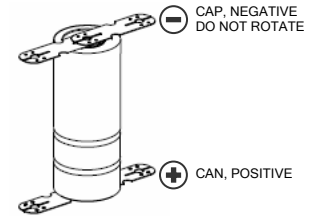


Proper Assembly of A123Systems High Power Lithium-ion cells into high voltage and high capacity strings

Summary handling and assembly guidelines

Handling Precautions

- CAUTION - do not short circuit; these cells are capable of very high discharge currents.
- DO NOT rotate the negative tab (cap) relative to the can, this can cause internal damage to the cell.
- DO NOT bend the current collection tabs connected to and extending from each terminal, this can weaken the weld point and potentially increase the impedance of the assembly.
- Note that the can is the positive terminal and the cap is the negative terminal (see diagram at right).
- Higher voltage cell strings can be very dangerous, use caution when assembled into strings of multiple cells.



CELL ASSEMBLY, TABBED
 AS400059-001
 MAX VOLTAGE RANGE
 4.2V - 2.0V

Specification

Cell Type	ANR26650-M1
Model no.	AS400059-001
Nominal operational voltage	3.3V
Nominal capacity	2.3Ah
Nominal dimensions	26mm \varnothing x 66.5mm ht. (cell) 11mm x 65mm tabbing
Nominal assembly weight	72g

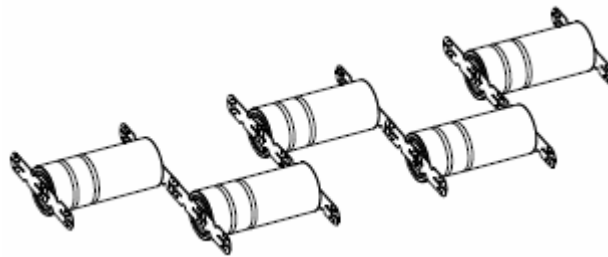
Before joining cells together please read the below instructions:

Cells are shipped at 50% state of charge (SOC). All cells that are being joined together within the same string must be at the same SOC. If not, the string will be unbalanced and cell damage and/or reduced capacity may result. If the SOC of the cells are not known, the best way to be sure a string is balanced is to individually charge each cell to 100% SOC before building them into strings.

Recommended assembly method for combining cells into strings:

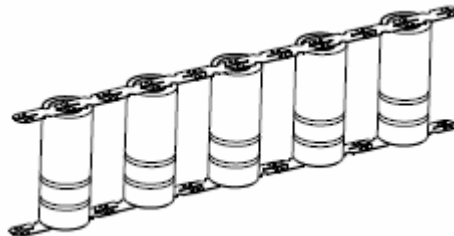
Series Strings:

Cells can be combined together in "series strings" to achieve higher operating voltages by connecting the positive terminal of one cell to the negative terminal of the next cell. Strings of series cells should be connected together via their current collection tabs in the manner illustrated below:



Parallel Strings:

Cells can be combined together in parallel strings to achieve higher operating capacities by connecting both positive and negative terminals of adjacent cells to each other. Strings of parallel cells should be connected together via their current collection tabs in the manner illustrated below:

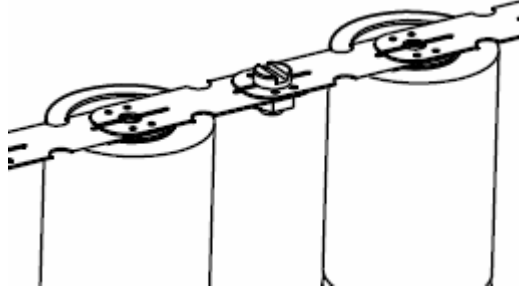


CAUTION!!!

WHEN CONNECTING CELLS IN PARALLEL BE SURE TO ALWAYS CONNECT POSITIVE TERMINALS TO POSITIVE TERMINALS AND NEGATIVE TERMINALS TO NEGATIVE TERMINALS. NEVER CONNECT POSITIVE TERMINALS TO NEGATIVE TERMINALS IN THIS WAY AS THIS WILL RESULT IN A SHORT CIRCUIT.

There are two recommended methods of connecting two current collection tabs together to form strings of cells:

- 1) The first method is bolting or riveting the cells together. Provided in each current collection tab is a 3.5mm \varnothing mounting hole. Two cells can be joined together in either parallel or series via their current collection tabs by placing a bolt or a rivet thru each of cell's respective tab holes and clamping them together tightly, as illustrated below:



- 2) The second method is to solder the two tabs together. The tabs are made from a Ni alloy that will accept solder. Apply solder in-between the two tabs being joined. When joining cells in this manner, be sure to heat only the tip of the current collection tab so as not to overheat the cell itself. Try to cover a very large area of the end of each tab with solder; the larger the area that the solder covers the lower the joint impedance will be. NEVER solder directly to the cell casing as the heat will cause internal damage to the cell.