

litio-energy.com

# ENERGY STORAGE SOLUTIONS

**Litio**  
ENERGY STORAGE  
SOLUTIONS



# EXPERIENCE THE POWER OF LITIO

At Litio we are a leading battery manufacturer in Lebanon with over 12 years of experience in providing a turn-key solution in regards to Green Energy! Our up-to-date team of engineers is constantly working to develop innovative solutions that meet the highest standards of performance and sustainability.

Energy storage can be considered the most important component in the sustainable energy system. We aim to empower communities by decreasing their reliance on central sources of energy.

*At **Litio**, we specialize in providing cutting-edge technology storage solutions that optimize the capabilities of solar installations converting renewable energy into manageable power sources of efficient energy.*





# MISSION *and* VISION

## MISSION :

At Litio Energy Storage Solutions, our mission is to supply the Lebanese and global markets with high quality, energy efficient, and affordable lithium LiFe-P04 batteries. We aim to empower communities, by decreasing their reliance on a central energy source and creating new sources of clean, sustainable energy that people can take into their own hands. We're there to support at every stage, from installation to maintenance and upkeep.

## VISION :

At Litio, we aim to be a part of the worldwide transition to lithium LiFeP04 batteries and spearhead this movement in the Lebanese and regional markets. Our commitment to a sustainable future is evident in every part of our operations. Besides the reduced environmental footprint of lithium, we upskill Lebanese technical college students, enhancing their job-readiness, and create new jobs in small locales, employing skilled people at our factory under fair and livable conditions.



# LITIO 12+ YEARS AND COUNTING

Litio stands as a lithium battery manufacturer, integrating research & development with design, and production. Our core focus lies in providing a variety of lithium batteries alongside tailor-made solutions to replace lead-acid batteries and central sources of energy. With over 12 years and counting, we have supplied our esteemed customers with cutting edge lithium batteries, a testament to our vast experience and unwavering expertise in the field.



*Lebanese experts*  
**MADE IN LEBANON**



**“Litio runs its own manufacturing facility on our handmade batteries. We believe in our products. We try it before you do. We have tried our solutions and know what works first hand !**





# LITIO: POWERING THE WORLD FROM TWO LOCATIONS!

We're thrilled to announce that Litio, the leading lithium battery manufacturing company, now has not one, but two cutting-edge facilities to serve you better! With locations in Beirut and Nabatieh, we're able to bring our innovative energy solutions to customers across Lebanon! Join us as we continue to revolutionize the future of power!



