

High Voltage LFP Assemblies for 96-864 Vdc applications

E24™

P361E



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E24 Offers modular lithium Iron (LFP) battery assemblies that can be installed indoor or in LFP battery containers for outdoor applications.

Indoor assemblies are modules ranging from 17.8 KWh to 63.9 KWh per assembly is various voltages to match the DC requirements of virtually all inverters on the market and can be combined to reach the desired Energy Storage Capacity.



High Voltage Modular 48 Vdc LFP Batteries for 96-864 Vdc LFP Energy Storage Systems

Typical residential energy storage systems operate in 24 or 48Vdc. When scaling up to higher powers, it becomes mandatory to increase the battery voltage.

Standard 24V or 48V LFP batteries can only be connected in parallel. Connecting standard low voltage lithium batteries in series will result in system failure. Special high voltage LFP batteries are required when series connections are desired.

LFP batteries require the use of a adequate LFP battery controller that matches the desired voltage and charge/discharge currents.

E24 offers modular High Voltage LFP battery assemblies that can be configured to the desired voltage by simply connecting high voltage (HV LFP) battery modules in series through the appropriate controller.

E24 Offer two 48V modules that are connectable in Series to reach up to 864Vdc.

- LFP48H-M2K4 48V - 2.4KWh per Module
- LFP48H-M3K55 48V - 3.5KWh per Module

E24 Also offers 38.4 Vdc modules with their controllers to build higher voltages up to 1229Vdc (Reffer to Data Sheet # 362)



HV 48Vdc LFP Battery Module: LFP48H-M2K4 and LFP48H-M3K55

48Vdc Module Specifications

Reference:	LFP48H-M2K4	LFP48H-M3K55
Number of LFP Cells	15	15
Cells Voltage & Capacity (Vdc, Ah)	3.2V, 50Ah	3.2V, 74Ah
Module Voltage, Capacity (Vdc, KWh)	48 Vdc, 2.4 Kwh	48 Vdc, 3.55 Kwh
Module Voltage Range (Vdc)	43.5 to 54	
Design number of Cycles	10,000 @ 50% DOD; 6,000@ 90% DOD	
Communication	RS485 Modbus, CAN	
Efficiency at 0.5C Rate of Discharge	96%	
Maximum Depth of Discharge (DOD)	90%	
Dimensions (WxDxH) (mm)	442 x 390 x 100	442 x 390 x 132
Weight (Kg)	24	
Index of Protection	IP20	
Design Life (Years)	15+	
Operating Temperature (°C)	+0 to + 50	
Storage Temperature (°C)	-20 to + 60	
Humidity (%)	5 to 95	
Altitude (m)	2000	
Certifications	IEC62619, UL 1973, UL9540A, CE, UN38.3	
Warranty	10 Years PR(*)	

(*) Refer to Terms and Conditions

High Voltage Modular 48 Vdc LFP Batteries Controllers for 96-864 Vdc LFP Energy Storage Systems

E24 offers three models of controllers designed for building LFP strings of 48V HV modules in series.

- 1-) LFP48H-C11-100
 - Controls 2 to 9 x 48V HV Modules
 - Maximum charge / discharge current: 100A

- 2-) LFP48H-C18-100
 - Controls 4 to 18 x 48V HV Modules
 - Maximum charge / discharge current: 100A

- 3-) LFP48H-C18-200
 - Controls 2 to 18 x 48V HV Modules
 - Maximum charge / discharge current: 200A

Up to 18 x 48V HV LFP Battery Modules can be connected in Series through an HV Battery Controller to form a battery assembly.

Up to 32 HV Battery assemblies can then be connected in parallel through a master BMS unit (MBMS) in order to reach the desired energy Storage capacity.

It is possible to connect multiple MBMS systems for larger capacities (contact your authorized Dealer for details).



