

High Voltage LFP Modules and Assemblies

E24™

P366E



High Voltage LFP Assemblies for 538-1229 Vdc applications

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 80KWh to 182KWh 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 LFP Assemblies in 192 to 1229 Vdc

Standard 51Vdc 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 with adequate controllers are required when series connections are desired.

E24 offers modular 38.4V LFP batteries and their controllers build battery assemblies reaching up to 1229Vdc.



38.4V LFP Module Controller: LFP38H-C32-EXT



38.4V LFP Module Controller: LFP38H-C32-INT



HV 38.4Vdc LFP Battery Module: LFP38H-M5K68

38.4Vdc Module Specifications

Reference:	LFP38H-M5K68
Number of LFP Cells	12
Cells Voltage & Capacity (Vdc, Ah)	3.2V, 148Ah
Module Voltage, Capacity (Vdc, KWh)	38.4Vdc, 5.6832 Kwh
Module Voltage Range (Vdc)	32.4 to 44.4
Design number of Cycles	10,000 @ 50% DOD 8,000 @ 80% DOD
Communication	RS485 Modbus, CAN, TCP/IP
Maximum Charge / Discharge Current	150A (1C)
Efficiency at 0.5C Rate of Discharge	96%
Maximum Depth of Discharge (DOD)	90%
Dimensions (WxDxH) (mm)	315 x 820 x 171.5
Weight (Kg)	55
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

38.4Vdc Battery Management Controller

Reference:	LFP38H-C32-EXT	LFP38H-C32-INT
Related Battery Module:	LFP38H-RM5K7	
AC Supply	100 - 290 Vac / 50Hz/1.3A Internal	
Operating Voltage (Vdc)	0 to 1000	
Operating Current (A dc)	180	
Self Consumption Power (W)	8	
Communication	RS485 Modbus RTU, CAN	
Dimensions (WxDxH) (mm)	315 x 710 x 171.5	315 x 738 x 171.5
Weight (Kg)	19	
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



Master BMS: LFP38H-H32

Up to 32 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 hub: LFP38-H32 in order to reach the desired energy Storage capacity.

Pre-configured LFP Battery Assemblies from 538 Vdc to 1229 Vdc

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

Assembly 1: 538V, 80KWh

Assembly 1 (Fully Configured)

Reference:	LFP38H-A538-80K
Battery Module Used	LFP38H-M5K68
Maximum Number of Modules	14
Assembly Capacity (KWh)	80
Assembly Voltage (Vdc)	538
Voltage Range (Vdc)	454-605
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)	815x659x1704
Weight (Kg)	975
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(*)

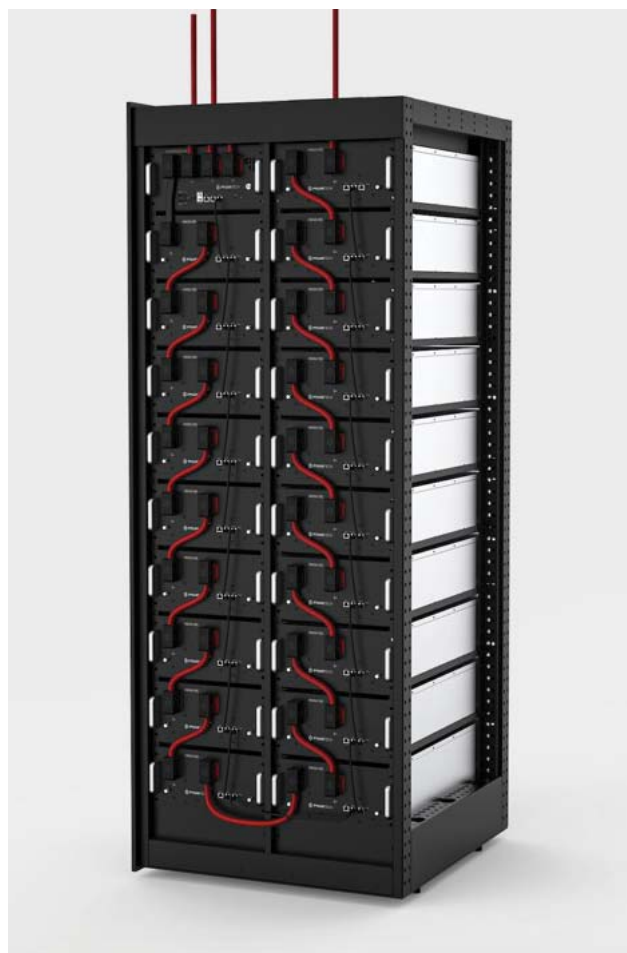
(*) Refer to Terms and Conditions

Assembly 2: 576V, 85KWh

Assembly 2 (Fully Configured)

