

## 24V 4.18KWh

REPRESENTED BY ATD ENERGY P/L

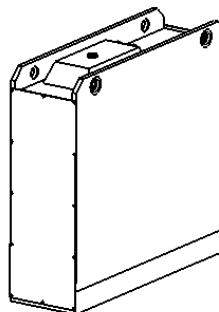
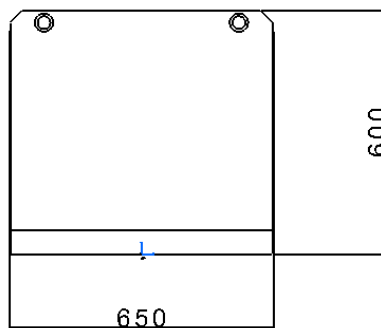
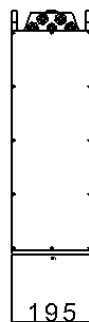
❖ **Features:**

- ❖ *Graphene super capacitor cells*
- ❖ *Fast rechargeable*
- ❖ *Long life time*
- ❖ *DoD up to 100%*
- ❖ *Safest technology*
- ❖ *Low self-discharge*
- ❖ *Low maintenance*
- ❖ *Environment friendly.*

❖ **Applications:**

- ❖ Golf carts
- ❖ Electric buggies
- ❖ Electric ATVs
- ❖ Forklifts
- ❖ AGVs

❖ **24V 4.18KWH System Dimensions: LxWxH=350x600x195mm**



## 1.Ratings

No.	Item		Parameter	Remarks
1	Nominal Energy		4.18KWh	
2	Nominal Capacity		182Ah	±5% @25°C
3	Nominal Voltage		23V	---
4	Absolute Maximum Voltage		28V	---
5	Cut-off Voltage (discharging)		18V	
6	Configuration		10S13P	---
7	Pack resistance		< 10 mΩ	@ 1KHz AC, 50% SOC
8	Continuous Charge Current		150A	---
9	Continuous Discharge Current		150A	---
9	Peak Discharge Current		300A	10s
10	Recommended Depth of Discharge		90%	
11	Maximum Depth of Discharge		100%	
12	Dimension(mm)		650*195*600	---
13	Weight		225Kg	Counterweight according to customer requirements
14	Cooling		Natural cooling	
15	Ingress Protection		IP55	
16	Storage Humidity		25% ~ 95%RH	
17	Operating Humidity		0 – 90% RH	
18	Storage Temperature		-20°C~40 °C	SOC>30%, one full charge needed per two months
19	Operating Temperature	Discharge	-30 °C~55 °C	---
		Charge	-30 °C~55 °C	---

## 2. Battery Management System (BMS)

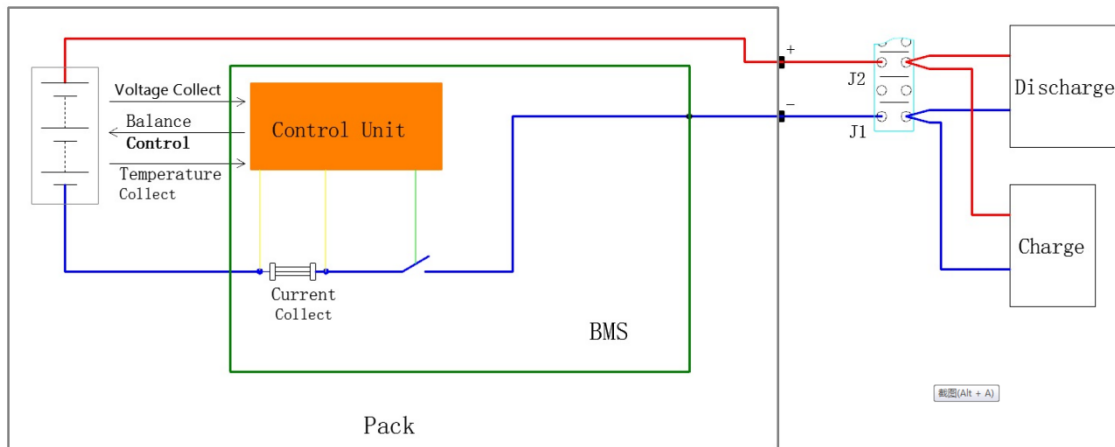
### 2.1 BMS specification

No.	Item	Parameter	Remarks
1	Over-voltage Protection	2.8V	Max cell voltage
2	Under-voltage Protection	1.8V	Min cell voltage
3	Over-temperature Protection	60°C	Cut off
4	Short Circuit Protection	800A	---
5	Charging Cut-off voltage	28V	
6	Discharging Protection voltage	18V	
7	GPS/GPRS		Option
8	CAN bus		Option

### 2.2 System electrical diagram

The system function is modularity design.

