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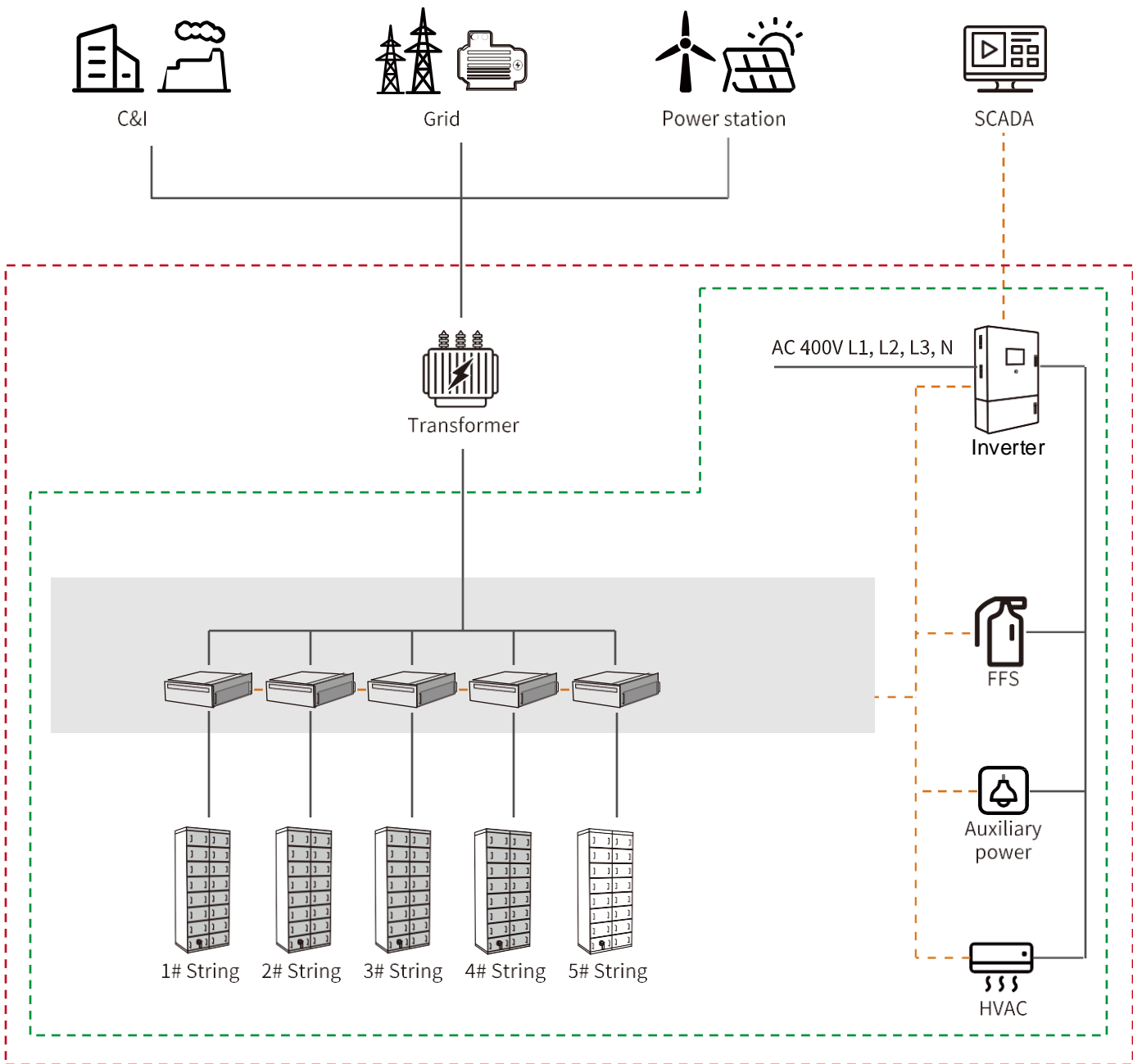
# SS-20C4H250K