Reference:	LFP38H-A576-85K
Battery Module Used	LFP38H-M5K68
Maximum Number of Modules	15
Assembly Capacity (KWh)	85
Assembly Voltage (Vdc)	576
Voltage Range (Vdc)	486-648
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)	815x659x1704
Weight (Kg)	1030
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: 653V, 97KWh

Assembly 3 (Fully Configured)

Reference:	LFP38H-A653-97K
Battery Module Used	LFP38H-M5K68
Maximum Number of Modules	17
Assembly Capacity (KWh)	97
Assembly Voltage (Vdc)	653
Voltage Range (Vdc)	551-734
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)	815x659x1917
Weight (Kg)	1140
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(*)

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Assembly 4: 730V, 108KWh

Assembly 4 (Fully Configured)

Reference:	LFP38H-A730-108K
Battery Module Used	LFP38H-M5K68
Maximum Number of Modules	19
Assembly Capacity (KWh)	108
Assembly Voltage (Vdc)	730
Voltage Range (Vdc)	616-821
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)	815x659x2130
Weight (Kg)	1250
Index of Protection	IP20
Design Life (Years)	15+
Operating Temperature (°C)	+10 to + 50
Humidity (%)	5 to 95
Altitude (m)	2000
Certifications	IEC62610 / IEC63056, UL 1973, UL9540A, VDE 2510-50, CE,
Warranty	10 Years PR(*)

(*) Refer to Terms and Conditions

Assembly 5: 806V, 119KWh

Assembly 5 (Fully Configured)

Reference:	LFP38H-A806-119K
Battery Module Used	LFP38H-M5K68
Maximum Number of Modules	21
Assembly Capacity (KWh)	119
Assembly Voltage (Vdc)	806
Voltage Range (Vdc)	680-907
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)	815x659x2343
Weight (Kg)	1360
Index of Protection	IP20
Design Life (Years)	15+
Operating Temperature (°C)	+10 to + 50
Humidity (%)	5 to 95
Altitude (m)	2000
Certifications	IEC62610 / IEC63056, UL 1973, UL9540A, VDE 2510-50, CE,
Warranty	10 Years PR(*)

(*) Refer to Terms and Conditions

Assembly 6: 883V, 131KWh

Assembly 6 (Fully Configured)

Reference:	LFP38H-A883-131K
Battery Module Used	LFP38H-M5K68
Maximum Number of Modules	23
Assembly Capacity (KWh)	131
Assembly Voltage (Vdc)	883
Voltage Range (Vdc)	745-994
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)	815x659x2556
Weight (Kg)	1470
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 7: 1114V, 165KWh

Assembly 7 (Fully Configured)

Reference:	LFP38H-A998-148K
Battery Module Used	LFP38H-M5K68
Maximum Number of Modules	26
Assembly Capacity (KWh)	148
Assembly Voltage (Vdc)	998
Voltage Range (Vdc)	842-1123
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)	815x659x1917
Weight (Kg)	1635
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 8: 1114V, 165KWh

Assembly 8 (Fully Configured)

Reference:	LFP38H-A1114-165K
Battery Module Used	LFP38H-M5K68
Maximum Number of Modules	29
Assembly Capacity (KWh)	165
Assembly Voltage (Vdc)	1114
Voltage Range (Vdc)	940-1253
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)	815x659x2130
Weight (Kg)	1800
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 9: 1229V, 182KWh

