



12.8V

400Ah

LiFePO_4


5.12kWh

DP-12400-R

Rechargeable Lithium Iron Phosphate Battery



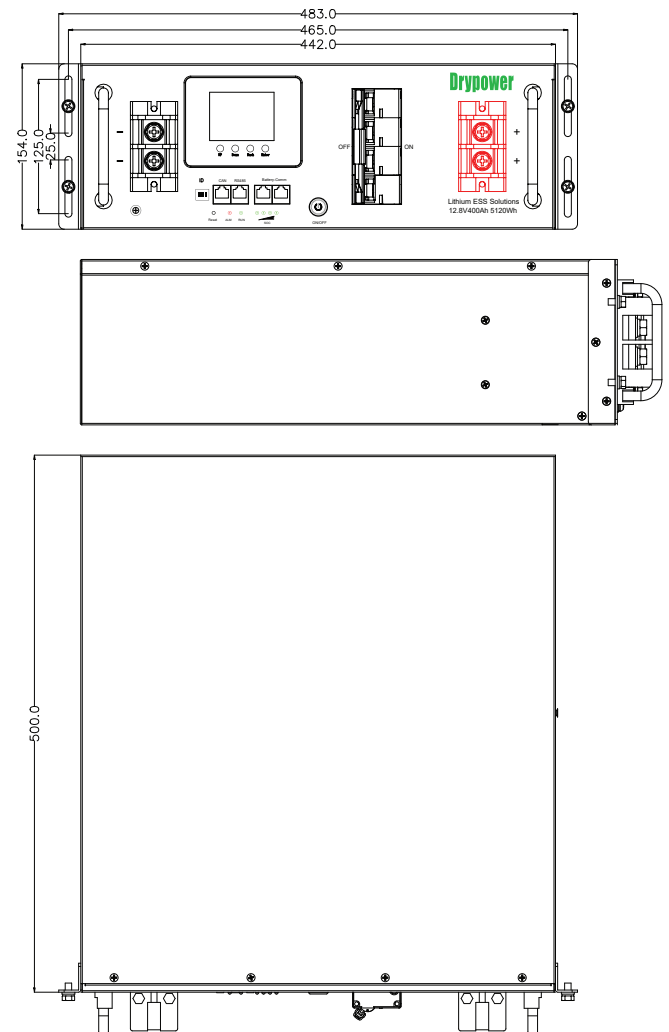
SPECIFICATIONS

Size	4RU
Nominal Voltage (25°C)	12.8V
Nominal Capacity (0.2C)	400Ah
Watt-hour	5.12kWh
Weight	44.5 kg
Internal Resistance (at 1KHz)	<3.5mΩ
Charge @25°C	
Recommended Charge Current	<100A
Maximum Charge Current	200A
Max Charge Voltage	14.0V
Discharge @25°C	
Standard Discharge Current	<100A
Max. Continuous Discharge	200A
Cut-off Voltage	10.0V
Cell Used	LiFePO4 ETC 3.2V 100Ah
Assembly	4S4P
BMS	Voltage, current, temperature management & cell balance
Cycle Life (0.5C to 80% DoD)	>6000 cycles (25°C)
Operating Temperature	
Charge	0°C ~ +45°C
Discharge	-20°C ~ +50°C
Storage	-20°C ~ +50°C
Case Material	Powder coated steel
Fire Suppression	YES (In-Built)
Termination	M8 screws
Communications	CAN, RS485, Bluetooth
Ingress Protection	IP20
Series Connection	No
Parallel Connection	Up to 16 units
Design Life	>15 years (25°C)
Barcode	 9319632530771



DIMENSIONS

(mm)



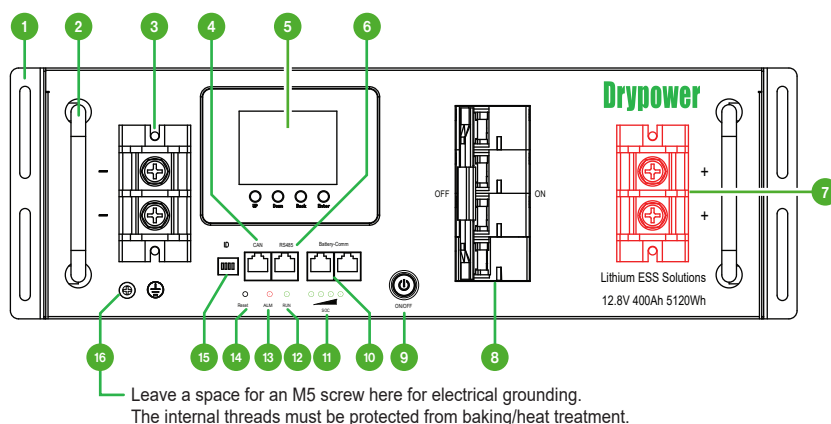
BATTERY MANAGEMENT SYSTEM (BMS)