Resilient, Reliable, and Quick Delivery Energy Station



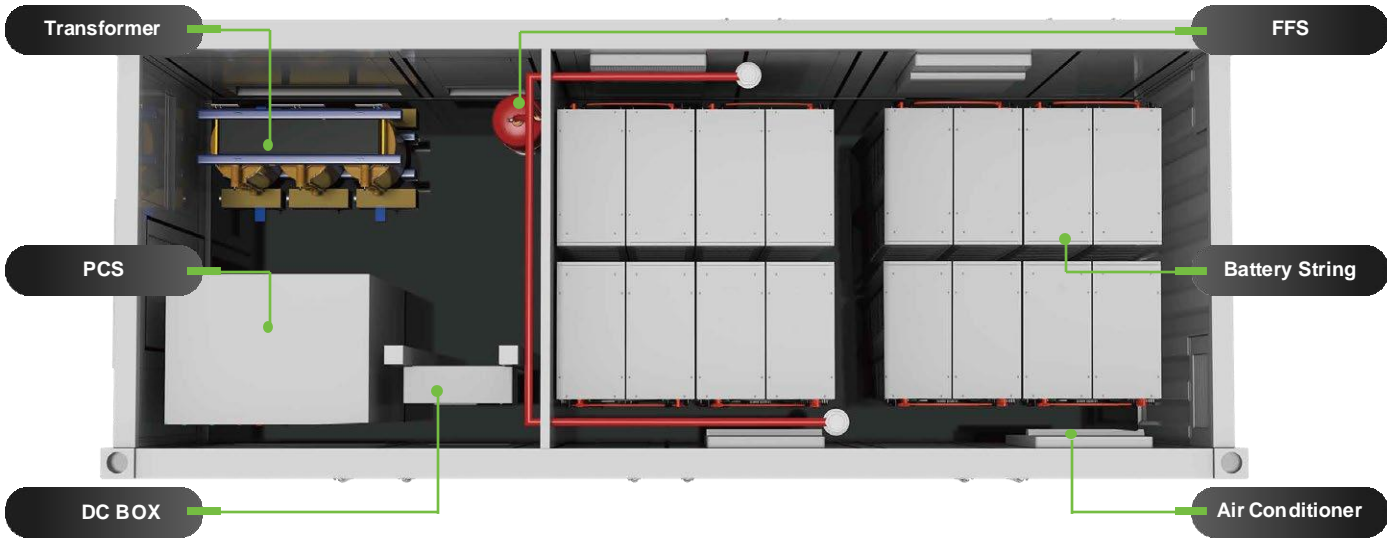
# System Topology

Power ——— Communication - - - - - Container Scope-NA - - - - - Container Scope-EX - - - - -



| More Energy  | All-in-one Design                                      | Simple O&M                                     | Safe & Reliable                     |
|--|--|--|-------------------------------------|
| Pack-level Optimization<br>String-level Optimization | AC/DC All-in-one Design<br>Reducing Initial Investment | No periodic balancing<br>No experts site visit | Modular Design<br>High Availability |

## Product Layout



## Product Configuration

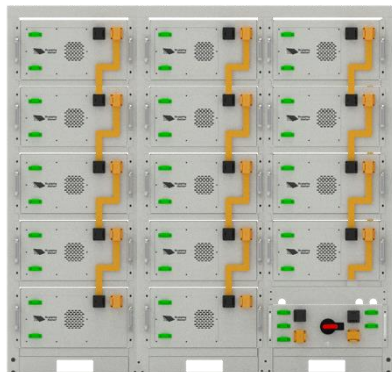
| Product Model | Battery string type | Nominal capacity   | AC connection     | Isolation            | Grid-connected voltage | Dimensions (WDH mm) |
|---------------|---------------------|--------------------|-------------------|----------------------|------------------------|---------------------|
| SS-20C4H250K  | 14S5P               | 716.8V/<br>1003kWh | 3-Phase 4-Wire+PE | Built-in Transformer | 400V                   | 6058x2438x2591mm    |



