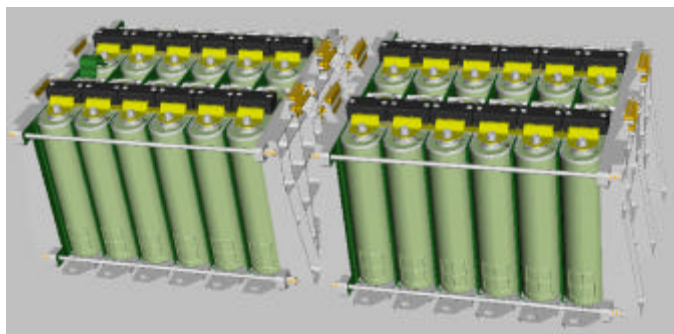


Lithium Ion Battery Module

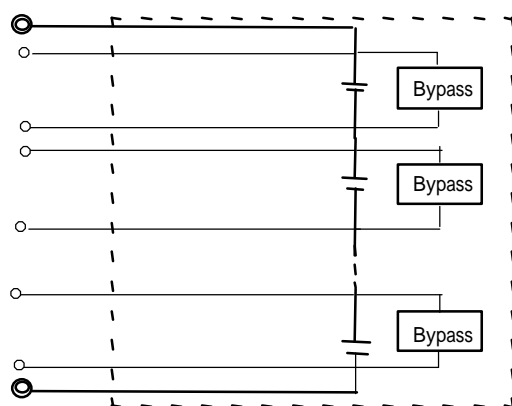
(5kw Class Lithium Ion Battery)



Features

- *Light weight : Over than 100 wh/kg
High specific energy
- *Small volume : Less than 32 wh/l
High energy density
- *Small number of cells for Battery
High discharge voltage (3.6V/one cell)
- *No trickle charge
Small self discharge current: 0.1%/day
- *No reconditioning operation
No memory effect
- *Long life : longer than 15 yeas
for GEO satellite and 7years for
LEO satellite

Block Diagram



Protection

- *Overcharge: Cell voltage is controlled by each individual charge circuit in BCE.
- *Open failure: By-pass switch on each cell protects open cell failure by closing the circuit.
- *Electrical insulation failure: Double insulation between cell case and chassis protects the failure.
- *Low temperature: Heater elements on the cell mounting structure protect the low temperature.

Performance Summary

| <u>Items</u> | <u>Description</u> | <u>Remarks</u> |
|-------------------------------|----------------------------|------------------------------|
| Voltage Range (V) | 72 - 96 | |
| Nominal Voltage (V) | 86.4 | |
| Capacity (Whr) | 8640 | |
| Discharge Current : Max. (A) | 300 | 3C, 2 sec. |
| Discharge Current : Cont. (A) | 100 | 1C |
| Life for LEO satellite | 7 years (38,000 cycles) | @ DOD: 20% |
| Life for GEO satellite | 15 years (1,500 cycles) | @ DOD: 56%, (Ave), 70% (max) |
| Resistance (mohms) | 48 | |
| QT Temperature Range (deg-C) | -10 to +35 | |
| AT Temperature Range (deg-C) | 0 to +25 | |
| Weight (kg) | 81.0 | without mounting panel |
| Dimensions (mm) | 823(W) x 340(L) x 249.4(H) | |