- 1) The interface of charge and discharge is integrated.
- 2) The cell voltage and battery temperature is detected by BMS.



## 3. Display Screen

### 3.1 Product Specification

Model	LVM1642DC24V
Battery Input Voltage	24V
Display Mode	Monochromatic LCD Digital Display
Operation Temperature	-25~+50°C
IP Grade	IP67
Electric Relay Max Current	2A

### 3.2 Screen Display Description

#### 1) Normal operation screen display

During normal operation, the screen displays voltage, capacity SOC, connection status and hour count.

The voltage display unit is V, and the min resolution is 0.1V;

There are two modes of power display: percentage display and battery symbol display.

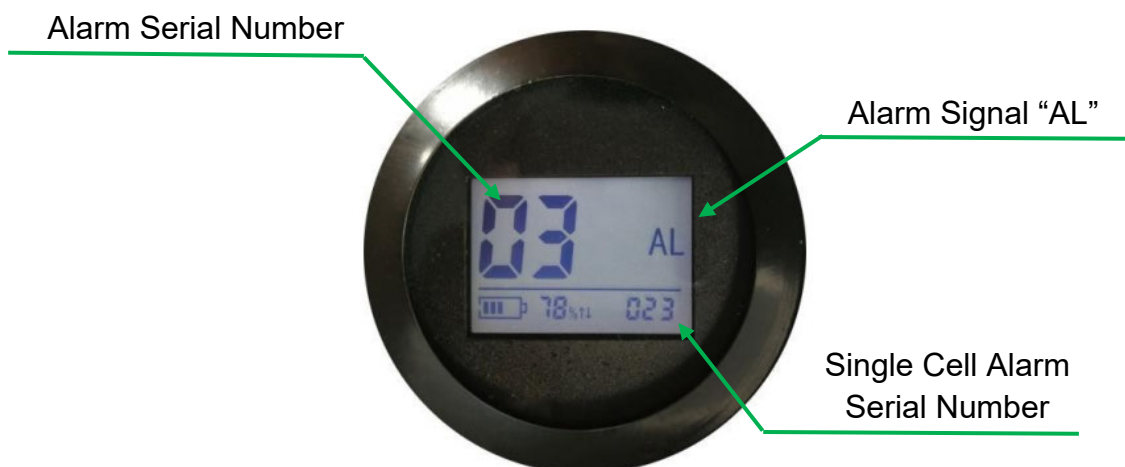
Percentage display	Battery symbol display
Capacity $\geq$ 90%	Five grids
Capacity $\geq$ 80%	Four grids
Capacity $\geq$ 60%	Three grids
Capacity $\geq$ 40%	Two grids
Capacity $\geq$ 20%	One grids
Capacity $\geq$ 0%	Zero grids



The unit of the hour counter is in hours, and the minimum resolution is 0.1h (6 minutes). The symbol "h" flashes at the frequency of 1 Hz.

### 3.3 Alarm Display

When an alarm occurs, the position of the displayed voltage will change to the alarm serial number, and the screen will flash at the frequency of 1 second, and the symbol "AL" will flash. The position of the hour counter will display the serial number of the corresponding alarm cell. If there is no serial number of the cell in the alarm, it will not be displayed. When multiple alarms occur at the same time, the screen will scroll to display the alarm information in the order of the time of the alarm occurrence, and up to four alarm information can be scrolled.



**3.4 Alarm Serial Number Comparison Table**

Alarm Serial Number	Alarm Content	Alarm Grade
01	Single cell over-voltage	2
02	Single cell low-voltage	2
03	Pack over-voltage	2
04	Pack low-voltage	2
05	High voltage difference	2
06	Discharge over-current	2
07	Charge over-current	2
08	Single cell high-temperature	2
09	Single cell low-temperature	2
10	High temperature difference	2
11	Low battery capacity	2