

Cylindrical NCM/LFP Cells



Model	Chemistry	Capacity	voltage (V)	MAX Charge rate	Max Discharge rate	Weight (g)	Resistance (mΩ)
INR18650-320	NCM	3200	3.6	1C	3C	46.0±2.0	≤40
INR18650-300	NCM	3000	3.6	1C	3C	45.0±2.0	≤40
NCM18650N-260	NCM	2600	3.6	1C	3C	45.0±2.0	≤50
NCM18650NQ-220	NCM	2200	3.6	2C	5C	45.0±2.0	≤25
INR14500-095	NCM	950	3.6	1C	2C	21.0±2.0	≤70
NCM14500-085	NCM	850	3.6	1C	2C	21.0±2.0	≤70
INR18490-200	NCM	2000	3.6	1C	2C	34.5±2.0	≤55
NCM18490-160	NCM	1600	3.6	1C	2C	33.0±2.0	≤60
NCM14650-120	NCM	1200	3.6	1C	2C	28.0±2.0	≤55
INR18350NQ-100	NCM	1000	3.6	1C	3C	23.0±2.0	≤50
LFP18650E-180	LFP	1800	3.2	1C	3C	40.0±2.0	≤30
LFP18650E-150	LFP	1500	3.2	1C	3C	40.0±2.0	≤30
LFP26650E-400	LFP	4000	3.2	0.5C	1C	90.0±3.0	≤20
LFP26650E-360	LFP	3600	3.2	1C	3C	85.0±3.0	≤20
LFP26650E-340	LFP	3400	3.2	1C	3C	83.0±3.0	≤20
LFP18650P-110	LFP	1100	3.2	5C	20C	40.0±2.0	≤20
LFP26650P-320	LFP	3200	3.2	1C	10C	83.0±3.0	≤15



12V LFP L- series battery

L-series are a group of LFP batteries with built-in battery management systems. L-series battery is designed as a lighter-weight, longer-lasting replacement for lead acid battery. Based on field-proven 18650 cells, the 12V L-series delivers higher power, greater energy density and increased safety to deliver superior performance and reduced operating costs as compared to lead acid for commercial applications.

Technical specifications

Specifications	12V7Ah	12V12Ah	12V20Ah
Battery Designation			
Nominal Voltage	12.8V	12.8V	12.8V
Nominal Capacity(C/5,23°C)	7Ah	12Ah	20Ah
Max output current(30S)	21A	30A	30A
Max Cont Discharge current	7A	12A	20A
Discharge Cut-off Voltage	10V	10V	10V
Charge method	CCCV	CCCV	CCCV
End of Charge voltage	14.6V	14.6V	14.6V
Float Voltage	13.8V	13.8V	13.8V
Recommended charging current	3.5A	6A	10A
Terminals	VRLA6.3mm	VRLA6.3mm	M6
Dimension	151x65x95mm	151x98x95mm	181.5x77x166
Discharge Temperature	-10 to 50°C		
Charge Temperature	0 to 45°C		
Storage Temperature	-40 to 50°C		
Operating humidity	5% to 95%, non-condensing		
Water/dust resistance	IP56		
Certifications	FCC Class B, CE, UL1642(cell only)		
Shipping Classification	UN38.3, UN3480, Class9		

It is ideal as plug-and-play replacement for typical lead-acid battery applications:

- MEDICAL
- DATA CENTERS
- SECURITY SYSTEMS
- ELECTRIC MOBILITY
- UPS SYSTEM
- TELECOM
- SOLAR APPLICATION

12V LFP E-series Battery

Overview

DLG offers 12V LFP E-series battery, available in a variety of capacities, to be used as the building block of a larger energy storage system by assembling in series or parallel. The modular approach allows for flexible configurations to match almost any voltage and capacity requirements. Prototype systems can be assembled faster than any time previously, therefore reducing project development time and decreasing non-recurring engineering expense. They have been successfully used in energy storage systems, AGV, forklifts etc. Excellent cycle life and maintenance free design offers end-users complete peace of mind.



