



# LITHIUM

**CERTIFICATIONS**  
 UL1642 (Cell), CE (Pack), IEC62133 (Cell), UN38.3 (Cell / Pack), IEC62619 (Cell), ROHS (Cell)



**MODEL: ATLS12-100**

## Specifications

|                              |                        |   |
|------------------------------|------------------------|---|
| Electrical Specifications    | Nominal Voltage        | 12.8V   |
|                              | Nominal Capacity       | 100 Ah  |
|                              | Nominal Power          | 1280 Wh   |
|                              | Parallel Connection    | max 6 units   |
|                              | Series Connection      | max 4 units   |
|                              | Circuit Protection     | Overcharge, over discharge, over current, high temperature, short circuit, cell balancing |
|                              | Cycle life             | 3000 cycles @100% DOD<br>6000 cycles @80%DOD  |
| Charge Specifications        | Charge Profile         | CC @ 0.2C to 14.4V, then CV @ 14.4V until current $\leq 0.01C$ (CC/CV)                    |
|                              | Max Charge Voltage     | 14.4 $\pm$ 0.2V   |
|                              | Standard Current       | 20A   |
|                              | Max Current            | 50A   |
| Discharge Specifications     | Standard Current       | 20A   |
|                              | Max Continuous Current | 100A  |
|                              | Cut-off Voltage        | 10V   |
| Environmental Specifications | Charge Temperature     | 0°C to 55°C   |
|                              | Discharge Temperature  | -20°C to 60°C   |
|                              | Storage Temperature    | -5°C to 45°C  |
|                              |                        | 60 $\pm$ 25% Relative Humidity  |
| Mechanical Specifications    | Dimensions, mm         | 260x170x208 (Group 24)  |
|                              | Approx Weight, kg      | 11.5  |
|                              | Terminal type          | M8  |
|                              | Case Material          | Plastic ABS   |
|                              | IP Rating              | IP65  |
|                              | Cell Type              | Cylindrical LiFePO <sub>4</sub>   |

| Circuit Protection        | Characteristic                     | Parameters             |
|---------------------------|------------------------------------|------------------------|
| Overcharge protection     | High voltage protection            | 15V $\pm$ 0.15V        |
|                           | Reset/Recovery voltage             | 14.2V $\pm$ 0.15V      |
|                           | Reset trigger                      | below reset value      |
|                           | Time delay                         | 5s                     |
| Over discharge protection | Low voltage protection             | 8.8V $\pm$ 0.15V       |
|                           | Reset/Recovery voltage             | 10.8V $\pm$ 0.15V      |
|                           | Reset trigger                      | Cut Load, Auto release |
|                           | Time delay                         | 5s                     |
| Overcurrent               | Max discharge current protection   | 500A $\pm$ 50A         |
|                           | Discharge current protection reset | Cut Load, Auto release |
|                           | Time delay                         | 300ms                  |

| Circuit Protection                 | Characteristic                       | Parameters      |
|------------------------------------|--------------------------------------|-----------------|
| High temperature                   | Max charge temperature               | 65°C $\pm$ 3°C  |
|                                    | Recovery point                       | 45°C $\pm$ 3°C  |
|                                    | Time delay                           | 10s             |
|                                    | Max discharge temperature            | 65°C $\pm$ 3°C  |
|                                    | Recovery point                       | 45°C $\pm$ 3°C  |
|                                    | Time delay                           | 10s             |
| MOSFET over temperature protection | MOSFET over temperature protection   | 90°C $\pm$ 5°C  |
|                                    | Balance condition voltage (per cell) | $\geq 3.6V$     |
| Cell balance                       | Cell balance current                 | 116 $\pm$ 10mA  |
|                                    | Short circuit protection             | 700A            |
| Short circuit protection           | Short circuit protection             | 700A            |
|                                    | Time delay                           | $\leq 800\mu s$ |



