

Battery Storage System

FSP Configurable Standard Battery Pack



FSP Configurable Battery (CB) series adopt highly reliable Large Format Lithium Iron-Phosphate (2,000 life cycles) battery cells or Industrial Standard Lithium-Ion battery cells (700 life cycles). FSP CB Series are installed Battery Management System (BMS) of self-developed and can meet different needs for energy capacity, cost, and life cycle in domestic and industrial applications.





Active Cell Balance & Active Block Balance



RS485 communication bus

FSP Configurable Batteries

CB Series use FSP advanced BMS to enhance system performance, prolong life, and warrant safety. FSP BMS also constructed in modular form for flexible and easy configuration of larger battery systems. Three types of modules exist as below.

BM, Battery Module: consists of battery cells and control portion of BMS.

IM, Integrated Module: consists of battery cells and both control and power portions of BMS.

PM, Power Module: consists of no battery cells but the control and power portions of BMS for high power battery systems.

To facilitate uses with different battery cells or battery packs in different form factors preferred by customers the BMS for the IM, BM and PM are also available to the customers without the cases and battery cells.

Features

- Easy Configurations Of Battery Systems Of 12v Or 24v Voltage Multiples.
- Parallel Battery Branches For Higher System Currents.
- Minimal Lead Time For Establishing A New Battery System.
- Capable Of Configuring High Voltage (Up To 400v+) And/or High Current (Up To 264a+) Battery Systems.
- Built-in Thermal Management.
- Real Time Monitoring Of Cell Voltages, Branch Currents, And Cell Temperatures Via Rs485 Bus.
- Extended Availability Thru Parallel Battery Branches With Independent Branch Controls.
- Stable & Reliable Name-brand Battery Cells From Fully Automatic Production Lines.

Applications

- Domestic Or Industrial Backup Power Systems
- Ups
- Transportations (Railways, Boats, Fork Lift, Etc.)
- Grid Storage
- Telecom, Led Lighting, Etc.