HAZMIEH, BEIRUT

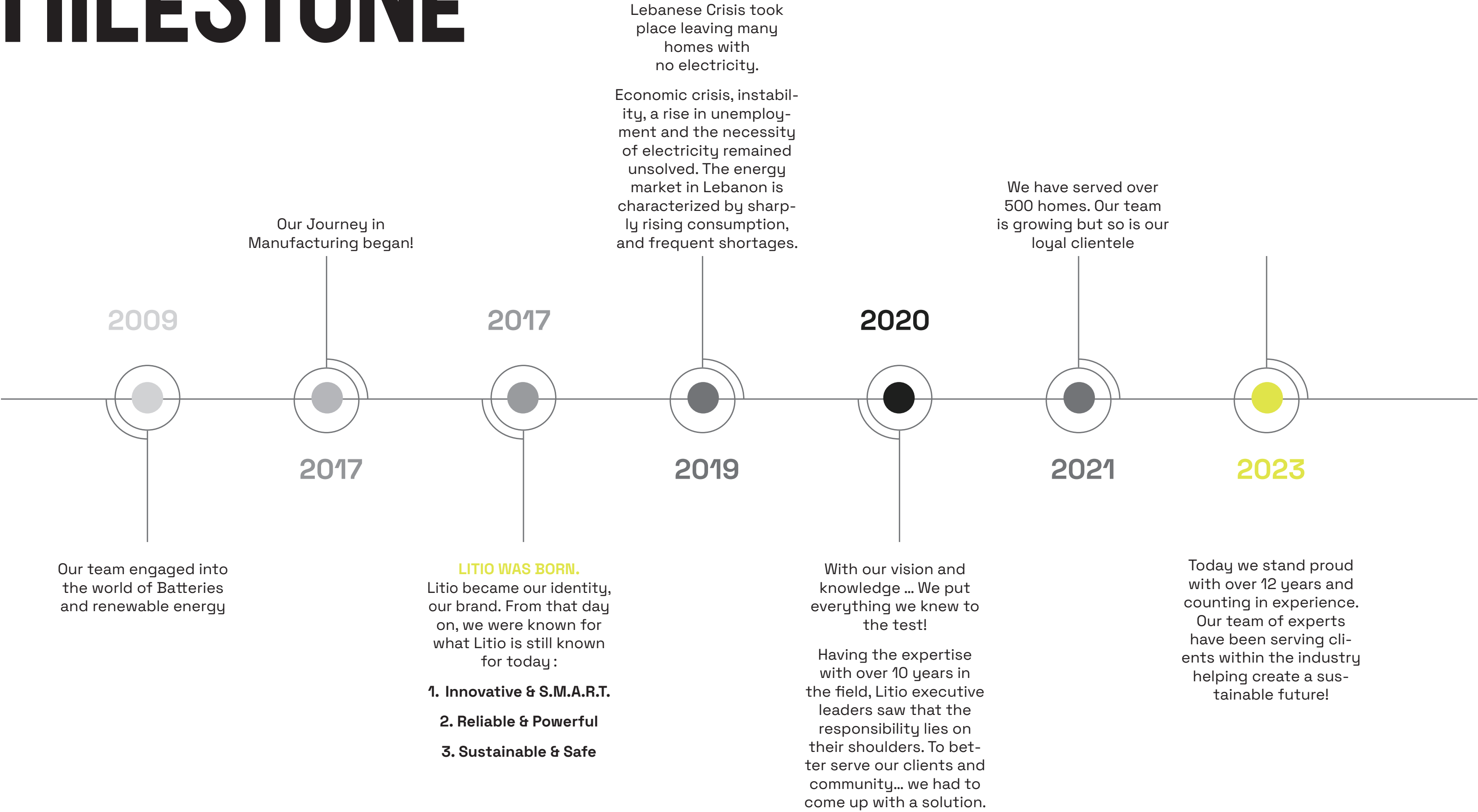


NABATIEH





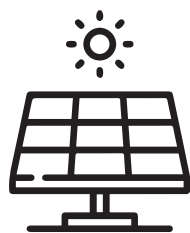
# MILESTONE



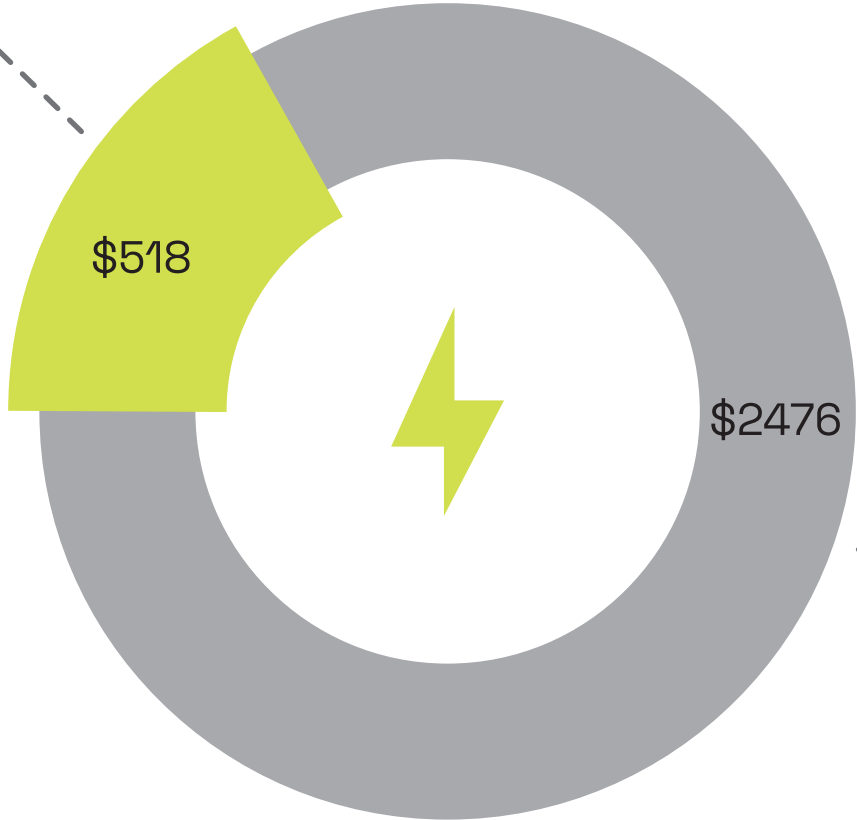


# RETURN ON INVESTMENT

*Is it really worth it?*



Solar  
Lithium  
Batteries



Ishtirak  
Community  
Generators

## IS IT REALLY WORTH IT? RETURN ON INVESTMENT

8760

HOURS PER YEAR

365 (DAYS PER YEAR) X 24 (HRS PER DAY)



8760 HOURS PER YEAR

3000 HOURS ( DAY TIME )

5760

HOURS PER YEAR

POWERED BY LITIO!

5760 HOURS

X

\$0.43 PER HOUR

(ISHTIRAK - COMMUNITY GENERATORS)

\$2476

5760 HOURS

X

\$0.09

(PRICE PER LITHIUM KW ENERGY:  
\$0.03 CHARGING FROM THE SUN  
+ \$0.06 USAGE FEE)

\$518

\$2476

\$518

=

\$1950

SAVINGS IN ONE YEAR ALONE!





# PPS 100



Capacity	768Wh
Cell	LFP/3.2V20Ah
Combination	6S2P
AC Output	220V / Pure sine wave / 600W
DC Output	1xQC 3.0 / 2xType-C / 1xUSB 6V/3A
Charge	DC 13.2V/3A
Size	W155*D270*H175mm
Weight	7.8kg





# PPS 101



Capacity	555Wh
Cell	NCM/3.7V132Ah
Combination	3S1P
AC Output	220V / pure sine wave / 500W
DC Output	1xQC 3.0 / 1xType-C / 2xUSB 5V/2.4A 1xCigarette lighter 12V/ 1xIgnition 800A
Charge	DC 14~28V
Size	D160*H268mm
Weight	5.68kg





# PPS 102



Capacity	1500Wh
Cell	LiFePO4/3.2V20Ah