## System Technical Specifications

| Item                             | SS-20C4H250K                                |
|----------------------------------|---|
| <b>Battery Data</b>              |   |
| Battery chemistry                | Lithium Iron Phosphate (LFP)                |
| Cell life cycle                  | 80% Retention with 6000 Cycles @ 1C 25°C    |
| Cell spec                        | 51.2V/280Ah                                 |
| String configuration             | 5P14S                                       |
| Number of strings                | 5   |
| Rated energy capacity            | 1.00352MWh                                  |
| DC rated energy capacity .       | 1003.52kWh                                  |
| Rated voltage                    | 716.8V                                      |
| Voltage range                    | 616V-795.2V                                 |
| BMS communication interface      | RS485, CAN, RS232                           |
| <b>Inverter Data</b>             |   |
| Rated AC power                   | 250kW                                       |
| Maximum AC power                 | 250kW                                       |
| Rated voltage                    | 400V  |
| Grid voltage range               | 320~ 460V(Configurable)                     |
| AC rate of current               | 361A  |
| Output THDi                      | < 3%  |
| AC PF                            | -0.1~1 leading or lagging (Controllable)    |
| AC output                        | 3-Phase 4-Wire+PE                           |
| <b>Container Data</b>            |   |
| Dimension w/o clearances (L*W*H) | 6058x2438x2591mm                            |
| Weight of the whole system       | 22300KG                                     |
| Degree of protection             | IP65  |
| Operating temperature range      | -20~40°C                                    |
| Relative humidity                | 0~95% (non-condensing)                      |
| Max working altitude             | 3000m/10000feet (> 2000m/6500feet derating) |
| Cooling concept of DC hatch      | HVAC  |
| Fire fighting system             | NOVEC1230/FM-200                            |
| Communication interfaces         | RS485, CAN, RS232                           |
| Certificates                     | UL9540, IEC62933, UN3536, etc               |

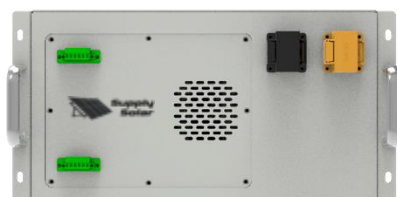
## Key Components---Lithium Battery Pack



- 1C Charge/Discharge
- Power supply can be single battery string or parallel battery strings
- Easy configuration and maintenance

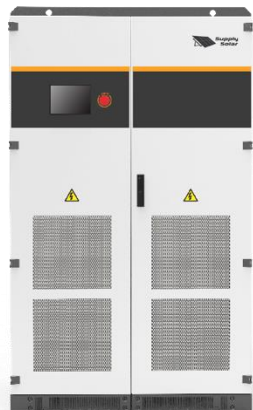
| Item                                     | Data                                     |
|--|--|
| Product                                  | 716.8V280AH                              |
| Nominal Voltage                          | 716.8V                                   |
| Nominal Capacity (AH)                    | 280                                      |
| Dimension mouldle(mm)                    | 483*245* 792mm*14                        |
| Dimension RACK(mm)                       | 1655*800*1530                            |
| Weight(kg)                               | 1860KG                                   |
| Nominal Capacity (KWH)                   | 200.7KWH                                 |
| Discharge Cut-Off Voltage (V)            | 616                                      |
| Charge Cut-Off Voltage (V)               | 795.2                                    |
| Recommend Charge/Discharge Current (A)   | 100                                      |
| Max. Charge/Discharge working Current(A) | 200                                      |
| Communication                            | RS485/RS232/CAN                          |
| Working Temperature                      | 0°C~50°C Charge<br>-10°C ~50°C Discharge |
| Transport or Storage Temperature Range   | - 20°C~60°C                              |
| Certification                            | CE/IEC/UL /UN38.3/MSDS                   |
| Design Life                              | 15years+                                 |
| Cycle Life                               | ( 0.5C/0.5C-80% DOD ) >6000 times        |
| Series Function                          | Support 16 units in Series               |
| Certification                            | UN38, 3/MSDS/ROHS                        |

### Lithium Battery Module



| Item                                   | Data          |
|--|---------------|
| Model                                  | 51.2V280AH    |
| Nominal Voltage(V)                     | 51.2          |
| Nominal Capacity(AH)                   | 280           |
| Nominal Capacity (Wh)                  | 14336         |
| Dimension mouldle(mm)                  | 483*245*792mm |
| Weight(kg)                             | 114kg         |
| Discharge Voltage (V)                  | 44.8          |
| Charge Voltage (V)                     | 56.8          |
| Recommend Charge/Discharge Current (A) | 100           |
| (A)                                    | 200           |
| Max. Charge/Discharge Current(A)       |               |

## Key Components---Power Conversion System



- Single-stage three-level
  - modularization
- Multi-branch input to reduce battery series and parallels connection

