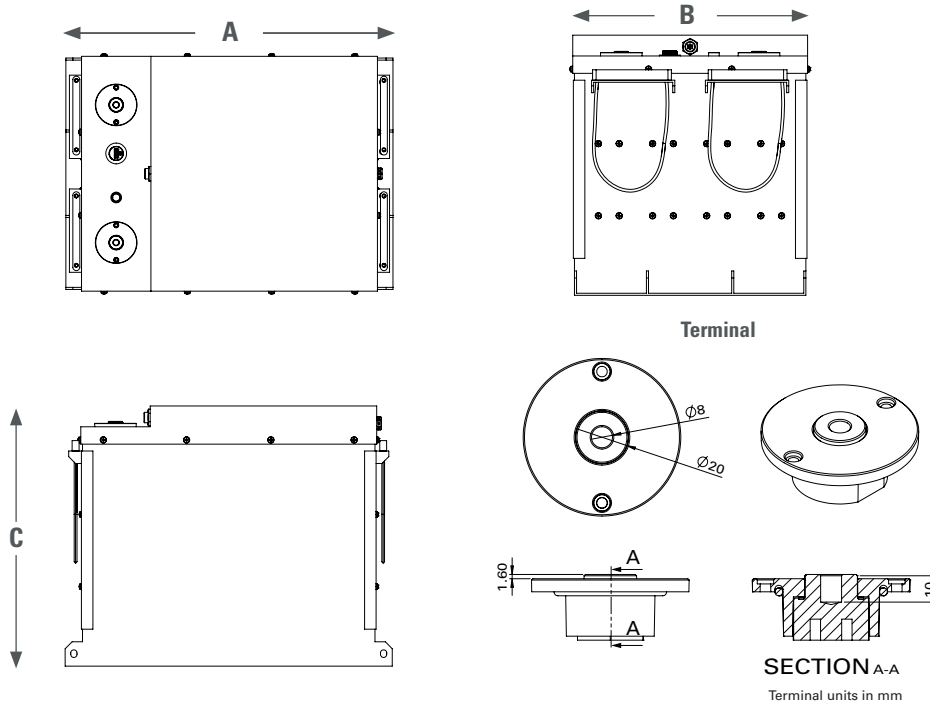


## Lithium-ion Battery

Discover Advanced Energy allows for equipment design and functionality improvements and deliver productivity gains through enhanced cycling, charge time and weight reductions in stationary and mobile applications. Dramatic improvements in cycle life and charge efficiency combined with zero maintenance requirements provide the end user with significant cost of ownership savings.

### MECHANICAL DRAWINGS



### MECHANICAL SPECIFICATIONS

Length (A)	471.5 mm	18.5 in
Width (B)	338.5 mm	13.3 in
Height (C)	375 mm	14.7 in
Weight	87 kg	192 lb
Terminal	M8	
Terminal Torque	9 Nm +/- 3	6.64ft-lb
Case Material	Steel	
IP Rating	IP 55	

### ELECTRICAL SPECIFICATIONS

Nominal Voltage	51.2 V
Charge Voltage	54.4 V
Maximum Voltage*	59.2 V
Minimum Voltage	44.8 V
Nominal Capacity (1C)	130 Ah
Nominal Energy (1C)	6656 Wh
Max Continuous Current	130 A
Peak Current	600 A for 3 seconds

Electrical Specifications at 25°C.  
\* Do not exceed 80V at the battery terminals.

### ELECTRICAL SPECIFICATIONS

Cell Chemistry	LiFePO <sub>4</sub>	
Cell Modules	16S 26P	
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 (battery off)	

Constant Power - Minutes of Discharge			
500 W	1000 W	2000 W	3000 W
799	399	200	133
Constant Current - Minutes of Discharge			
@10A	@25A	@50A	@100A
780	312	156	78

### BENEFITS & FEATURES

#### Efficient & Fast Charging

Charge efficiency > 95% at high charge rates. Increases productivity, reduces energy costs and eliminates the need for investments in battery change out systems.

#### Efficient and Stable Discharge

Delivers > 95% of capacity at high uniform and stable voltages during discharge. Increases equipment performance and reduces motor fatigue.