Combination	8S3P
AC Output	220V / pure sine wave / 1200W
DC Output	1xQC 3.0 / 1xType-C / 1xUSB 5V/2.4A DC 12V 3A
Charge	DC 14~28V
Size	D365*W310*H290mm
Weight	17.8kg





# ALL IN ONE



## ALL IN ONE

	MODEL	2K-4120Wh
	RATED AC POWER	220VAC/ 2,000 W Continuous (4,000 W Surge)
BATTERY BANK	Rated voltage	25.6 VDC
	Battery capacity	4.12 KWh
	Battery type	CATL LifePO4 161Ah
INVERTER VOLTAGE SETTINGS	High voltage protection	33.6 VDC
	High voltage recovery	32.0 VDC
	Low voltage alarm	23.0 VDC
	Low voltage protection	22.4 VDC
	Floating charge voltage	28.4 VDC
AC INPUT	AC input voltage	170VAC-275VAC
	frequency	60 Hz or 50 Hz
CHARGE	AC charger	220V AC 2.A
	solar charger	"30A MPPT SCC
	Car Charger	Max. 12VDCx10A
AC OUTPUT	voltage range	220VAC ±5% (inverter mode)
	frequency	60Hz or 50Hz ±1% (inverter mode)
	Output wave	Pure Sine Wave
	transfer time	10ms (Typical load)
	EFFICIENCY	85% (80% Resistive load)
DC OUTPUT	USB plug	85% (80% Resistive load)
	Car plug	5VDC/2A
	low-voltage protection	12VDC/10A
	low_voltage recovery	22.4V
	Operating ambient temp.	-20 °C + 50°C
	Storage ambient temp.	-25 °C + 55°C
	product size:	503 x 362 x 471 D * W * H (mm)
	package size:	595 x 440 x 535 D * W * H (mm)
	Net weight	56.8 Kg