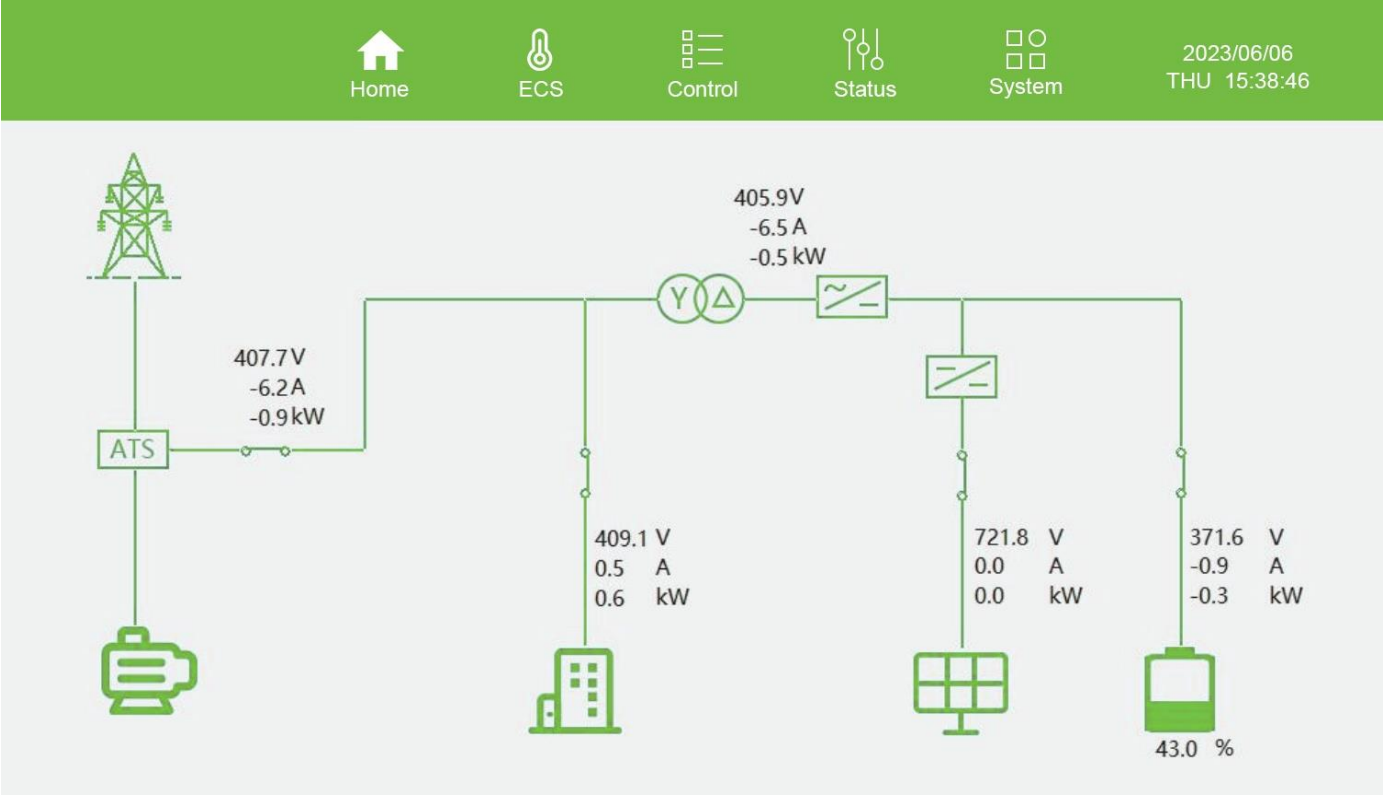
| Item                  | SSMPS-250K             |
|-----------------------|------------------------|
| Battery voltage range | 500~ 850V              |
| DC max current        | 361A                   |
| Rated AC power        | 500kW                  |
| Maximum AC power      | 500kW                  |
| Rated voltage         | 400V                   |
| Grid voltage range    | 320V ~460V             |
| AC rate of current    | 361A                   |
| Output THDi           | ≤3%                    |
| Adjustable PF         | 1(leading)~ 1(lagging) |
| Grid frequency range  | 50Hz/60H               |
| Isolation method      | Built-in Transformer   |
| Dimensions (W*D*H)    | 1200*800*2050mm        |
| Weight                | 1980kg                 |