48V LFP HV Module Controller: LFP48H-C11-100



48V LFP HV Module Controller: LFP48H-C18-100



48V LFP HV Module Controller: LFP48H-C18-200



48V LFP HV MBMS Module: LFP48H-MBMS

48Vdc Module Controller

Reference:	LFP48H-C11-100	LFP48H-C18-100	LFP48H-C18-200
Related Battery Module:	LFP48H-M2K4 and LFP48H-M3K55		
AC Supply	Internal	Internal	100 - 290 Vac / 50Hz/1.3A
Operating Voltage (Vdc)	100 - 430	200 - 1000	0 - 1000
Operating Current (A dc)	100	100	200
Self Consumption Power (W)	8		
Communication	RS485 Modbus RTU, CAN		
Dimensions (WxDxH) (mm)	442 x 390 x 132	442 x 390 x 132	330 x 628 x 151
Weight (Kg)	8.2	8.2	17.5
Index of Protection	IP20		
Design Life (Years)	15+		
Operating Temperature (°C)	-20 to +65		
Storage Temperature (°C)	-40 to +80		
Humidity (%)	5 to 95		
Altitude (m)	2000		
Certifications	IEC62619, UL 1973, UL9540A, CE, UN38.3		
Warranty	2 Years (*)		

(*) Refer to Terms and Conditions

Pre-configured LFP Battery Assemblies from 336 Vdc to 864Vdc

E24 Offers pre-configured assemblies fitted in racks that can contain 15, 17, 19, 21, 23, 26, 29 and 32 Battery Modules.

Assembly 1: 336V, 17KWh

Assembly 1 (Fully Configured)

Reference:	LFP48H-A336-17K
Battery Module Used	LIT38H-5K68
Maximum Number of Modules	7
Assembly Capacity (KWh)	17
Assembly Voltage (Vdc)	336
Voltage Range (Vdc)	284-378
Design number of Cycles	10,000 @ 50% DOD 6,000@ 90% DOD
Communication	RS485 Modbus, CAN, TCP/IP
Efficiency at 0.5C Rate of Discharge	96%
Maximum Depth of Discharge (DOD)	90%
Dimensions (WxDxH) (mm)	600x505x1300
Weight (Kg)	250
Index of Protection	IP20
Design Life (Years)	15+
Operating Temperature (°C)	+10 to +50
Humidity (%)	5 to 95
Altitude (m)	2000
Certifications	IEC62619, UL 1973, UL9540A, CE, UN38.3
Warranty	10 Years PR(*)

(*) Refer to Terms and Conditions

Assembly 2: 720V, 36KWh

Assembly 2 (Fully Configured)

Reference:	LFP48H-A720-36K
Battery Module Used	LIT38H-5K68
Maximum Number of Modules	15
Assembly Capacity (KWh)	36
Assembly Voltage (Vdc)	720
Voltage Range (Vdc)	608-810
Design number of Cycles	10,000 @ 50% DOD 6,000@ 90% DOD
Communication	RS485 Modbus, CAN, TCP/IP
Efficiency at 0.5C Rate of Discharge	96%
Maximum Depth of Discharge (DOD)	90%
Dimensions (WxDxH) (mm)	600x505x2130
Weight (Kg)	400
Index of Protection	IP20
Design Life (Years)	15+
Operating Temperature (°C)	+10 to +50
Humidity (%)	5 to 95
Altitude (m)	2000
Certifications	IEC62619, UL 1973, UL9540A, CE, UN38.3
Warranty	10 Years PR(*)

(*) Refer to Terms and Conditions



Assembly 3: 528V, 39KWh

Assembly 3 (Fully Configured)

Reference:	LFP48H-A528-39K
Battery Module Used	LFP48H-M2K4
Maximum Number of Modules	11
Assembly Capacity (KWh)	39
Assembly Voltage (Vdc)	528
Voltage Range (Vdc)	487-594
Design number of Cycles	10,000 @ 50% DOD 6,000@ 90% DOD
Communication	RS485 Modbus, CAN, TCP/IP
Efficiency at 0.5C Rate of Discharge	96%
Maximum Depth of Discharge (DOD)	90%
Dimensions (WxDxH) (mm)	600x505x1950
Weight (Kg)	412
Index of Protection	IP20
Design Life (Years)	15+
Operating Temperature (°C)	+10 to + 50
Humidity (%)	5 to 95
Altitude (m)	2000
Certifications	IEC62619, UL 1973, UL9540A, CE, UN38.3
Warranty	10 Years PR(+)

(*) Refer to Terms and Conditions



Assembly 4: 576V, 43KWh

Assembly 4 (Fully Configured)