ENERGY STORAGE INTEGRATED BATTERY

LT-R51100



LT-R51100

Cell Bank	Cell Type	LiFePO4
	Number of cells	16S
	Cell Volt	3.2v
Battery Bank	Battery Type	RACK/FLOOR
	Nominal Battery Energy	5.120 kW/h
	Battery Capacity	100 AH
	Nominal Voltage	51.2V
Safety Features	Charging Cut-off voltage	58.4V
	Discharging End-of voltage	43.2V
	Maximum Charge Current	100A
	Maximum Discharge Current	100A
Service Life	DOD	>90%
	Cycle Life @80% DOD	6000 cycles
	Warranty	5 years
Packaging	Installation Type	RACK/FLOOR Mount
	Product Weight	43Kg
	Product Dimension DxWxH(mm)	440x425x180



ENERGY STORAGE INTEGRATED BATTERY

# LT-R25200



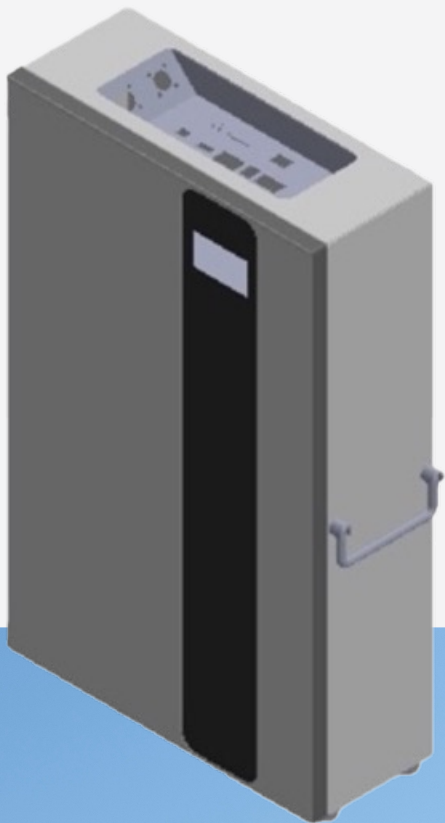
# LT-R25200

Cell Bank	Cell Type	LiFePO4
	Number of cells	8S2P
	Cell Volt	3.2v
Battery Bank	Battery Type	RACK/FLOOR
	Nominal Battery Energy	5.120 kW/h
	Battery Capacity	200 AH
	Nominal Voltage	25.6V
Safety Features	Charging Cut-off voltage	29.2V
	Discharging End-of voltage	21.6V
	Maximum Charge Current	100A
	Maximum Discharge Current	100A
Service Life	DOD	>90%
	Cycle Life @80% DOD	6000 cycles
	Warranty	5 years
Packaging	Installation Type	RACK/FLOOR Mount
	Product Weight	43Kg
	Product Dimension DxWxH(mm)	440x425x180



ENERGY STORAGE INTEGRATED BATTERY

# LT-W51100



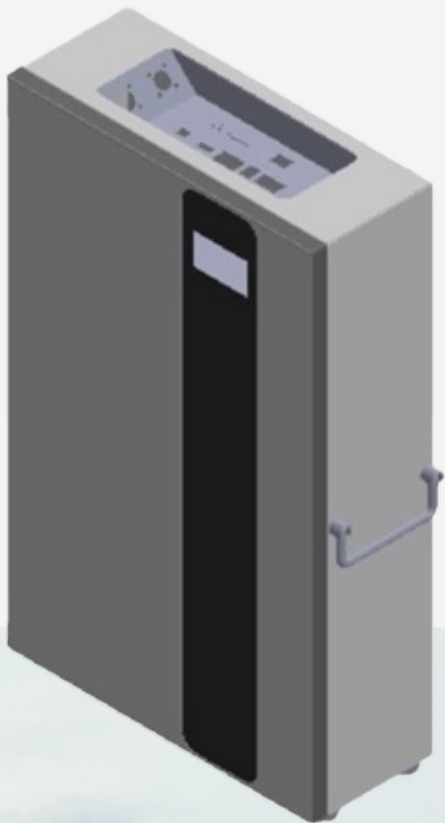
# LT-W51100

Cell Bank	Cell Type	LiFePO4
	Number of cells	16S
	Cell Volt	3.2v
Battery Bank	Battery Type	WALL/FLOOR
	Nominal Battery Energy	5.120 kW/h
	Battery Capacity	100 AH
	Nominal Voltage	51.2V
Safety Features	Charging Cut-off voltage	58.4V
	Discharging End-of voltage	43.2V
	Maximum Charge Current	100A
	Maximum Discharge Current	100A
Service Life	DOD	>90%
	Cycle Life @80% DOD	6000 cycles
	Warranty	5 years
Packaging	Installation Type	WALL/FLOOR Mount
	Product Weight	45Kg
	Product Dimension DxWxH(mm)	570x370x160