# LITHIUM

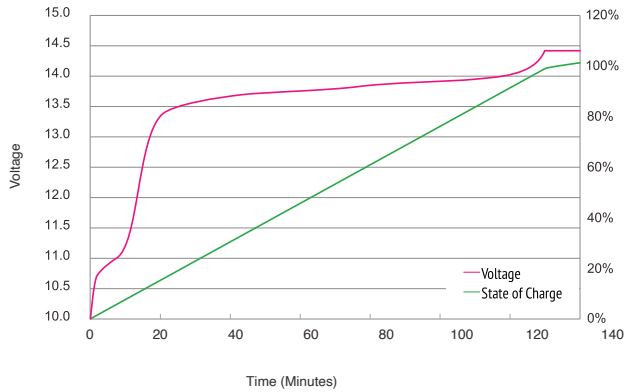
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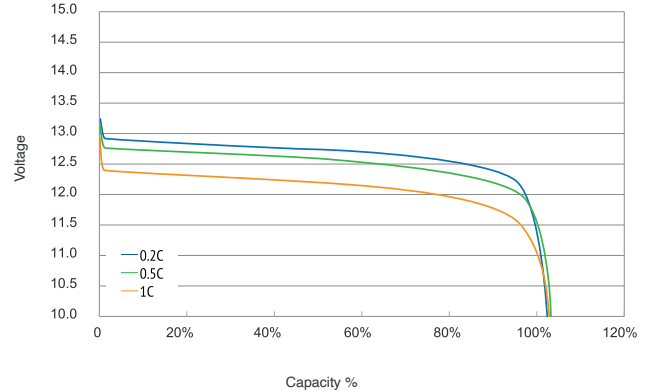


## Characteristics Curve

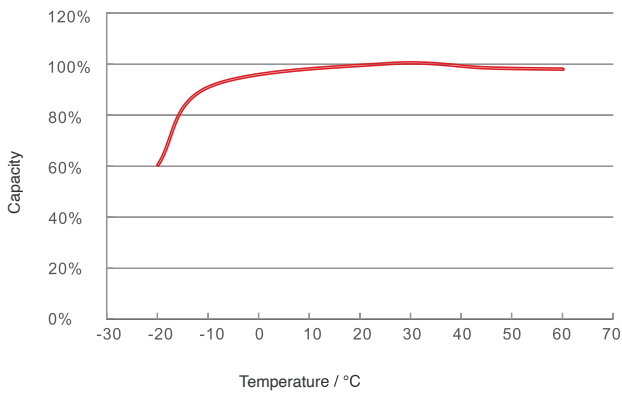
### Charging Characteristics (0.5C @ 25°C)



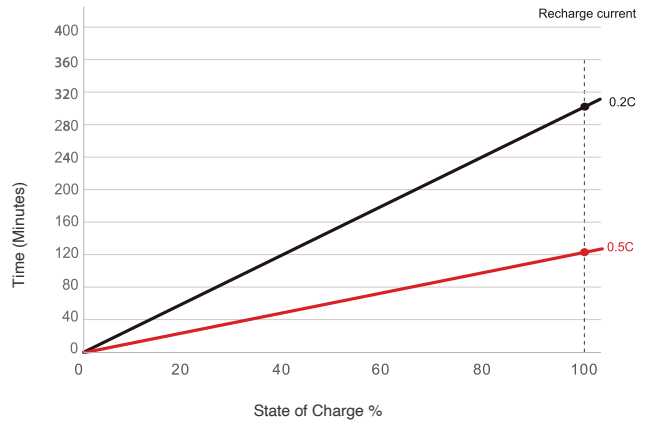
### Discharging Characteristics (0.2C, 0.5C, 1C @ 25°C)



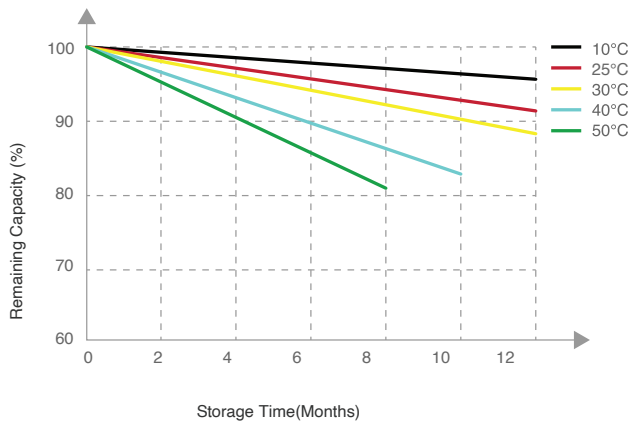
### Different Temperature Capacity Curve



### Typical Charge Time Curve



### Different Temperature Self Discharge Curve



### Different DOD Discharge Cycle Life Curve

