

# High Voltage Battery Energy Storage

C&I BESS

-  SPACE SAVING
-  COMMUNICATION
-  OEM/ODM
-  HIGH VOLTAGE MATCHING



## Why Grace High Voltage BESS?

- High-performance LFP cells with long life
- Smart BMS with active balancing for cell protection
- Modular & parallel expandable architecture
- Fast charging & high usable depth of discharge
- Multiple communication options for Inverter/PCS & EMS integration

## Typical Applications:

- Micro grid Application
- Integrated power quality management in distribution areas.
- Distribution capacity increase
- Hotels / Resorts / Farm house
- DG Set replacement
- Backup power supply & EV Charging solutions.

Grace  
BESS

## High Voltage Battery Energy Storage (C&I BESS)

| Model Name                                  | GRE-ESS-CI24                          | GRE-ESS-CI135    |
|---------------------------------------------|---------------------------------------|------------------|
| <b>DC Parameter</b>                         |                                       |                  |
| Cell Type                                   | LFP (3.2V100Ah)                       | LFP (3.2V314Ah)  |
| Battery Pack Configuration                  | 1P15S/15kWh                           | 1P15S/15kWh      |
| Battery System Configuration                | 1P75S (5*1P15S)                       | 1P135S (9*1P15S) |
| Rated Battery Voltage                       | 240V                                  | 432V             |
| Battery Voltage Range                       | 210V–270V                             | 378V–486V        |
| Nominal Capacity (kWh)                      | 24 kWh                                | 135.6kWh         |
| Number of life Cycles                       | ≥3500                                 | ≥6000            |
| Depth of discharge<br>(Max/recommended)     | 100%/90%                              |                  |
| Rated Power                                 | 12 kW                                 | 67kW             |
| Charge and Discharge Rate                   | ≤0.5P                                 |                  |
| Protection Level                            | IP54                                  |                  |
| Heat Management                             | Natural cooling                       |                  |
| Operating temperature range                 | -20°C~50°C (>45°C need to derating)   |                  |
| Operating humidity range                    | 0~95% (no condensation)               |                  |
| Storage temperature range                   | -30°C~60°C                            |                  |
| Altitude                                    | ≤2000m                                |                  |
| Noise                                       | <75dB                                 | <80dB            |
| Weight (Kg) Approx.                         | 700 kg                                | 1600kg           |
| Size (Width * Depth * Height) mm<br>Approx. | 759*650*1300                          | 1200*800*1700    |
| Cable Entry Mode                            | cables enter and exit from the bottom |                  |
| Communication Interface                     | RS485/Ethernet/CAN                    |                  |
| Communication Protocol                      | Modbus RTU/Modbus TCP                 |                  |
| All in one Solutions- Inbuilt PCS           | Yes                                   |                  |

## High Voltage Battery Energy Storage (C&I BESS)

| Model Name                           | GB-CB-HV-418-AIO                                                                                              | GB-CB-HV-261-AIO       |
|--------------------------------------|---------------------------------------------------------------------------------------------------------------|------------------------|
| DC Parameter                         |                                                                                                               |                        |
| Cell Type                            | LFP (3.2V314Ah)                                                                                               | LFP (3.2V314Ah)        |
| Battery Pack Configuration           | 1P52S/52.25kWh                                                                                                | 1P52S/52.25kWh         |
| Battery System Configuration         | 1P416S (8*1P52S)                                                                                              | 1P260S (5*1P52S)       |
| Rated Battery Voltage                | 1331.2V                                                                                                       | 832V                   |
| Battery Voltage Range                | 1164.8–1518.4V                                                                                                | 728V–936V              |
| Nominal Capacity (kWh)               | 418kWh                                                                                                        | 261.25kWh              |
| Discharge Depth<br>(Max/recommended) | 100%/90%                                                                                                      |                        |
| AC Parameter (PCS)                   |                                                                                                               |                        |
| Rated Power                          | 215kW                                                                                                         | 125kW                  |
| Maximum Output Power                 | 137.5kW                                                                                                       | 137.5kW                |
| Rated Grid Voltage                   | 400V                                                                                                          | 400V                   |
| Allowable Grid Voltage               | ~15%~10%                                                                                                      | ~15%~15%               |
| Rated Grid Frequency                 | 50Hz/60Hz                                                                                                     |                        |
| Power Factor Range                   | -1 (look-ahead) ~1 (hysteresis)                                                                               |                        |
| AC Current Harmonics                 | <3%                                                                                                           |                        |
| AC Access Mode                       | Three-phase and three-wire                                                                                    |                        |
| Charge and Discharge Conversion Time | <100ms                                                                                                        |                        |
| System Parameter                     |                                                                                                               |                        |
| System Efficiency                    | >88%                                                                                                          |                        |
| Isolation Mode                       | Non-isolated                                                                                                  |                        |
| Charge and Discharge Rate            | ≤0.5P                                                                                                         |                        |
| Number of Cycles                     | 6000                                                                                                          |                        |
| Protection Level                     | IP54                                                                                                          |                        |
| Heat Management                      | Liquid cooling                                                                                                |                        |
| Fire protection system               | fire-fighting host+Multi-in-one detector+Perfluorohexanone extinguishing agent+water fire-fighting (optional) |                        |
| Operating temperature range          | -20°C~50°C (>45°C need to derating)                                                                           |                        |
| Operating humidity range             | 0~95% (no condensation)                                                                                       |                        |
| Storage temperature range            | -30°C~60°C                                                                                                    |                        |
| Altitude                             | ≤3000m (2000m need to derating)                                                                               |                        |
| Noise (dB)                           | <75                                                                                                           | <80                    |
| Weight (Kg)                          | 3200                                                                                                          | 2800                   |
| Size (Width * Depth * Height) mm     | 1480x1360x2400 Approx.                                                                                        | 1480x1350x2205 Approx. |
| Cable Entry Mode                     | cables enter and exit from the bottom                                                                         |                        |
| Communication Interface              | RS485/Ethernet/CAN                                                                                            |                        |
| Communication Protocol               | Modbus RTU/Modbus TCP                                                                                         |                        |