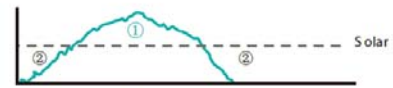
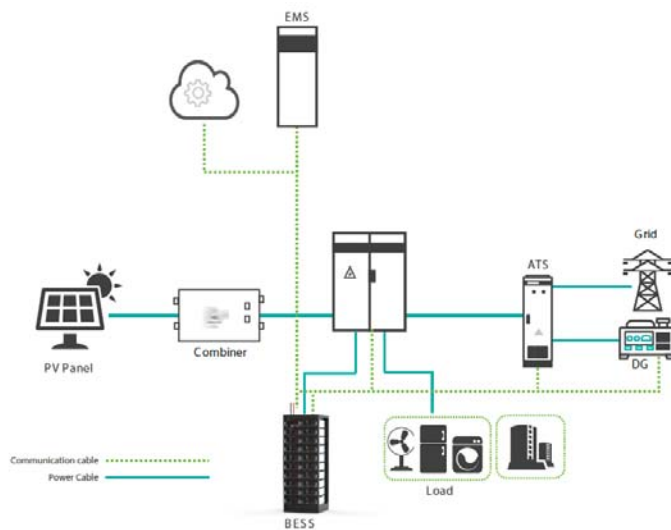
Assembly 9 (Fully Configured)

Reference:	LFP38H-A1229-182K
Battery Module Used	LFP38H-M5K68
Maximum Number of Modules	32
Assembly Capacity (KWh)	182
Assembly Voltage (Vdc)	1229
Voltage Range (Vdc)	1037-1382
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)	815x659x2343
Weight (Kg)	1965
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



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



When grid fails or cloudy day, battery power the load.

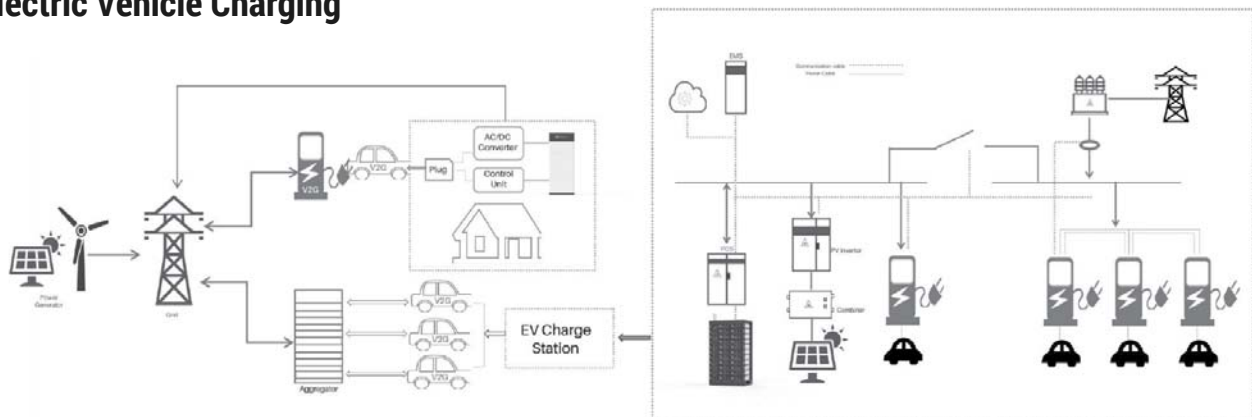


When battery in low mode, DG start to power the load.