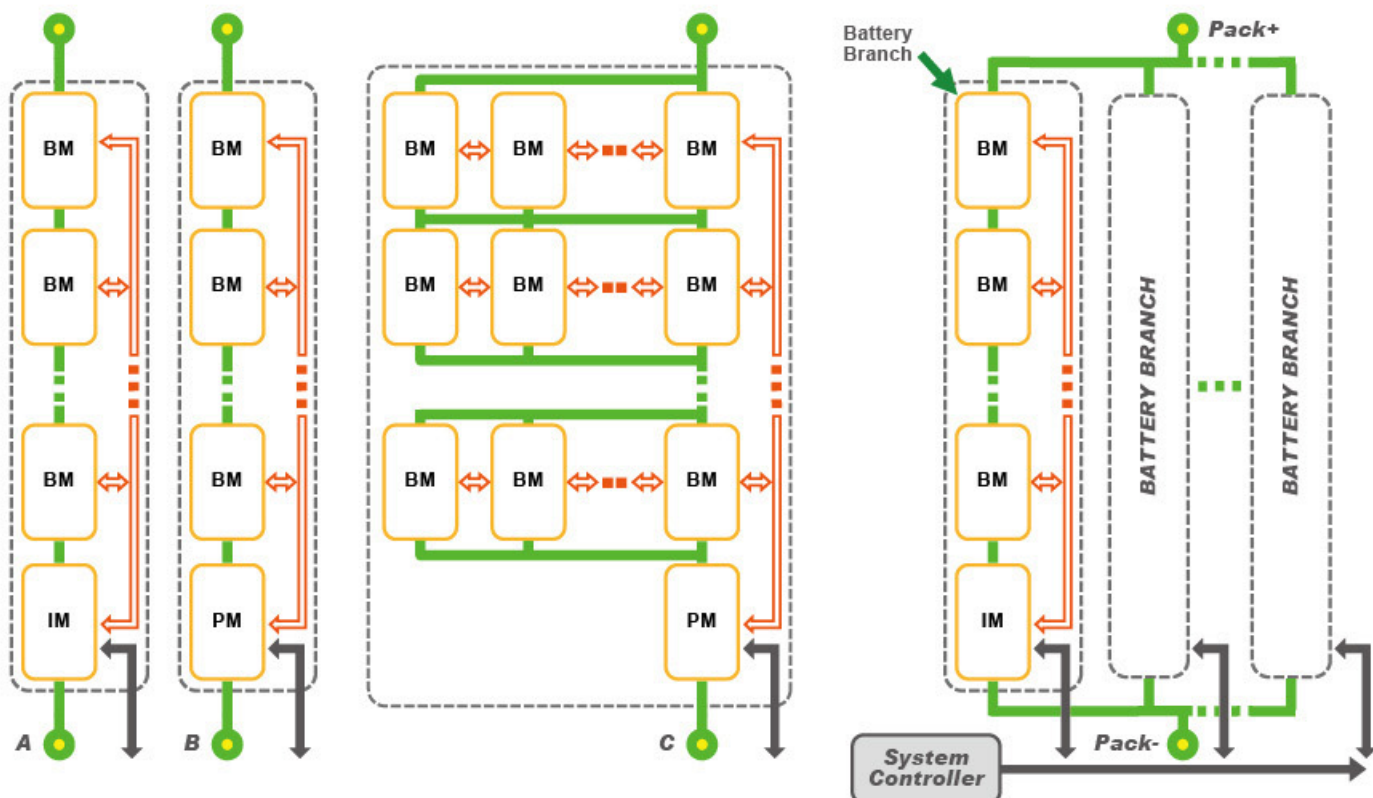
Specifications

| Module Type | IM | BM | PM |
|---|--|-----------------------------|--------|
| Model Name | CB1266Flx*/ CB2450Nlx* | CB1266FB#**/ CB2450NB#** | CP45P0 |
| Cell Type | LiFePO4/Li-ion | | |
| Nominal Voltage (V) | 12.8/25.3 | | |
| Maximum Charge Cut Off Voltage or Maximum Voltage for PM (V) | 14.6/29.4 | | 450 |
| Minimum Discharge Cut Off Voltage (V) | 10/19.6 | | |
| Rated Capacity (Wh) | 845/1308 | | |
| Nominal Charging Current (A) | 33/26 | | |
| Maximum Charging Current (A) | 66/52 | | |
| Rated Discharging Current or Rated Current for PM (A) | 70 | | 250 |
| Charging Voltage (V) | 14.6/29.4 | | |
| Operating Temperature- Charge* (°C) | 0-50 | | 0-60 |
| Operating Temperature- Discharge* (°C) | -20-60 | | 0-60 |
| Cell Balancing Between Cells | 0.2A Passive | | |
| Cell Balancing Between Modules | 2.5A Active/1.25A Active | | |
| Battery Protections | Over-Charge, Over-Discharge, Over-Temperature, Under-Temperature, Over-Current, Short-Circuit | | |
| Communication Bus | RS485, other (RS232, CAN-bus, Ethernet, USB) Optical | | |
| Parameters for Monitoring | Voltages, Temperature, Currents, Capacity | | |
| Dimension (LxDxH) | 285 x 168 x 175 mm | | |
| Weight (kg) | 10* | | 2.6 |
| Environment | IPx3, RoHS | | |
| Regulatory | S-Mark for LiFePO4 IEC 62133/CE for Li-ion | | |

* x=A for system voltage up to 72V, x=B for system voltage greater than 72V and up to 144V. For latter external heatsink is needed which adds about 0.8kg in weight.

** #=1 for use in system with voltage up to 144V; #=2 for use in systems with voltage up to 450V.

BATTERY SYSTEM CONFIGURATION



System Branch Ratings & Configurations*

| VDESIGNATED | 24V | 48V | 72V | 96V | 120V | 144V | 192V | 288V | 360V | 384V | 192V | 360V |
|----------------|------|------|------|-------|------|-------|-------|-------|------|-------|--------|--------|
| VNOM (V) | 25.6 | 51.2 | 76.8 | 102.4 | 128 | 153.6 | 204.8 | 307.2 | 384 | 409.6 | 204.8 | 384 |
| VMAX (V) | 29.2 | 58.4 | 87.6 | 116.8 | 146 | 175.2 | 233.6 | 350.4 | 438 | 467.2 | 233.6 | 438 |
| VMIN (V) | 20 | 40 | 60 | 80 | 100 | 120 | 160 | 240 | 300 | 320 | 160 | 300 |
| IRATRED (A) | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 280 | 280 |
| Config. Type | A | A | A | A | A | A | B | B | B | B | C | C |
| # of BM | 1 | 3 | 5 | 7 | 9 | 11 | 16 | 24 | 30 | 32 | 16 x 4 | 30 x 4 |
| # of IML | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| # of IMH | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| # of PM | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |
| ENERGIES (kWh) | 1.8 | 3.6 | 5.4 | 7.2 | 9.0 | 10.8 | 14.3 | 21.5 | 26.9 | 28.7 | 57.3 | 107.5 |

Remark: *Please consult factory for different voltage/current/energy ratings.

*Configuration table illustrated with LiFePo4 Batteries.

51.2V 66Ah LiFePo4 Batteries



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