ENERGY STORAGE INTEGRATED BATTERY

# LT-W25200



# LT-W25200

Cell Bank	Cell Type	LiFePO4
	Number of cells	8S2P
	Cell Volt	3.2v
Battery Bank	Battery Type	WALL/FLOOR
	Nominal Battery Energy	5.120 kW/h
	Battery Capacity	200 AH
	Nominal Voltage	25.6V
Safety Features	Charging Cut-off voltage	29.2V
	Discharging End-of voltage	21.6V
	Maximum Charge Current	100A
	Maximum Discharge Current	100A
Service Life	DOD	>90%
	Cycle Life @80% DOD	6000 cycles
	Warranty	5 years
Packaging	Installation Type	Wall/FLOOR Mount
	Product Weight	45g
	Product Dimension DxWxH(mm)	570x370x160



ENERGY STORAGE INTEGRATED BATTERY

# LT-R25280



# LT-R25280

Cell Bank	Cell Type	LiFePO4
	Number of cells	8S
	Cell Volt	3.2v
Battery Bank	Battery Type	RACK/FLOOR
	Nominal Battery Energy	7.168 kW/h
	Battery Capacity	280 AH
	Nominal Voltage	25.6V
Safety Features	Charging Cut-off voltage	29.2V
	Discharging End-of voltage	21.6V
	Maximum Charge Current	100A
	Maximum Discharge Current	100A
Service Life	DOD	>90%
	Cycle Life @80% DOD	6000 cycles
	Warranty	5 years
Packaging	Installation Type	RACK/FLOOR Mount
	Product Weight	65Kg
	Product Dimension DxWxH(mm)	440x426x267



ENERGY STORAGE INTEGRATED BATTERY

# LT-W51200



# LT-W51200

Cell Bank	Cell Type	LiFePO4
	Number of cells	16S2P
	Cell Volt	3.2v
Battery Bank	Battery Type	WALL/FLOOR
	Nominal Battery Energy	10.240 kW/h
	Battery Capacity	200 AH
	Nominal Voltage	51.2V
Safety Features	Charging Cut-off voltage	58.4V
	Discharging End-of voltage	43.2V
	Maximum Charge Current	200A
	Maximum Discharge Current	200A
Service Life	DOD	>90%
	Cycle Life @80% DOD	6000 cycles
	Warranty	5 years
Packaging	Installation Type	WALL/FLOOR Mount
	Product Weight	99Kg
	Product Dimension DxWxH(mm)	944x484x283



ENERGY STORAGE INTEGRATED BATTERY

# LT-W25400



# LT-W25400

Cell Bank	Cell Type	LiFePO4
	Number of cells	8S4P
	Cell Volt	3.2v
Battery Bank	Battery Type	WALL/FLOOR
	Nominal Battery Energy	10.240 KW/H
	Battery Capacity	400 AH
	Nominal Voltage	26.6V
Safety Features	Charging Cut-off voltage	29.2V
	Discharging End-of voltage	21.6V
	Maximum Charge Current	200A
	Maximum Discharge Current	200A
Service Life	DOD	>90%
	Cycle Life @80% DOD	6000 cycles
	Warranty	5 years
Packaging	Installation Type	WALL/FLOOR Mount
	Product Weight	99Kg
	Product Dimension DxWxH(mm)	944x484x283