Small and Lighter



Longer Cycle Life



Temperature Tolerant



Flame retardant plastics



Built-in BMS



Can be connected in series and parallel

Specifications		12V32Ah	12V45Ah	12V118Ah	12V144Ah	18V75Ah	24V56Ah	24V72Ah
Nominal Voltage		12.8V	12.8V	12.8V	12.8V	25.6V	25.6V	38.4V
Nominal Capacity(C/2,23°C)		32Ah	45Ah	118Ah	144Ah	56Ah	72Ah	48Ah
Weight(approximate)Kg		4.5kg	6.5Kg	15.8Kg	19.5Kg	15.8Kg	18.6Kg	19.6Kg
Dimension incl. Terminals L*W*H(mm)		194*132*169	197x131x183	260x172x225	306x172x225	260x172x225	306x172x225	306x172x225
Terminals,Female-Thread		M6x1.0	M6x1.0	M8x1.25	M8x1.25	M8x1.25	M8x1.25	M8x1.25
Specific Energy		91Wh/kg	89wh/kg	96Wh/kg	95Wh/kg	91Wh/kg	99Wh/Kg	94Wh/kg
Standard Discharging @25°C	Max Cont. Load Current	32A	80A	150A	150A	112A	140A	96A
	Peak Load Current (30 sec)	60A	120A	300A	300A	168A	200A	144A
	Cut-off voltage	10V	10V	10V	10V	20V	20V	30V
Standard Charging	Charge Voltage	14.6V	14.6V	14.6V	14.6V	29.2V	29.2V	43.8V
	Recommended current C/2	16A	22.5A	59A	72A	28A	36A	24A
	Charge Time C/2	2.5h	2.5h	2.5h	2.5h	2.5h	2.5h	2.5h
Operating Temperature		Charge: 0~ 45°C, Discharge: -20~ 60°C						
Storage temperature		Within 1month ----- -20-45°C 1-3months----- -20-35°C 3-12months----- -20-25°C						
Operating humidity		5% to 95%, non-condensing						
Water/dust resistance		IP56						
Certifications	Cells	IEC62133/UL1642/CE						
	Battery module	UN38.3; UL2580						

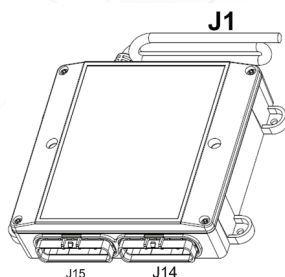
It is used as plug-and-play replacement for typical lead-acid battery applications:

- Medical
- Energy Storage System
- AGV
- Forklifts
- Marine Vessels
- Mining Equipment
- Delivery Trucks

BMS

Overview

Battery Management Systems (BMS) are designed for using with 's E-series battery modules. The BMS provides numerous system integration options facilitating temperature, voltage, current and state-of-charge monitoring.