Reference:	LFP48H-A576-43K
Battery Module Used	LFP48H-M2K4
Maximum Number of Modules	12
Assembly Capacity (KWh)	43
Assembly Voltage (Vdc)	576
Voltage Range (Vdc)	531-648
Design number of Cycles	10,000 @ 50% DOD 6,000@ 90% DOD
Communication	RS485 Modbus, CAN, TCP/IP
Efficiency at 0.5C Rate of Discharge	96%
Maximum Depth of Discharge (DOD)	90%
Dimensions (WxDxH) (mm)	600x505x2130
Weight (Kg)	450
Index of Protection	IP20
Design Life (Years)	15+
Operating Temperature (°C)	+10 to + 50
Humidity (%)	5 to 95
Altitude (m)	2000
Certifications	IEC62619, UL 1973, UL9540A, CE, UN38.3
Warranty	10 Years PR(+)

(*) Refer to Terms and Conditions

Assembly 5: 864V, 64KWh

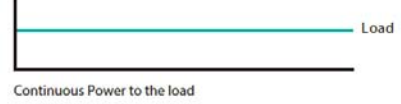
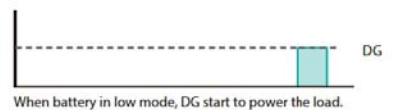
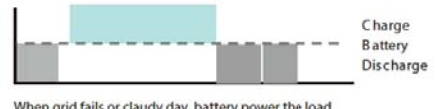
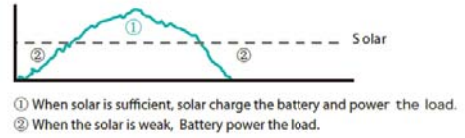
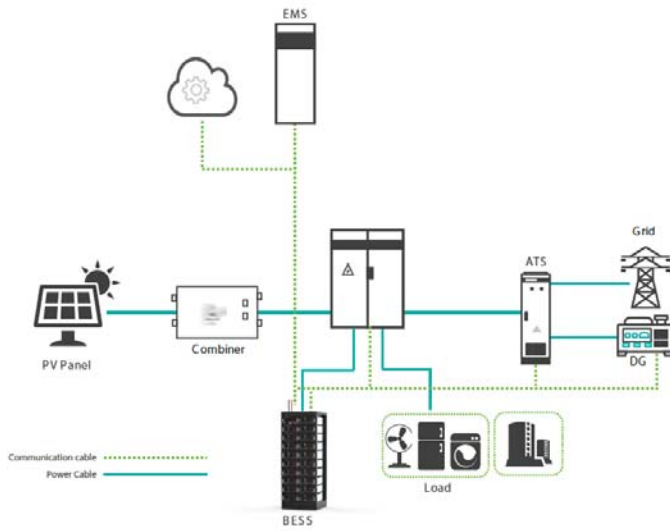
Assembly 5 (Fully Configured)

Reference:	LFP48H-A864-64K
Battery Module Used	LFP48H-M2K4
Maximum Number of Modules	18
Assembly Capacity (KWh)	64
Assembly Voltage (Vdc)	864
Voltage Range (Vdc)	797-972
Design number of Cycles	10,000 @ 50% DOD 6,000@ 90% DOD
Communication	RS485 Modbus, CAN, TCP/IP
Efficiency at 0.5C Rate of Discharge	96%
Maximum Depth of Discharge (DOD)	90%
Dimensions (WxDxH) (mm)	600x1010x1600
Weight (Kg)	675
Index of Protection	IP20
Design Life (Years)	15+
Operating Temperature (°C)	+10 to + 50
Humidity (%)	5 to 95
Altitude (m)	2000
Certifications	IEC62619, UL 1973, UL9540A, CE, UN38.3
Warranty	10 Years PR(+)