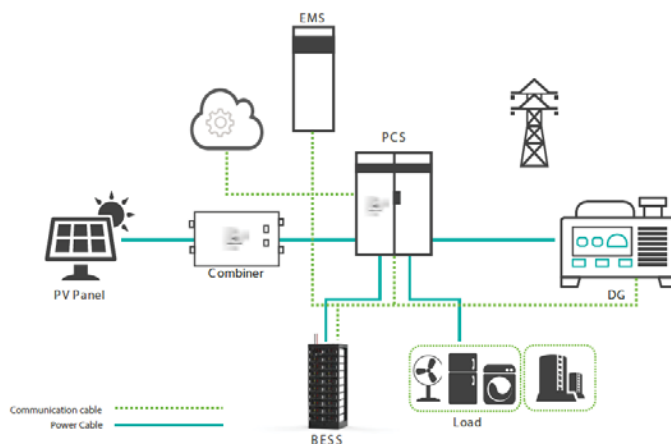


Continuous Power to the load

Electric Vehicle Charging



Micro-Grid



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



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

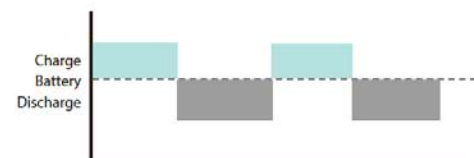
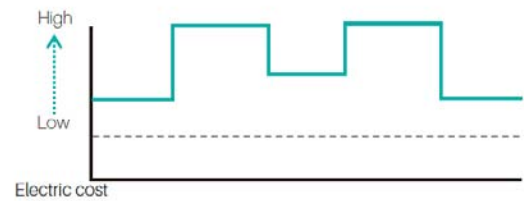
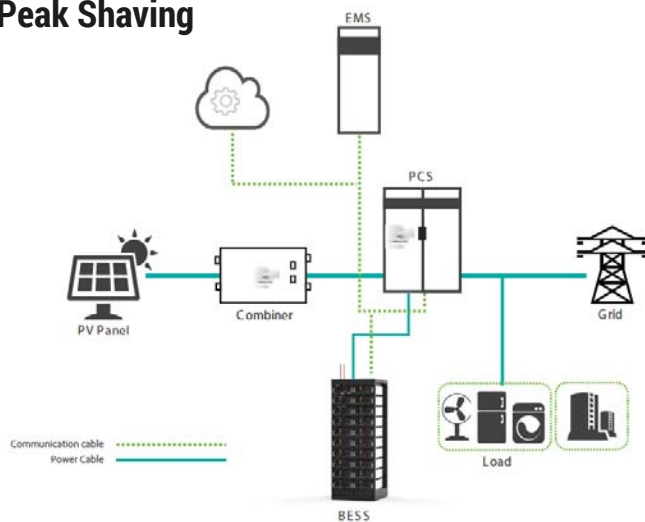


When battery in low mode, DG start to power the load.

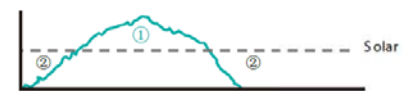
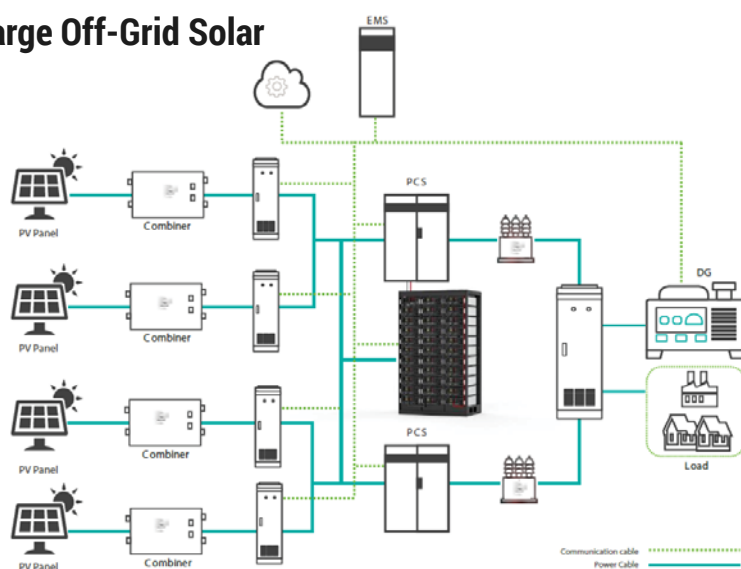


Continuous Power to the load

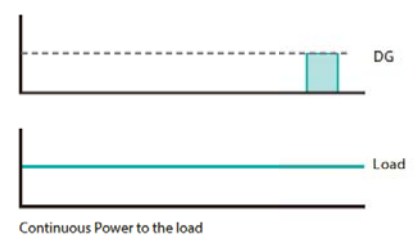
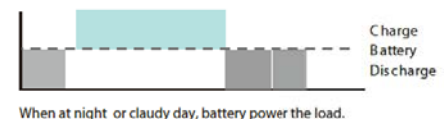
Peak Shaving