ENERGY STORAGE INTEGRATED BATTERY

LT-R51280



LT-R51280

Cell Bank	Cell Type	LiFePO4
	Number of cells	16S
	Cell Volt	3.2v
Battery Bank	Battery Type	RACK/FLOOR
	Nominal Battery Energy	14.336 kW/h
	Battery Capacity	280 AH
	Nominal Voltage	51.2V
Safety Features	Charging Cut-off voltage	58.4V
	Discharging End-of voltage	43.2V
	Maximum Charge Current	200A
	Maximum Discharge Current	200A
Service Life	DOD	>90%
	Cycle Life @80% DOD	6000 cycles
	Warranty	5 years
Packaging	Installation Type	RACK/FLOOR Mount
	Product Weight	115Kg
	Product Dimension DxWxH(mm)	440x714x266



# DPX FAMILY

DPX LiFePO4 lithium batteries offer numerous advantages, making them a compelling choice for various applications:



## EXTENDED LIFESPAN

DPX LiFePO4 batteries have a significantly longer lifespan compared to traditional lead-acid batteries, which means they require less frequent replacements, saving you money in the long run.



## STABLE PERFORMANCE

DPX LiFePO4 batteries maintain a stable voltage throughout most of their discharge cycle, providing consistent and reliable power output until they are almost fully depleted.



## HIGH ENERGY DENSITY

DPX LiFePO4 batteries chemistry provides a higher energy density than many other battery types, resulting in a more compact and lightweight solution for your energy storage needs.



## WIDE TEMPERATURE RANGE

DPX LiFePO4 batteries can operate effectively across a broad range of temperatures, making them suitable for various environmental conditions.



## MAINTENANCE-FREE

Unlike some other battery types, DPX LiFePO4 batteries do not require regular maintenance, which simplifies their operation and lowers maintenance costs.



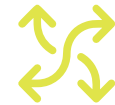
## FAST CHARGING

DPX LiFePO4 batteries can be charged at a faster rate compared to other lithium-ion batteries, allowing for quicker charging times and reduced downtime.



## ENVIRONMENTALLY FRIENDLY

DPX LiFePO4 batteries are environmentally friendly as they do not contain toxic heavy metals like lead and cadmium, reducing their impact on the environment.



## VERSATILITY

DPX LiFePO4 batteries can be used in various applications, including solar energy storage, electric vehicles, marine applications, backup power systems, and more.



## SAFETY

DPX LiFePO4 batteries are considered one of the safest lithium-ion battery options. They are less prone to overheating, thermal runaway, or fire incidents, ensuring a safer energy storage solution.



## LOW SELF-DISCHARGE

DPX LiFePO4 batteries have a lower self-discharge rate compared to other battery chemistries, allowing them to retain their charge for more extended periods when not in use.





# DPX11

Cell Bank	Cell Type	LiFePO4
	Number of cells	16
	Cell Volt	3.2v
Battery Bank	Battery Type	LifePO4
	Nominal Battery Energy	8.24 kW/h
	Battery Capacity	161 AH
	Nominal Voltage	51.2V
Safety Features	Charging Cut-off voltage	58.4V
	Discharging End-of voltage	50V
	Maximum Charge Current	100A
	Maximum Discharge Current	150A
Service Life	DOD	>90%
	Cycle Life @80% DOD	5000 cycles
	Warranty	5 years
Packaging	Installation Type	Rack/Floor Mount
	Product Weight	68Kg
	Product Dimension DxWxH(mm)	700x440x222





# DPX12

Cell Bank	Cell Type	LiFePO4
	Number of cells	8
	Cell Volt	3.2V
Battery Bank	Battery Type	LifePO4
	Nominal Battery Energy	4.12 kW/h
	Battery Capacity	161 AH
	Nominal Voltage	25.6V
Safety Features	Charging Cut-off voltage	29.2V
	Discharging End-of voltage	25V
	Maximum Charge Current	100A
	Maximum Discharge Current	150A
Service Life	DOD	>90%
	Cycle Life @80% DOD	5000 cycles
	Warranty	5 years
Packaging	Installation Type	Rack/Floor Mount
	Product Weight	44Kg
	Product Dimension DxWxH(mm)	440x445x222