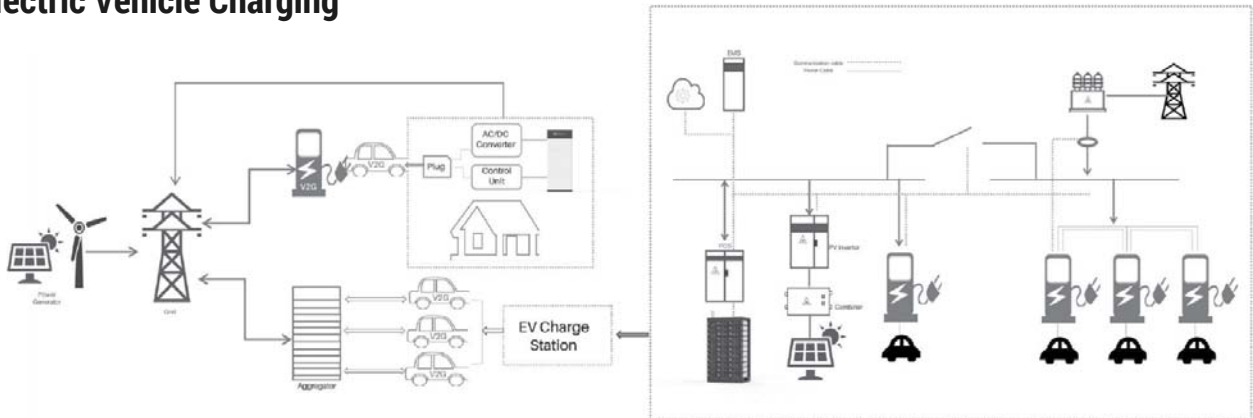
(*) Refer to Terms and Conditions

Applications

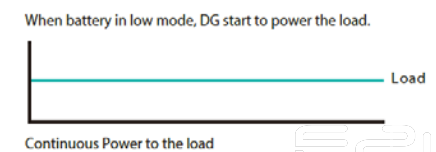
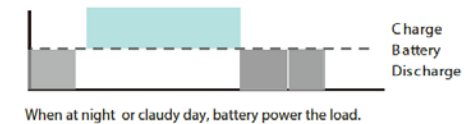
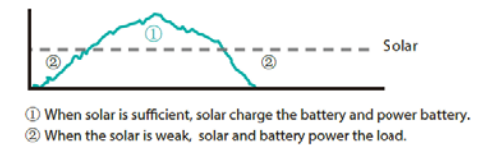
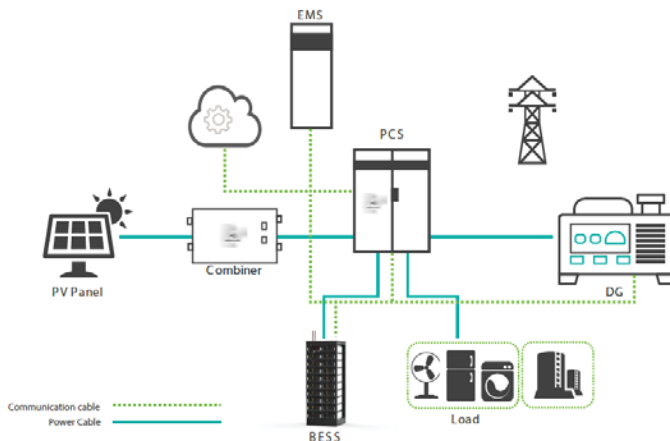
Back-Up Power



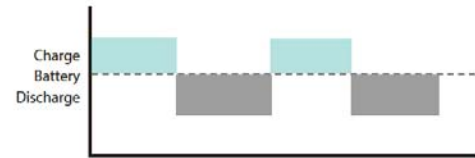
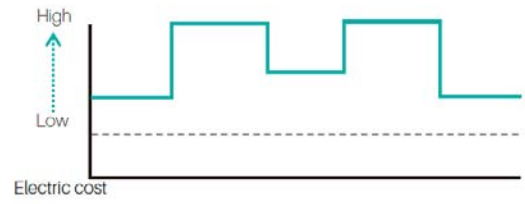
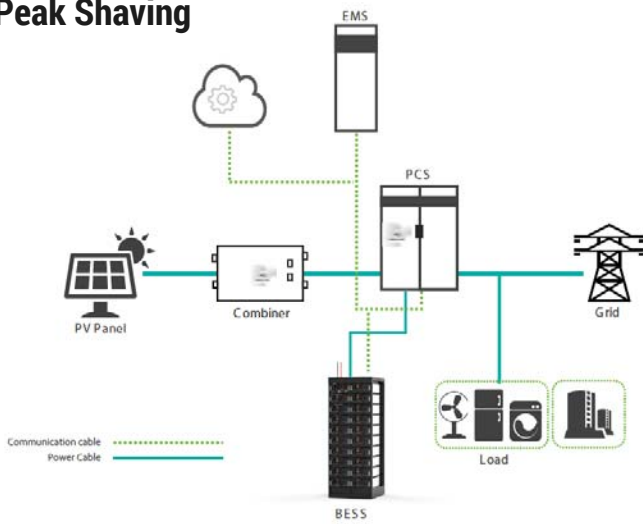
Electric Vehicle Charging



