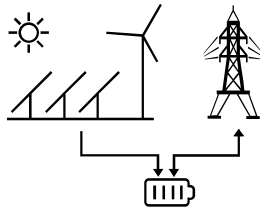




ERIC DRIVE

- Energy Storage -



ERIC DRIVE

ENERGY STORAGE SOLUTION



Energy Storage Inverter System Package



System Package 1	
Model Number	Quantity
SHEC-6KVA	X1
LBM-24240	X1
ESC-2P	X1

System Package 2	
Model Number	Quantity
SHI-12KVA	X1
LBM-48176	X2
ESC-3P	X1

System Package 3	
Model Number	Quantity
SPI-18KVA	X2
LBM-48176	X2
ESC-4P	X1

Features :

- Smart grid energy storage systems include the power conversion between the grid and energy storage batteries
- Energy management, regulate and improve the power quality
- Independent two AC inputs support the seamless power switch to loads
- The second output of the two AC outputs is live only when AC is available on one of the inputs
- The parallel connections support maximum 6 units to supply up to 36KVA power (for model SHEC-6KVA), or up to 72 KVA power (for model SHI-12KVA), or up to 108KVA power (for model SPI-18KVA).
- Two units can be set up for split phase, providing 120V-0V-120V, maximum 6 units for the single phase
- Three units can be set up for 3-phase output to support maximum power
- Power Control- Dealing with limited generator, shore side or grid power to avoid sudden heavy loads on generator causing voltage spikes
- Power Support- Boosting the capacity of shore or generator power with the compensated power from the battery during the increasing loads for a limited period
- 4-stage adaptive charging is applicable for different types of batteries in order to optimize battery charging
- Islanding operation, bi-directional systems can be used in combination with grid-tie inverters or solar chargers for the best power management
- Built-in solar chargers with Maximum Power Point Tracking (MPPT) (for model SHEC-6KVA and SHI-12KVA only)
- Solar open circuit voltage up to 150 VDC, with an efficiency of 98% (for model SHEC-6KVA and SHI-12KVA only)
- Built-in temperature compensation for the charging voltage compensation
- Built-in high energy density lithium-ion battery and smart battery management systems, the reliable charging and discharging performance can prolong battery life (for model SHEC-6KVA only)



Model Number : SHEC-6KVA



Model Number : SHI-12KVA



Model Number : SPI-18KVA



Model Number : LBM-24240



Model Number : LBM-48120



Model Number : LBM-48176

Model	SHEC-6KVA	SHI-12KVA	SPI-18KVA
General Specification			
AC Input	190-260 VAC / 45-65 Hz / PF: 1		
Nominal AC Input 1	OLCB 60A	MCCB 100A	MCCB 100A
Nominal AC Input 2	OLCB 60A	MCCB 100A	MCCB 100A
Nominal AC Output 1 (UPS)	OLCB 50A	MCCB 75A	MCCB 100A
Nominal AC Output 2 (Non UPS)	OLCB 40A	MCCB 50A	MCCB 50A
Automatic Transfer Switch	✓		
Power Support Function	✓		
Power Control Function	✓		
Parallel Function	(Max. 6 sets)		
3-phase Capacity	✓		
Battery Voltage Detection	✓		
4-stage Adaptive Charging	✓		
2 Charging ports	✓		
Battery Temperature Sensor	✓		
Auxiliary Relay x 3	✓		
Operating Temperature	-40℃~-+65℃ Humidity< 95%		
Storage Temperature	-40℃~-+80℃ Humidity < 95%		
Communication Port	CANbus NEMA Connector		
Cooling	Forced Air Cooling		
Protection			
a. Output short circuit	✓		
b. Output overload	✓		
c. Battery over voltage	✓		
d. Battery under voltage	✓		
e. DC voltage ripple too high	✓		
f. Over temperature	✓		
Cabinet Specification			
Dimension (W x H x D)	583x266x670 mm		
Weight (kg)	84.5kg	73kg	91.1kg
Enclosure Protection	IP20		
Inverter Specification			
Input Voltage Range (VDC)	19-33V	38-66V	38-66V
Output Power	230VAC ±2% · 60Hz ± 1% (50Hz 可設定)		
Output Waveform & Distortion	Pure Sinewave < 5% (VTHD)		
Continuous Output Power (VA) @ 25℃	6000 VA	12000 VA	18000 VA
Continuous Output Power (W) @ 25℃	5000 W	10000 W	15000 W
Continuous output power (W) @ 65℃	3500 W	6500 W	10000 W
Non-linear Load Crest Factor	3 : 1		
Maximum Output Power (VA)	12000 VA	24000 VA	36000 VA
Efficiency (%)	94 %	95 %	95 %
No-load Power Consumption (W)	Normal Mode: 60W Energy Saving Mode: 40 W	Normal Mode: 100 W Energy Saving Mode: 70 W	Normal Mode: 130 W Energy Saving Mode: 90 W



