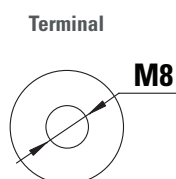
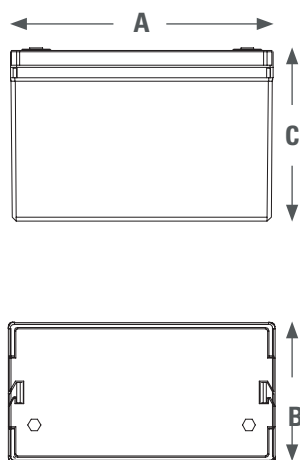


12V Lithium Battery

Discover DL12 Lithium Ion batteries deliver performance and safety without compromise. DL12 models are made using robust lithium cell chemistries and mechanical designs. Steel Lithium Iron Phosphate cylindrical cells are durable, safe, and powerful and are tested and certified to the highest international (UN, UL and IEC) over charge, over temperature, short circuit and cell penetration standards.

MECHANICAL DRAWINGS



MECHANICAL SPECIFICATIONS

Industry Reference	SLA 12V 45	
Length (A)	198 mm	7.8 in
Width (B)	166 mm	6.5 in
Height (C)	170 mm	6.7 in
Weight	7.5 kg	16.5 lb
Terminal	M8	
Terminal Torque	11 Nm	8 ft-lb
Case Material	ABS	

ELECTRICAL SPECIFICATIONS

Cell Chemistry	LiFePO ₄	
Cell Modules	4S10P	
Charge Temperature	0°C / 45°C	32°F / 113°F
Discharge Temperature	-20°C / 50°C	-4°F / 122°F
Storage Temperature	-20°C / 45°C	-4°F / 113°F
Self-Discharge 25°C / 77°F	< 3% per month	

CAUTION: Extra considerations must be given to depths of discharge, operating voltages and currents when designing systems for use at maximum temperatures.

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OptimumNano[®]

ELECTRICAL SPECIFICATIONS

Nominal Voltage	12.8 V
Charge Voltage	14 V - 14.6 V
Maximum Voltage	14.6 V
Minimum Voltage	10 V
Recommended Low Voltage Disconnect	11 V
Nominal Capacity (1C)	50 Ah
Nominal Energy (1C)	640 Wh
Max Continuous Current	50 A
Peak Current	100 A (10 s)

PCS SPECIFICATIONS

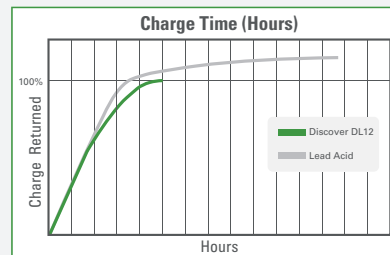
Current Cut-Out	100 A (10 s +/- 3 s)
Low Voltage Cut-Out	8 V +/- 0.4 V
Low Voltage Reconnect	9.2 V +/- 0.4 V
High Voltage Cut-Out	15.6 V +/- 0.2 V
High Voltage Reconnect	15.2 V +/- 0.2 V
Balancing Voltage	14.4 V

This battery is not intended for starting applications.

BENEFITS & FEATURES

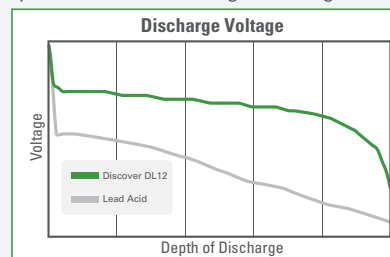
Efficient & Fast Charging

Discover DL12 batteries are 15% more efficient than lead acid batteries, allowing for reduced charge times and greater utilization of renewable energy sources.



Efficient and Stable Discharge

Delivers > 95% of capacity at high and stable voltages, increasing equipment performance and reducing motor fatigue.



Partial State of Charge (SOC)

Discover batteries will not suffer negative effects from partial SOC.

Weight Efficient

Systems are 1/3 the weight of their lead acid equivalents.

Battery Management System

Integrated BMS to prevent abuse outside of safety operation limits.

SAFETY AND PERFORMANCE CERTIFIED

- CE (Battery)
- UN 38.3 (Battery)
- UL1642 & IEC2133 (cells)

SHIPPING CLASSIFICATION

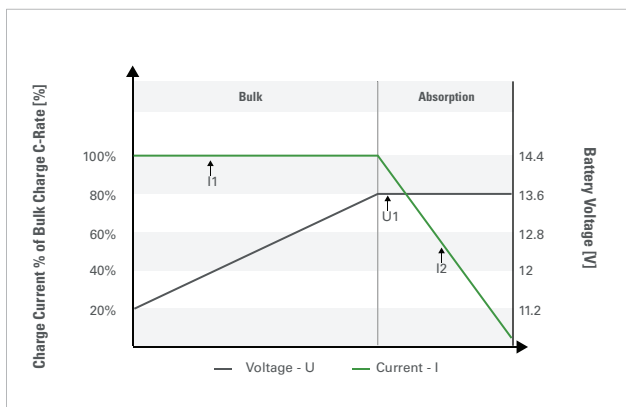
- UN 3480, Class 9 (Lithium ion batteries)

UN38.3 PASSED
TRANSPORT SAFETY CERTIFIED



Do not mix with lead acid batteries when recycling.

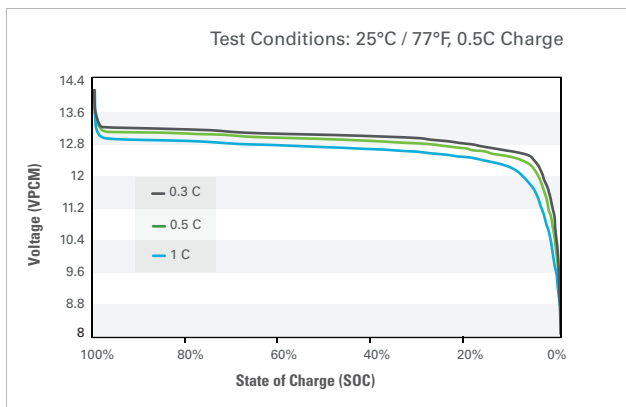
VOLTAGE REGULATED IU CURVE



VOLTAGE REGULATED IU CHARGING CURVE PARAMETERS

Nominal Voltage	12 V
Bulk Current (I_1)	< 0.5 C
Absorption Voltage (U_1)	14 V - 14.6 V
Termination Charge Current	< 1 A

VOLTAGE IN RELATION TO THE STATE OF CHARGE (SOC)



DISCHARGE VOLTAGE IN RELATION TO THE TEMPERATURE