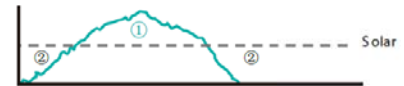
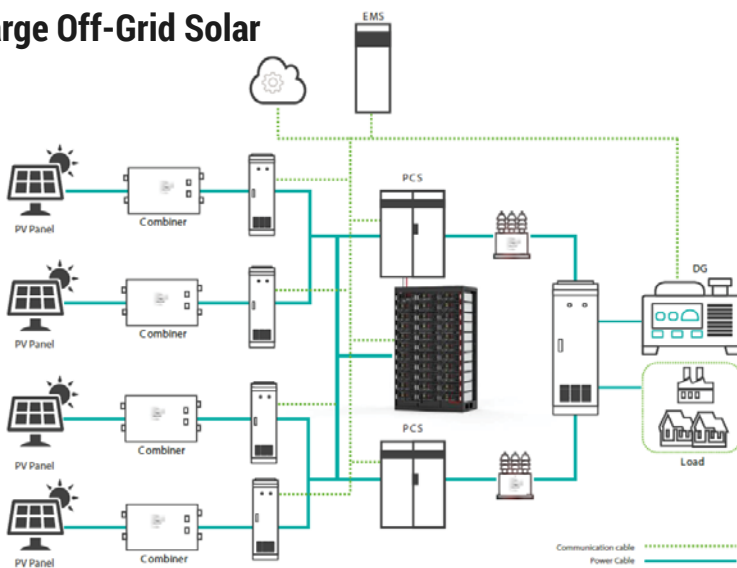
Micro-Grid



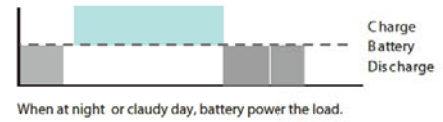
Peak Shaving



Large Off-Grid Solar



- ① When solar is sufficient, solar charge the battery and power load.
- ② When the solar is weak, solar and battery power the load.

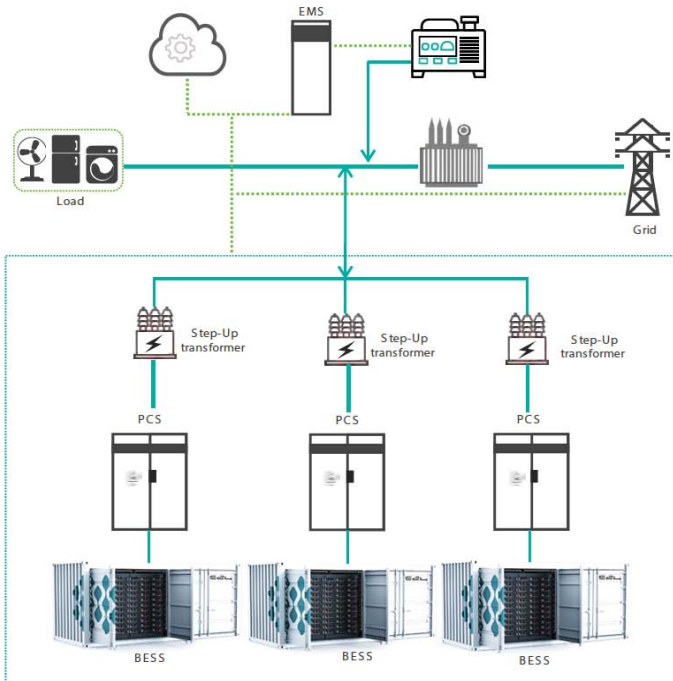


When at night or cloudy day, battery power the load.