Model Number : SHEC-6KVA



Model Number : SHI-12KVA



Model Number : SPL-18KVA



Model Number : LBM-24240



Model Number : LBM-48120



Model Number : LBM-48176

Model	SHEC-6KVA	SHI-12KVA	SPL-18KVA
AC Charger Specification			
AC Input Power	190-260 VAC / 45-65 Hz / PF: 1		
Charging Character	4-stage Charging -CC-CV-FC-EC		
Charging Current (A)	120 A	140 A	200 A
Charge Current Starter Battery (A)	4A		
Constant Voltage "absorption" (VDC)	28.8 V	57.6 V	57.6 V
Charge Voltage "float" (VDC)	27.6 V	55.2 V	55.2 V
Storage Mode (VDC)	26.4 V	52.8 V	52.8 V
Battery Temperature Sensor Port	✓		

Solar Charger Specification			
Nominal Output Current	70 A	48 VDC	
Nominal Battery Voltage	24 VDC	50 A	
Maximum PV Input Current	150 VDC		
Maximum PV Open Circuit Voltage	32~112VDC		
PV Operating Voltage	2000W	64~112VDC	
Maximum Output Power	4000 W		
Charging Character	4-stage Charging : -CC-CV-FC-EC		
Battery Temperature Compensation	✓		
Protection	PV reversed polarity / Output short circuit / Over temperature		
Operating Temperature	-40°C ~ +65°C, humidity: < 95%		
Auxiliary Relay x1	✓		
Standby Power	< 2 W		

LiFePO₄ Battery Module Specification			
Nominal Battery Voltage	26.4 VDC		
Nominal Battery Power	120 Ah		
Nominal Battery Capacity	3000 Wh		
Max. Discharging Current	240 A		
Max. Charging Current	120 A		
Smart Battery Management System	✓		

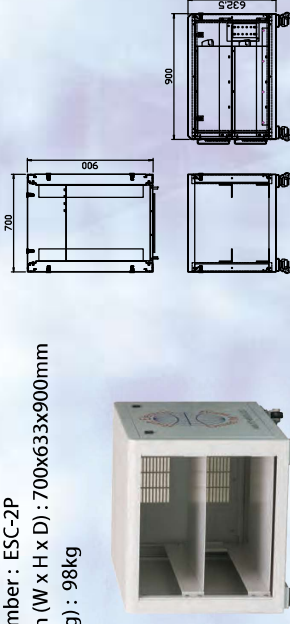
LiFePO₄ Battery Module Specification			
Model Number	LBM-24240	LBM-48120	LBM-48176
Nominal Battery Voltage	26.4VDC	52.8VDC	52.8VDC
Nominal Battery Power	240Ah	120Ah	176Ah
Nominal Battery Capacity	6000Wh	6000Wh	9000Wh
Max. Discharging Current	480A	240A	352A
Max. Charging Current	240A	120A	176A
Smart Battery Management System	✓	✓	✓
Dimension (W x H x D)	583x266x670 mm		
Weight (kg)	93.8kg	93.8kg	109.8kg
Enclosure Protection	IP20		