DPX  
15

# DPX15

Cell Bank	Cell Type	LiFePO4
	Number of cells	16
	Cell Volt	3.2V
Battery Bank	Battery Type	LifePO4
	Nominal Battery Energy	14.33 kW/h
	Battery Capacity	280 AH
	Nominal Voltage	51.2V
Safety Features	Charging Cut-off voltage	58.4V
	Discharging End-of voltage	50V
	Maximum Charge Current	100A
	Maximum Discharge Current	150A
Service Life	DOD	>90%
	Cycle Life @80% DOD	6000 cycles
	Warranty	5 years
Packaging	Installation Type	Rack/Floor Mount
	Product Weight	122 KGS
	Product Dimension DxWxH(mm)	501x442x531



# HIGH VOLTAGE

Investing in a High Voltage Lithium Battery Solar system offers numerous benefits, making it a compelling choice for renewable energy storage and utilization. Here are some advantages and reasons why you should consider buying one:



## INCREASED ENERGY STORAGE CAPACITY

High Voltage Lithium Battery Solar systems typically have higher energy storage capacities compared to traditional lead-acid battery systems. This allows you to store more excess solar energy generated during sunny periods for use during cloudy days or at night.



## LONGER LIFESPAN

Lithium batteries, when properly maintained, can last significantly longer than lead-acid batteries. Their extended lifespan means fewer replacements over time, reducing overall maintenance costs.



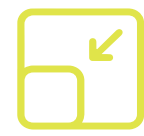
## IMPROVED EFFICIENCY

High Voltage Lithium Batteries are known for their high charge and discharge efficiency, meaning more of the stored energy can be utilized, resulting in less energy wastage.



## FAST CHARGING AND DISCHARGING

High Voltage Lithium Batteries can be charged and discharged at a faster rate, allowing for quicker recharging times and more immediate access to stored energy when needed.



## REDUCED WEIGHT AND FOOTPRINT

Lithium batteries are lighter and more compact than traditional lead-acid batteries, which is advantageous if you have limited space or need a portable energy storage solution.



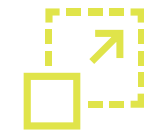
## LOW MAINTENANCE

Lithium batteries require minimal maintenance compared to lead-acid batteries, which saves time and effort in upkeep.



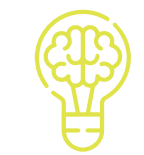
## ENVIRONMENTALLY FRIENDLY

High Voltage Lithium Batteries are more environmentally friendly as they do not contain hazardous materials like lead or acid, reducing the risk of soil and water pollution.



## SCALABILITY

High Voltage Lithium Battery Solar systems can be easily scaled up or down based on your energy needs. If your energy requirements increase in the future, you can expand your battery bank accordingly.



## INTEGRATION WITH SMART TECHNOLOGY

Many High Voltage Lithium Battery systems can integrate with smart energy management systems, allowing you to monitor and control energy usage more efficiently, maximizing the benefits of solar power.



## ENERGY INDEPENDENCE

By storing excess solar energy, you can reduce reliance on the grid during peak demand periods or power outages, promoting energy independence and resilience.



# HOWEVER,

before purchasing a **High Voltage Lithium Battery Solar system**, it's essential to consider factors such as the initial investment cost, system compatibility with your solar setup, and the required capacity to meet your energy needs effectively. Consulting with our sales engineer can help you make an informed decision tailored to your specific requirements.





# HIGH VOLTAGE BATTERY

## INDUSTRIAL



Cell Chemistry	LiFeP04		
Module Energy (kWh)	14.33		
Module Nominal Voltage (V)	51.2		
Module Capacity (Ah)	280		
Battery Module Qty in series. (Optional)	”6 (Min)”	”8 Cluster”	”16 Cluster”
System Nominal Voltage (V)	307.2	409.6	768
System Operating voltage (V)	268.8~350.4	358.4~467.2	672~876
System Energy (kWh)	85.98	114.64	229.28
System Usable Energy (kWh)	77.38	103.18	206.35
Charge/Discharge Current (A)	Recommend	140	
	Max	280	
Working Temperature (°C)	Charge: 0~55/Discharge: -20~55		
Communication Port	CAN2.0/RS485/Dry Contact		
Humidity	5~85%RH		
Altitude	≤2000		
IP Rating of Enclosure	m IP20		
Dimension (W/D/H,mm)	Customized		
Weight Approximate (kg)	730 ~	950 ~	1800~
Installation Location	Rack Mounting		
Storage Temperature (°C)	0~35		
Recommend Depth of Discharge	90%		
Cycle Life	25±2°C, 0.5C/0.5C, EOL70%≥6000		
Warranty	5 years		