Item		Parameters		Condition
Charge	Cell voltage protection	3.8V	Delay 1s	Recovery at 3.45V
	Module voltage protection	15.0V	Delay 1s	Recovery at 13.8V
	Over charging current 1	> 220A	Delay 10s	
	Over charging current 2	≥ 250A	Delay 3s	
	Temperature protection	< -5°C or >75°C	Delay 1s	Recover when >5°C or <65°C
Discharge	Cell end-off voltage	2.3V	Delay 1s	Recovery at 3.1V
	Module end-off voltage	9.6V	Delay 1s	Recovery at 12.0V
	Over discharging current 1	> 220A	Delay 30s	Recovery in 60s
	Over discharging current 2	> 380A	Delay 3s	Recovery in 60s
	Short circuit	> 775A	Delay 0.1mS	
	Temperature protection	< -20°C or >75°C	Delay 1s	Recover when >-10°C or <65°C
BMS	PCB Temp Protection	>105°C	Delay 1s	Recover when <80°C
	Cell Balance	100mA	Passive balance	Cell voltage difference > 40mV
	Temperature Accuracy	3%	Cycle measurement	Measuring range -40~100°C
	Voltage Accuracy	0.5%	Cycle measurement	For cells and module
	Current Accuracy	3%	Cycle measurement	Measuring range -200~+200
	SOC	5%		Integral calculation
	Power Consumption with Different Condition	<300µA	Switch-off mode	Storage & transportation
		<300µA	Sleep mode	Protection & stand-by
		<14mA	Operating mode	Charging & discharging
	Communication Ports	CAN, RS485		Protocol can be customised
Bluetooth Monitoring	Bluetooth		Via the app	

The BMS provides complete management and protection for the battery.

- Voltage warning and protection for module and each single cell.
- Current warning and protection, and the maximum operating current can be customised.
- Temperature warning and protection, 2 sensors for battery pack and 1 sensor for BMS.
- Battery module SOC and SOH calculation, display the accurate battery status.
- Communicate with inverter or PC monitor, report the battery data.
- Switch-off mode, sleep mode, and operating mode, different mode for different condition.

PANEL DESCRIPTION



CAUTIONS

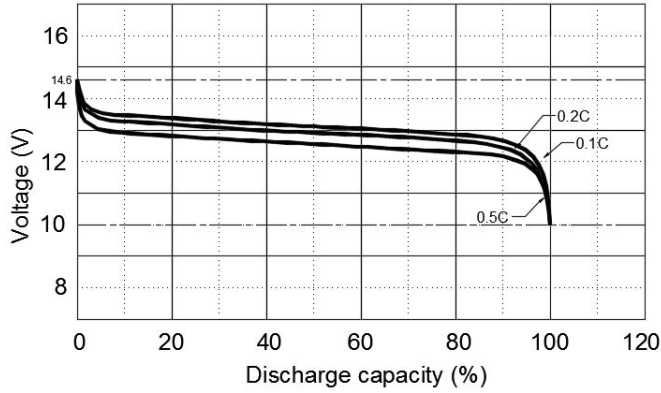
- Do not throw the battery into water. Store batteries in a cool, dry environment.
- Do not expose the battery to fire or heat to avoid explosion or other hazards.
- When charging the battery, use only specialised charging equipment and follow the correct procedures. Do not use unqualified chargers.
- Do not reverse the positive and negative terminals, connect the battery directly to AC power, or short-circuit the battery.
- Do not mix batteries from different manufacturers, different types, or old and new batteries.
- Do not puncture the battery with sharp objects. Avoid dropping, stamping on, impacting, or hitting the battery.
- Do not open or attempt to repair a defective battery. Warranty will be void if the battery is disassembled or repaired.
- Do not use the battery if it is hot, bulging, or emits abnormal odours. Report any issues to the after-sales department immediately.
- For long-term storage, charge and discharge the battery every three months to maintain optimal performance. The ideal storage charge level is 50-60%.
- Batteries are shipped at approximately 50% state of charge. Charge the battery before first use.