Energy Storage Cabinet Dimension

Model Number : ESC-2P

Dimension (W x H x D) : 700x633x900mm

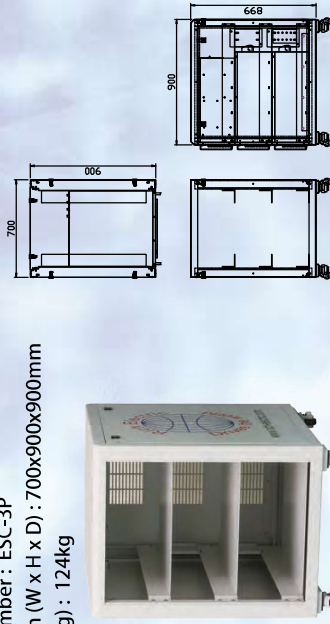
Weight (kg) : 98kg



Model Number : ESC-3P

Dimension (W x H x D) : 700x900x900mm

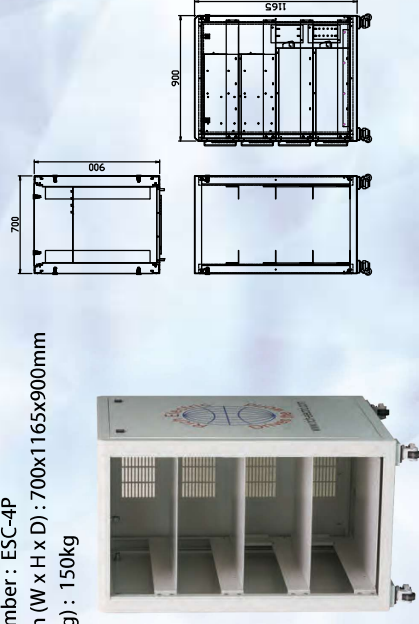
Weight (kg) : 124kg



Model Number : ESC-4P

Dimension (W x H x D) : 700x1165x900mm

Weight (kg) : 150kg



NMC/ LiFePO4 Battery Cell and Battery Module



Features :

- Individual cell and module voltage measuring, calibration of the consistence between battery cells and battery modules
- Each battery cell is assigned with a temperature sensor, monitoring and managing operation temperatures of battery modules
- Each module has built-in over voltage, under voltage, over temperature and under temperature detection functions
- Bi-directional active balance management system specialized for battery modules can balance the voltage difference between different battery modules to enhance the performance of battery packs
- Battery cells and modules passed UN38.3 test and meet the transportation safety requirements. (Enquiry with the supplier for the battery modules)

Model Number	LBM-24042	LBM-24053	LBM-24072	LBM-24086	LBM-24120	LBM-24176	LBM-24352
Voltage (V)	29.6 V	29.6 V	29.6 V	26.4 V	26.4 V	26.4 V	26.4 V
Capacity (Ah)	42 Ah	53 Ah	72 Ah	86 Ah	120 Ah	176 Ah	352 Ah

Applications :



Specialized for Lithium-ion Battery Modules Smart Bi-directional Active Balancing Battery Management System

Product Features :

- The whole system adopts specialized chips to monitor and gather cell data, and uses DSP chip for independent controls to execute the protection functions of over charge, over discharge, over temperature, under temperature, charging over current, discharging over current, output short circuit and also contain the functions of smart charging auto balancing, battery SOC detection, battery capacity self-learning...etc.
- CANbus communications are used for the communications with HMI or overall controllers to display real-time values and system status



Balancing Current : ± 6A



Balancing Current : ± 20A



Balancing Current : ± 10A



Balancing Current : ± 30A

Functions Features :

- Single string cell voltage detection range: 0.8V~5 VDC for each cell (Resolution: 1.5mV)
- Single string cell temperature detection range: -20°C ~ +80°C for each cell (Resolution: 1°C)
- Smart bi-directional active balancing capacity: ±3A, ±6A, ±10A, ±20A, ±30A
- Battery cell and module protection functions: over voltage alarm and tripping, under voltage alarm and tripping, SOC calculation, battery capacity self learning and after charging/discharging cycles, the battery has automatic updates.
- UART/RS485/CANbus communication interfaces, they can be used widely in different Lithium-ion battery products
- The patented balancing management technique for the battery modules can balance the voltage difference between different battery modules to enhance the performance of battery packs



Electric Vehicles/Boats Powertrain System, Smart Grid/Energy Storage System Manufacturer

- Hybrid Boat Powertrain System
- Solar Electric Boat Powertrain System
- High Voltage Lithium-ion Battery Management System
- Active Lithium-ion Battery Balancing Management
- All-electric Dust Cart Powertrain System
- Electric Bus Bi-directional Active Balancing, Whole Car Power System
- Electric Bus Powertrain System, Key Components Supply
- IoT, Big Data Analysis, Remote Monitoring
- AC Charger, DC Fast Charger Station
- Smart Grid, Lithium-ion Battery Energy Storage System Solutions