#### Robust Safety

Multiple levels of protection prevent operation outside of current, voltage, and temperature limits. Independently certified and tested

#### Weight Efficient

Systems provide > 3 times the energy per weight of high quality lead acid.

#### Environmentally Safe

Does not contain toxic metals such as cobalt, lead, cadmium, nor any corrosive acids or alkalis.

#### 100% Recyclable

End of Life recovery and licensed recycling through Discover's factory warehouse network.

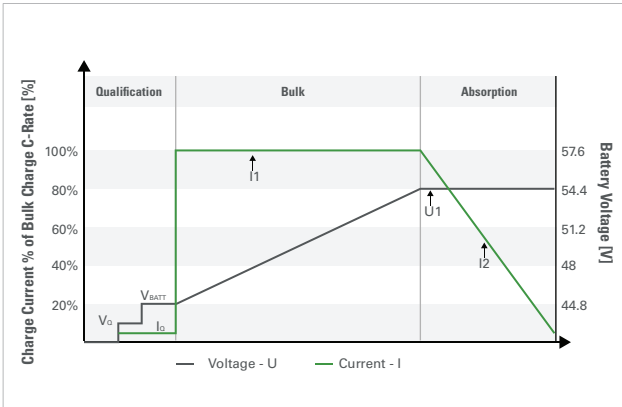
### SAFETY AND PERFORMANCE CERTIFIED

- IEC 62133 (pending)
- UL 2271 (pending)
- UL1973 (pending)
- UN 38.3

#### Shipping Classification

- UN 3480, Class 9 (rechargeable Li-ion battery)

## VOLTAGE REGULATED IU CHARGING CURVE

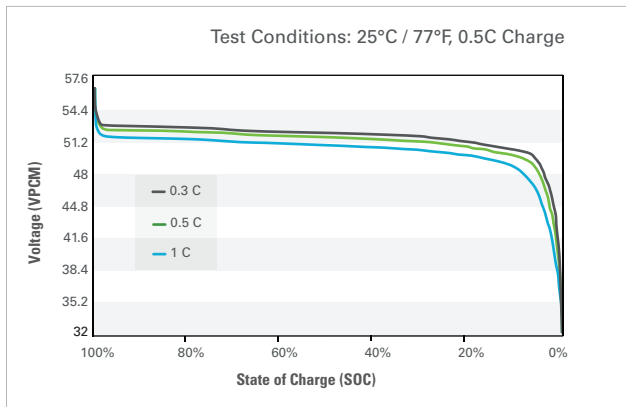


## VOLTAGE REGULATED IU CHARGING CURVE PARAMETERS

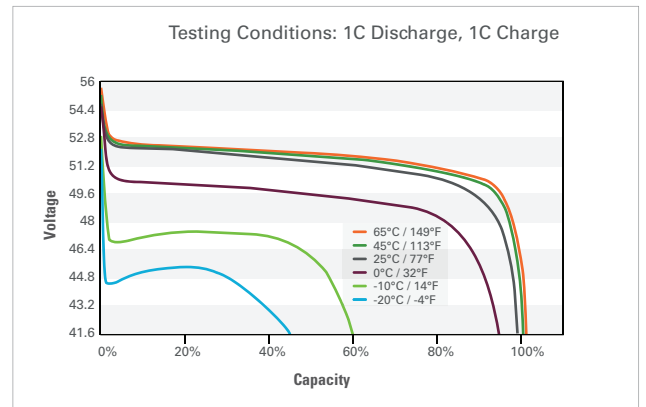
Nominal Voltage	48 V
Qualification Voltage ( $V_0^*$ )	Min 12 V / Max 48 V ( $I_0 < 1 A$ )
Battery Voltage ( $V_{BATT}$ )	$\geq 40 V$
Bulk Current ( $I1$ )	65 A recommended 130 A maximum
Absorption Voltage ( $U1$ )	54.4 V
Termination Charge Current	$I2 \leq 2 A$

\*Qualification is optional to utilize auto-on feature

## VOLTAGE IN RELATION TO THE STATE OF CHARGE (SOC)



## DISCHARGE VOLTAGE IN RELATION TO THE TEMPERATURE



## THERMAL DERATING CURVE (CURRENT)