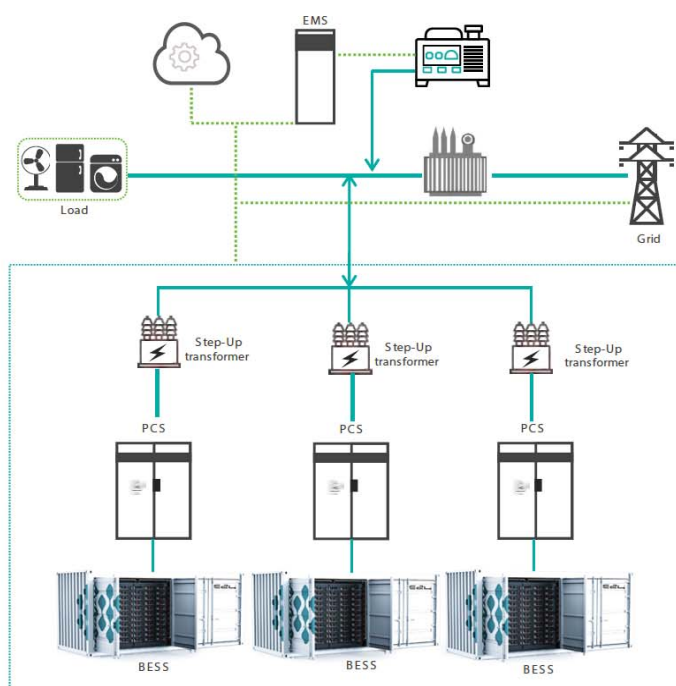
Large Off-Grid Solar



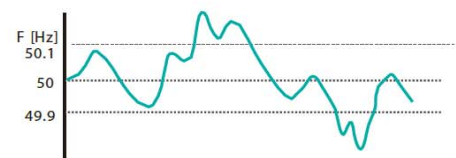
- ① When solar is sufficient, solar charge the battery and power load.
- ② When the solar is weak, solar and battery power the load.



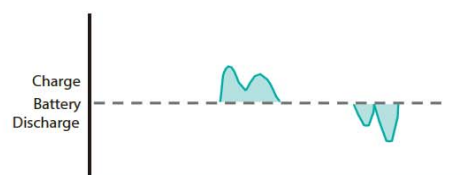
Grid Frequency Stabilization



Communication cable
Power Cable



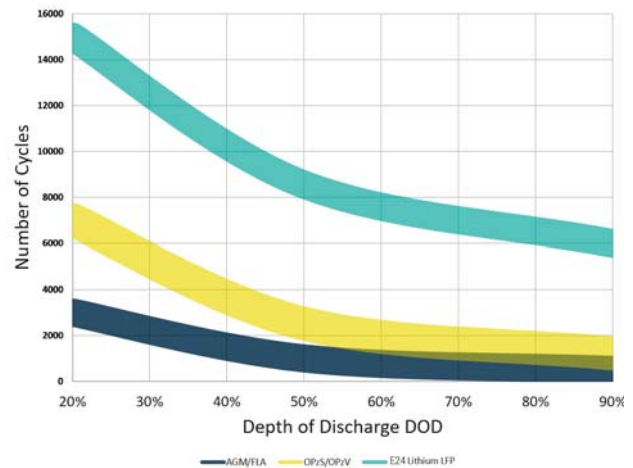
Charge the battery rapidly from the grid when demand on the grid is low.
Discharge the battery into the grid when the load on the grid is high
in order to keep the grid frequency stable.



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 service 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

E24™

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
LFP38H-RM4-5K7	HV LFP battery RM Module, 3.9U, 172mm height, 38.4Vdc, 5.68KWh, 150A
LFP38H-A538-80K	LFP Energy Storage Assembly using 14x LFP38H-M5K68 Module, 538Vdc, 80KWh
LFP38H-A576-85K	LFP Energy Storage Assembly using 15x LFP38H-M5K68 Module, 576Vdc, 85KWh
LFP38H-A653-97K	LFP Energy Storage Assembly using 17x LFP38H-M5K68 Module, 653Vdc, 97KWh
LFP38H-A730-108K	LFP Energy Storage Assembly using 19x LFP38H-M5K68 Module, 730Vdc, 108KWh
LFP38H-A806-119K	LFP Energy Storage Assembly using 21x LFP38H-M5K68 Module, 806Vdc, 119KWh
LFP38H-A883-131K	LFP Energy Storage Assembly using 23x LFP38H-M5K68 Module, 883Vdc, 131KWh
LFP38H-A998-148K	LFP Energy Storage Assembly using 26x LFP38H-M5K68 Module, 998Vdc, 148KWh
LFP38H-A1114-165K	LFP Energy Storage Assembly using 29x LFP38H-M5K68 Module, 1114Vdc, 165KWh
LFP38H-A1229-182K	LFP Energy Storage Assembly using 32x LFP38H-M5K68 Module, 1229Vdc, 182KWh



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