



2. Technical Requirements for Battery Charging & Discharging

Charging & discharging characteristics are the following except specially description.

2.1 Individual cell charging constant voltage: 3.6V (CCCV charging mode, charging voltage for the period which from CC model to CV model.)

2.2 Charging voltage for N cells connected into series: $N \times 3.60V$ (CCCV charging model, charger shall automatic convert to CCCV when individual cell voltage raise up to 3.60V.)

2.3 Trickling charge current for CCCV model: 0.05C (During CV charging period, charging process shall be regarded as over when charging current fall down to 0.05C.)

2.4 Cut-off charging voltage for individual cell: 3.90V (Charging maximum charging voltage for individual cell, charging current shall be cut-off immediately when individual cell voltage raise up to 3.9V.)

2.5 Individual cell charging float voltage: 3.40V (Charging voltage for the applications in storage power of photovoltaic energy conversion system, UPS power and automobile auxiliary power.)

2.6 Float charging voltage for N cells connected into series: $N \times 3.40V$.

2.7 Individual cell discharging alert voltage: 3.0V (dynamic value @ 0.3C)(When OCV of individual cell fall down to 3.1V, the depth of discharge has been over 85%; when OCV of individual cell fall down to 3.0V, the depth of discharge has been over 90%. Strongly recommend shallow charge and discharge the cell, if the BMS find individual cell voltage fall down to 3.0V, cell shall be charged on time.)

2.8 Individual cell discharging cut-off voltage: 2.50V (dynamic value @ 0.3C)(Minimum discharge voltage is 2.0V @-20°C, when individual cell voltage fall down to 2.0V, output current shall be cut-off immediately, if cell been over discharge seriously, the damage which cause by that is unrecoverable.)

2.9 Cell temperature parameters (measure the terminal temperature): BMS shall able to boot the cooling fan when cell temperature raise up to 40°C; BMS shall able to decrease the motor power when cell temperature raise up to 50°C; BMS shall able to shut down the motor when cell temperature raise up to 55°C.

2.10 Standard requirement of charging & discharging is 0.3C.

2.11 Directly charging under 0°C is not allowed. Temperature range for charging from 5°C to 45°C is