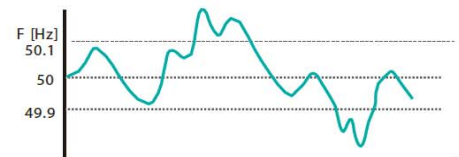


Continuous Power to the load

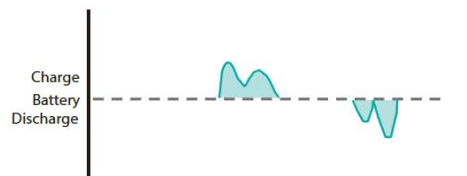
Grid Frequency Stabilization



Communication cable
Power Cable



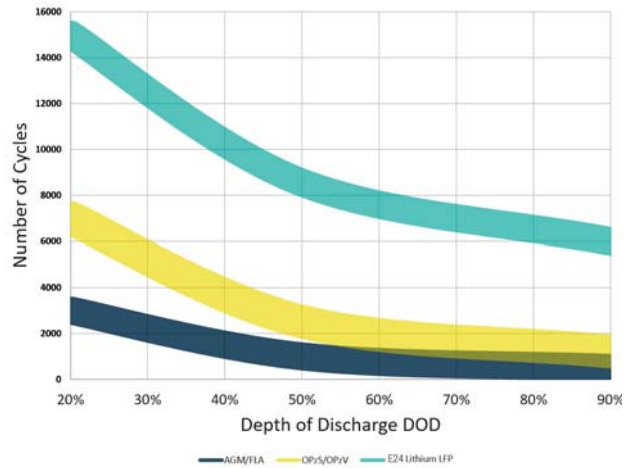
Charge the battery rapidly from the grid when demand on the grid is low. Discharge the battery into the grid when the load on the grid is high in order to keep the grid frequency stable.



Outstanding LFP Cells Quality

E24 collaborates with the worlds leading LFP cells manufacturers through a proven screening and quality control process to offer the highest quality LFP batteries possible.

E24 batteries deliver more than 9,000 cycles at 50%DOD and well beyond 6000 cycles at 90% DOD under a 10 Year warranty program.



10-Year Field Warranty

E24 Offers the longest warranty on LFP batteries in the industry.

With 10-Year warranty (Refer to E24 Terms and conditions), E24 offers the most solid warranty on LFP batteries on the market.

Remote Monitoring & After-Sales Service

E24 Offers a range of after-sales service in partnership with its and service partners

As part of E24 service offering, E24 offers remote monitoring service agreements to monitor clients assets and notify of any abnormality. The Remote monitoring serives is a remote prevent maintenance contract that would detect in a very early stage any system malfunction and recomande the corrective measures. E24 offers further after sales services to properly maintain client's assets.

International Quality Certifications

E24 lithium Iron (LFP) battery assemblies and containers follow stringent quality control and have obtained the needed certifications to be installed on international markets.



UL 1973

IEC 62619

UL 9540A



IEC 63056

VDE



Other Products from E24



Fuel Savers



PCS



String Inverters



Solar Structures

E24 Modular Range Of Products For Building Easy, Flexible & Evolutive Solutions

E24 products dynamically evolve with the lifestyle and work style of its customers while easing the installation process.

E24 products are conceived in modules allowing for an easy upgrade to adjust with the needs of the customers. Being modular and easy to connect E24 products allow installers to easily configure the required modules for an optimal solution while offering upgrade options.



Ordering Information

Ref Number	Description
LFP48H-M2K4	HV LFP battery RM Module, 48Vdc, 2.40KWh, 2 to 11 units in Series
LFP48H-M3K55	HV LFP battery RM Module, 48Vdc, 3.55KWh, 2 to 11 units in Series
LFP48H-R7	Battery Rack for up to 7 x LFP48H-2K40 +1xRM Controller
LFP48H-R15	Battery Rack for up to 15 x LFP48H-2K40 +1xRM Controller or 12 x LFP48H-3K55 +1xRM Controller
LFP48H-C11-100	HV LFP Battery RM Controller for 2 to 11 x 48V HV battery Modules in series, 100A
LFP48H-C18-100	HV LFP Battery RM Controller for 2 to 18 x 48V HV battery Modules in series, 100A
LFP48H-C18-200	HV LFP Battery RM Controller for 2 to 18 x 48V HV battery Modules in series, 200A
LFP48H-H18-5	HV LFP Battery RM Hub for up to 5 x 48V HV Controllers
LFP48H-A336-17K	LFP Energy Storage Assembly using 7x LFP48H-M2K4 Module, 336Vdc, 17KWh
LFP48H-A720-36K	LFP Energy Storage Assembly using 15x LFP48H-M2K4 Module, 720Vdc, 36KWh
LFP48H-A528-39K	LFP Energy Storage Assembly using 11x LFP48H-M3K55 Module, 528Vdc, 39KWh
LFP48H-A576-43K	LFP Energy Storage Assembly using 12x LFP48H-M3K55 Module, 576Vdc, 43KWh
LFP48H-A864-64K	LFP Energy Storage Assembly using 18x LFP48H-M3K55 Module, 864Vdc, 64KWh

E24®

www.e24solutions.com



ISO 9001:2015



QUALITY STANDARD