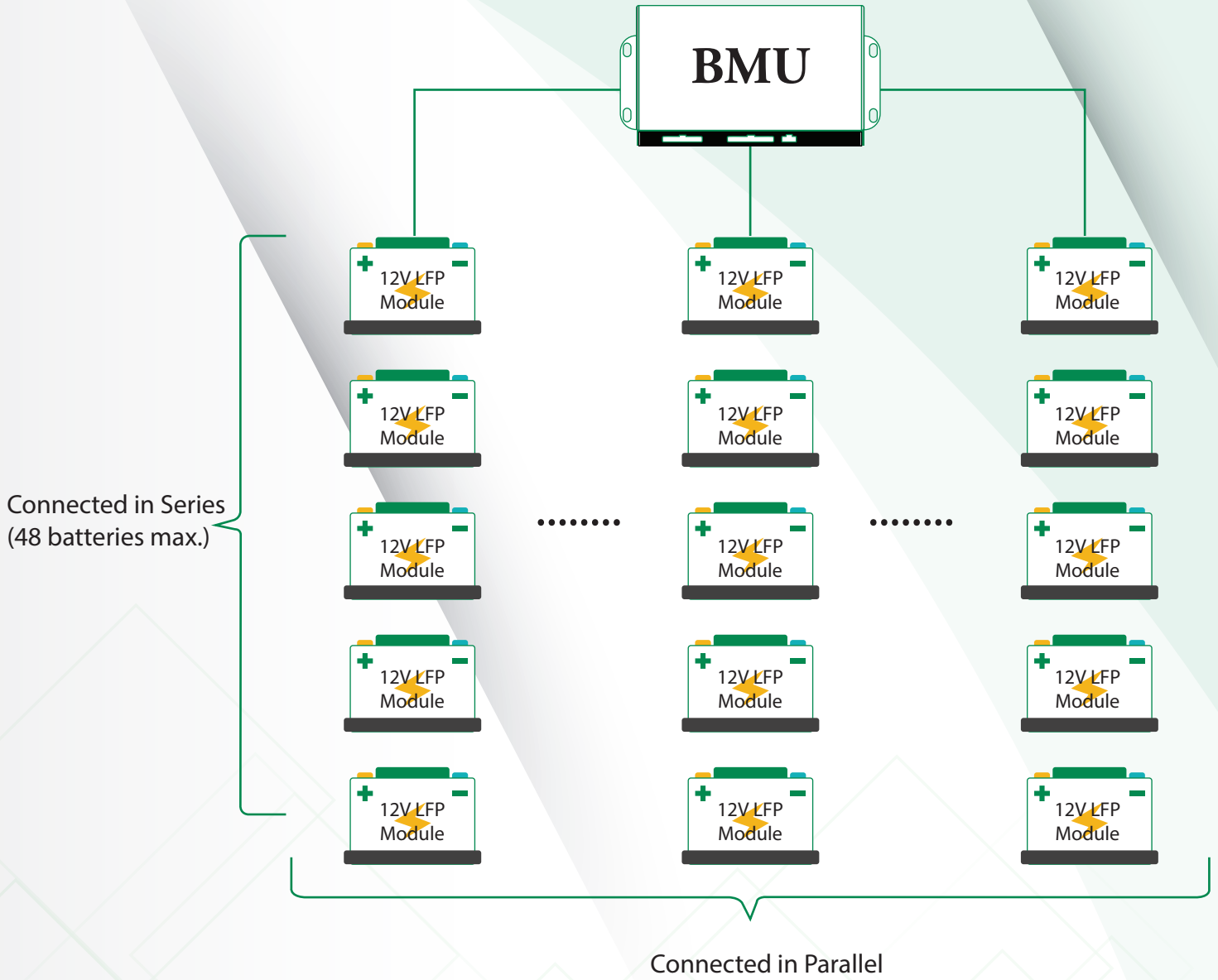
Features

- Features Monitor temperature, voltage, current, SOC, battery module error information
- One BMS can manage multiple battery modules
- CANbus or RS-485 communications for control and management
- Digital and analog I/O
- Battery-to-battery balance control
- Pre-discharge and pre-charge control
- Control of up to 4 contactors
- Insulation measurement
- Sleep mode when key signal 'OFF'

Specifications

BMS-LV	operates at 10V - 150V
BMS-HV	operates at 100V-450V
BMS-SHV	operates at 350V-700V
Dimension incl. mounting tabs and protrusion of connectors (LxWxH)	188mm x 157mm x 42mm
Weight	0.55kg
External communication	CAN 2.0b, 125, 250, 500 Kbit/s, standard frames or RS-485
Communications to battery modules	RS-485 via protocol
External control signals	Control signal for pre-discharge & discharge, pre-charge & charger contactors
Monitoring parameters	State-of-charge, error codes, system pack balance Voltage, current, temperature
Isolation	Chassis to battery insulation measurement
Operating humidity	5% - 95%, non-condensing
Mechanical enclosure	IP56, UL 94V-0 (4x) 5 mm mounting holes
Certifications	FCC Class B, CE

System Architecture



Home ESS LFP battery-Low Voltage

Overview

DLG provides safe, well-designed and high-performance standard LFP battery pack for customers. The battery pack is compact, easy to install, free of maintenance and is used as the building block of energy storage system by assembling in parallel. It is widely applied in home applications, small C&I ESS as well as Telecom stations.



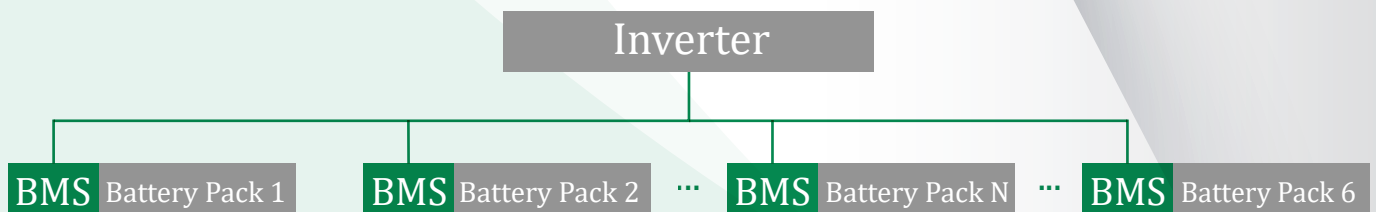
Features

- Scalable to 30kWh
- Long Cycle Life
- Easy Installation, Maintenance free, Easy Replacement
- Light and Compact
- Integrated battery management system
- Able to communicate with mainstream ESS inverters

BMS

The BMS is widely applied in low voltage home ESS in China, Europe and Australia etc. The high performance of BMS is guaranteed by adopting Automotive-level chips and self-developed sophisticated BMS software.

At the same time, it's able to communicate with mainstream ESS inverters.



BMS Function

- Measuring and Collecting of battery data such as Voltage, Current and Temperatures
- SoC and SoH calculation
- Protection and Warning
- Communication
- Balancing
- The BMS will automatically even-out any difference in the State of Charge between cells
- Key Data recording and storage
- Parallel connection

Typical Application



Self-Consumption:

store excess energy generated by solar panels and use it whenever needed



Back-up Power Supply:

provide emergency power supply during grid blackouts.



Electricity Bills Reduction:

charge the battery during off-peak period and discharge the battery during peak period



Smart Energy Management:

Measure, Monitor and Manage the system in real-time. Maximize the system life span by intelligent algorithms

ESS48-2U-L



Technical Specifications

Battery Model	ESS48-2U-L
Chemistry	LFP
Nominal Voltage	48V
Voltage Range	45V-54V
Nominal Capacity	50AH
Nominal Energy	2.4kWh
Unit Dimension	440mm* 410mm * 89mm
Unit Weight	25kg
Standard Charge Current	25A
Maximum Charge Current	50A
Standard Discharge	25A
Maximum Discharge Rate	50A
Peak Current	100A
Round-Trip Efficiency	≥97%
Communication Protocol	RS485, CAN
Cycle Life	≥4000cycles@0.5C/0.5C@90%DOD, ret@80%, 25°C
Calendar Life	≥10years
Operating Temperature	Charge: 0°C~ 45°C, Discharge: -20°C~ 60°C
Certificates	UN38.3/IEC62619
Storage Temperature	Within 1month ----- -20-45°C 1-3months----- -20-35°C 3-12months----- -20-25°C