# HIGH VOLTAGE BATTERY

## COMMERCIAL



Cell Chemistry	LiFePO4		
Module Energy (kWh)	5.12		
Module Nominal Voltage (V)	51.2		
Module Capacity (Ah)	100		
Battery Module Qty in series. (Optional)	”6 (Min)”	”8 Cluster”	”16 Cluster”
System Nominal Voltage (V)	307.2	409.6	768
System Operating voltage (V)	268.8~350.4	358.4~467.2	672~876
System Energy (kWh)	30.76	40.96	76.80
System Usable Energy (kWh)	27.68	36.86	69.12
Charge/Discharge Current (A)	Recommend	50	
	Max	100	
	Peak(2min,25°C)	125	
Working Temperature (°C)	Charge: 0~55/Discharge: -20~55		
Communication Port	CAN2.0/RS485/Dry Contact		
Humidity	5~85%RH		
Altitude	≤2000		
IP Rating of Enclosure	m IP20		
Dimension (W/D/H,mm)	Customized		
Weight Approximate (kg)	400 ~	500 ~	1000~
Installation Location	Rack Mounting		
Storage Temperature (°C)	0~35		
Recommend Depth of Discharge	90%		
Cycle Life	25±2°C, 0.5C/0.5C, EOL70%≥6000		
Warranty	5 years		



# HIGH VOLTAGE SOLUTION



**OUR HIGH VOLTAGE BATTERIES  
ARE FULLY CUSTOMIZABLE AND  
CAN GO UP TO 3.5 MWh**

You may also choose your option  
from **LIQUID cooling** or **AIR cooling**.

**YOU CAN ORDER OUR INDUSTRIAL  
FULL SOLUTION!**

You also have the option to order  
the battery alone and build your own  
system yourself!

**Industrial Battery :**  
small autonomy for critical machines

**Industrial Battery :**  
Large Autonomy for regular usage

LITIO services

# ODM

LITIO helps your company and brand as a reliable  
ODM partner that can handle all aspects of the manu-  
facturing process without investing your resources or  
capabilities to design and manufacture your battery.

*Our primary goal is to take all the responsibility for the  
production and manufacturing process allowing you to  
focus on your core competencies (such as marketing  
and sales) while still being able to offer a wide range  
of batteries to your customers.*

## STEPS

1. The client approaches LITIO with the battery  
idea or concept.
2. LITIO will work with you to design and develop  
the product.
3. LITIO will manufacture your product using its  
resources and facilities.
4. LITIO then delivers the finished product to you,  
and you can then sell it under your brand name.
5. We receives a fee for its design and  
manufacturing of the battery.





Litio services

# ODM

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## BENEFITS

- 1. COST-EFFECTIVE LITIO** helps you reduce production costs by sourcing materials and components at a lower price,as well as by utilizing economies of scale in the manufacturing process.
- 2.TIME-SAVING LITIO** handles all aspects of product design and development with the help of international engineers and designers.
- 3.EXPERTISE AND EXPERIENCE LITIO** is always up to date with the latest technologies and participates in international conferences to maintain extensive knowledge and experience in product design and manufacturing.
- 4.CUSTOMIZATION OPTIONS LITIO** offers customization options to meet your specific requirements, such as branding,packaging, and labeling.
- 5. GREAT FLEXIBILITY LITIO** provides flexibility in production. You can adjust the number of products based on market demand.

Litio services

# OEM

Original Equipment Manufacturer is when LITIO manufactures products or components for your company to brand and sell as your own.

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## BENEFITS

- 1. COST-EFFECTIVE** for you, as you do not have to invest in research and development or manufacturing facilities. This can help you save on overhead costs and reduce expenses.
- 2.SPECIALIZED EXPERTISE LITIO** often has specialized expertise and resources that your company may not have in-house.
- 3.FLEXIBILITY OEM** arrangements can be flexible, allowing you to scale up or down production as needed, depending on market demand.
- 4.QUALITY CONTROL LITIO'S OEM** services are usually required to meet certain quality standards that you define, which can help ensure that your products produced are of BENEFITS high quality.



# ISO CERTIFIED