No.	Item	Parameters	Condition
1	Rack mount ear	For battery pack mounting	
2	Handle	Handle for carrier	
3	Battery -	Terminal M10 screw	Negative
4	CAN	CAN Communication port for inverter	Pin4-CAN_H, Pin5-CAN_L
5	HD LCD	HD touch LCD screen	
6	RS485	RS485 Communication port for inverter	Pin1&Pin8-RS485_B, Pin2&Pin7-RS485_A
7	Battery +	Terminal M10 screw	Positive
8	Circuit Breaker	Circuit Breaker for power supply	
9	ON/OFF switch	ON/OFF switch for BMS	
10	Battery-Comm	COMM for parallel connection	Pin1&Pin8-RS485_B, Pin2&Pin7-RS485_A
11	SOC	Capacity remaining display	
12	RUN	Run LED display	
13	ALM	Alarm LED display	
14	Reset	Emergency Reset	
15	ID	ID arrangement	
16	GND	GND Connection for safety	

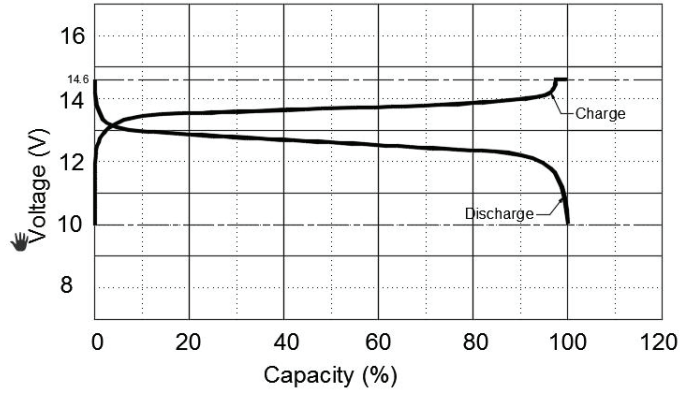
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BATTERY MODULE PERFORMANCE CURVES

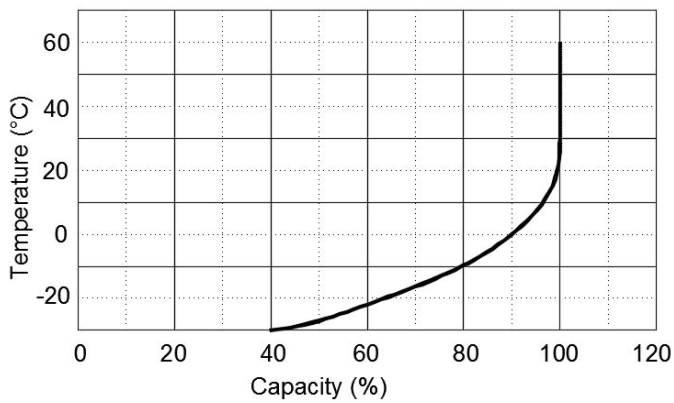
Discharge performance with different rate @ 25°C



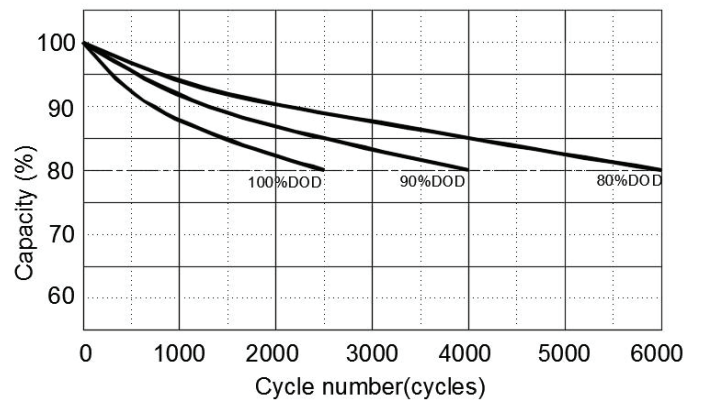
Charge & Discharge curve with 0.5C @ 25°C



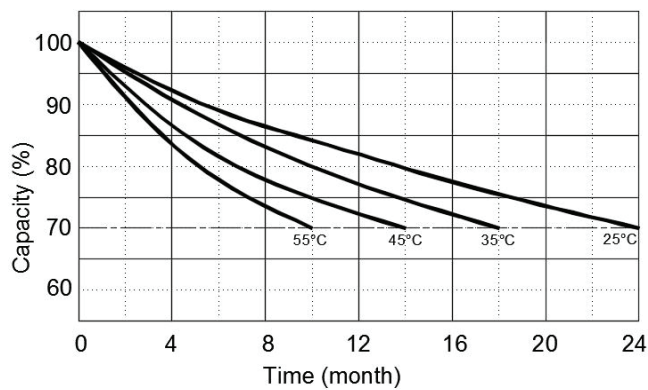
Discharge capacity with different temperature @ 0.5C



Cycle life with DOD @ 0.5C, 25°C



Self-discharge @ different temperature



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