mechanical

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

---

# V-BOX-IC se



## Specs

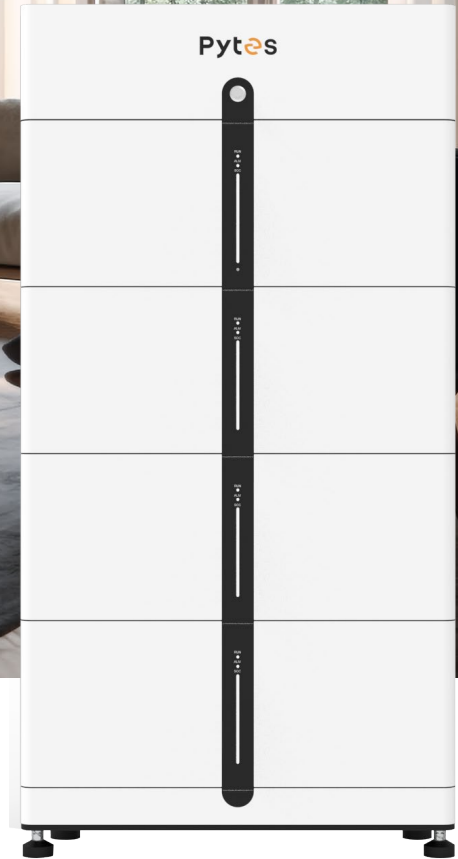
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### Mechanical

Load capacity	3 * V5°
Dimensions(L*W*H)	21.0 × 22.2 x 26.0 inch
Weight	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	45.5V~58V
Nominal Capacity	100Ah
Recommended Continuous Discharge Current	50A
Recommended Continuous Charge Current	50A
Certifications	CE, IEC62619, UL1973, UN38.3, UL9540, UL9540A



Model <sup>[1]</sup>	2	3	4	5	6
Cell Type	LFP				
Nominal Voltage	51.2V				
Voltage Range	45.5V~58V				
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) (inch)	26.8*9.5*31.5	26.8*9.5*41.7	26.8*9.5*52.0	26.8*9.5*62.2	26.8*9.5*72.4
Weight(lbs)	285.5	411.2	536.8	662.5	788.2
Communication	CAN, RS485				
Cycle Life <sup>[2]</sup>	≥6000 cycles				
Protection level	IP55 / NEMA 3				
Ambient Temperature	14°F~131°F				
Storage Temperature	Within 1 month: -4°F~122°F 1~3 months: 14°F~104°F 3~12 months: 32°F~86°F				

[1]:4 models parallel in Pi LV1 is Recommended.

[2]:@25°C, 0.5C Charging/Discharging, 80% DOD.

# HV48100



## Features



### Safety-oriented

LFP Chemistry, Grade A Cells & Field-Proven Modular BMS Built-In



### Scalable & Flexible

On-demand Configurations, Ideal for Residential, Commercial & Industrial Use



### High Energy Efficiency

Higher Energy Density & Lower Resistive Losses



### Powerful

High Power Output, Suitable for Quick Burst Energy Required Applications



### Compatibility

Field Integrated Solutions, Flexibility in Module Voltage Meets Leading Inverters



### Smart

Remote Upgrading & Monitoring



# HV48100 Specs

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## HV48100 BCU

Controller Working Voltage	200V~870V
Self-consumption Power	7.56W
Dimensions (W*D*H)	19.06*20.09*5.51 inch
Weight	29.32 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
Dimensions (W*D*H)	19.06*20.87*5.51 inch
Weight	94.8lbs
Communication	CAN, RS485

## 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
BMU Qty. (Optional)	5~15
Depth of Discharge	80%
Dimensions (W*D*H)	23.62*25.2*61.22 inch
Weight (Cabinet+BCU+BMU)	197.5 lbs+29.32 lbs+94.8 lbs*n
Communication	CAN, RS485, Dry Contact, WiFi
Cycle Life	≥6000 cycles
Operation Temperature	-4°F~140°F
Storage Temperature	-22°F~140°F
Operation Humidity	0~95%, No Condensation
Protection Level	IP20

## Certifications

UL1973, UN38.3, UL9540, UL9540A

# 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

## Equipments



### HUB

110409100001

#### Hub

Enables communication with multiple groups of batteries



### Busbar:

161506100003

#### 300A Junction Box

300A/6\*M5+2\*M10 Terminals



## Busbar:

110409100026

### 300A Busbar

300A/12\*M6+2\*M8 Terminals

110409100027

### 600A Busbar

600A/6\*M10+2\*M8 Terminals

## V-Busbar

110409100167

### V-Busbar

Combine two battery DC port of Sol-Ark 15K

## 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

61412101024 & 161412101026

### 1/0AWG/2000mm/M6 to 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







Arizona



California



Indiana



Arizona



California

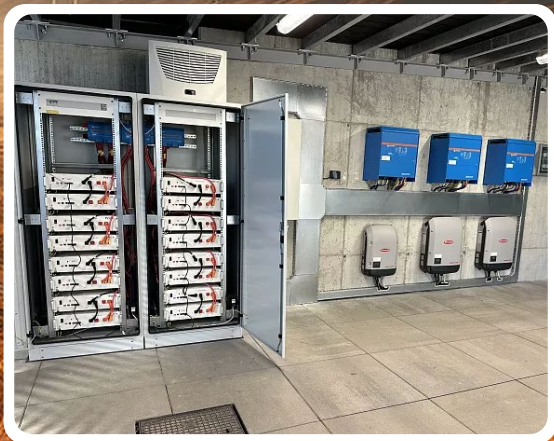




Austria



Austria



Poland



Netherlands



Germany



## Compatibility List of PYTES ESS and Inverters

### Low Voltage



### High Voltage





# Pytes

**PYTES (USA) Energy Inc.**

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+86-21-57475800

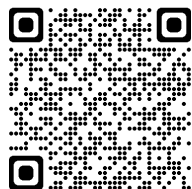
NO.3492, Jinqian Road, Fengxian District, Shanghai, China



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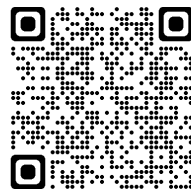
More Catalogs



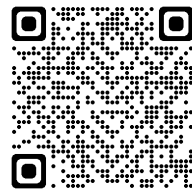
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Pytes