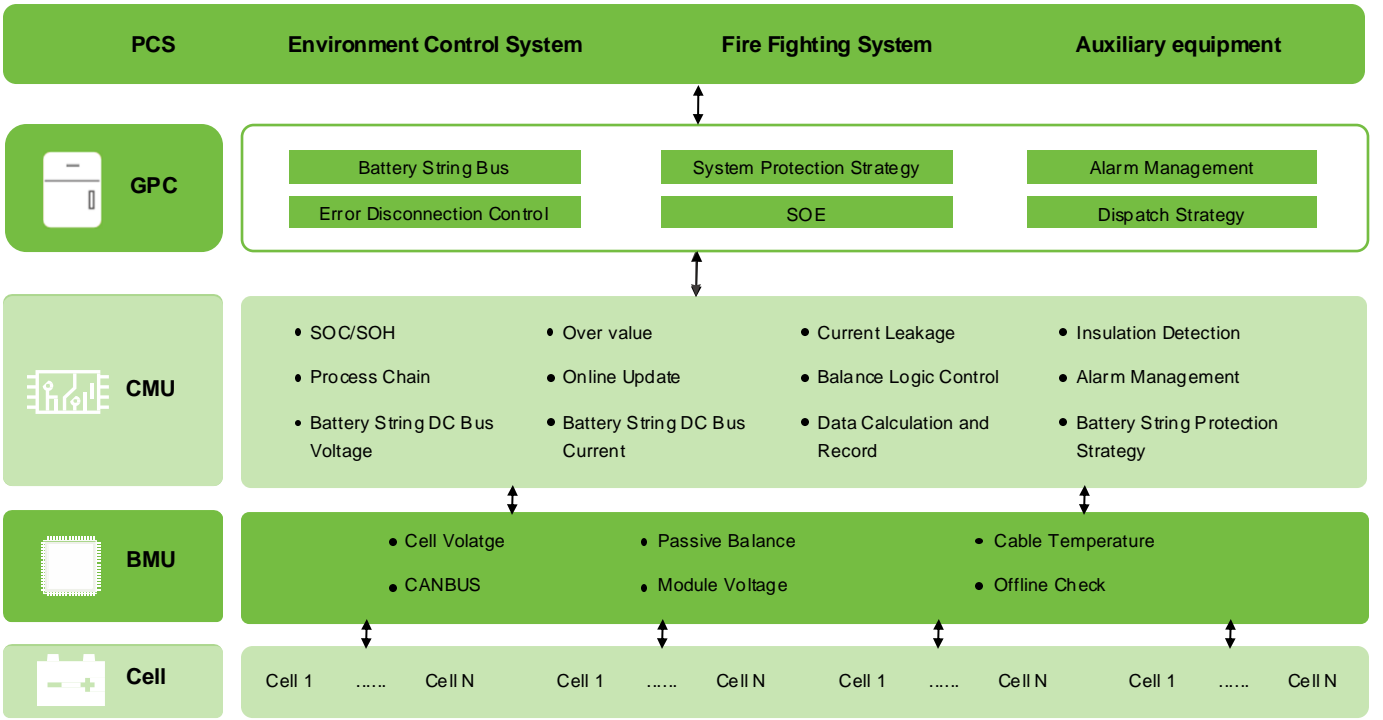
- Integrated distribution cabinet function, a variety of distributed power access
- Second grid/inverter/genset switching
- Automatic operation, unattended
- On grid and Off grid switching

| Item  | Data   |
|---|--|
| Rated power                                     | 250kW  |
| Rated voltage                                   | 400V   |
| Input voltage range                             | -25%~40%   |
| Output voltage range                            | -25%~ 40%  |
| Rated input current                             | 400A   |
| Max input current                               | 630A   |
| Frequency range                                 | 50/60+4.5Hz  |
| Switching time                                  | 3s~10s   |
| IP degree                                       | IP20   |
| Efficiency                                      | 99.5% (Full load)  |
| The max load standing capacity during switching | 250kW (RCD type, pure capacitive load or inductive load < 100kvar) |
| Wiring mode                                     | 3 Phase 4 Wire   |
| Dimensions (W*D*H)                              | 600*800* 2,050mm   |
| Weight  | 250kg  |

# EMS



# BMS with Real-time Passive Balance



## BMS with Real-time Passive Balance

| BMU                                   |                            | CMU   |                |
|---------------------------------------|----------------------------|---|----------------|
| Cell Voltage Measurement Accuracy     | ±5 mV                      | Battery String Voltage Measurement Range    | 100~1,000V     |
| Cell Voltage Monitoring Interval      | ≤200ms                     | Battery String Voltage Measurement Accuracy | ±1%            |
| Cell Temperature Measurement Accuracy | ±2°C                       | Battery String Voltage Monitoring Interval  | ≤100ms         |
| Cell Temperature Measurement Interval | ≤3s                        | Battery String Current Measurement Range    | ±300A          |
| Cell Current Balance                  | Passive Balance, 150mA MAX | Battery String Current Measurement Accuracy | ≤1%            |
| Cell Voltage Measurement Range        | 1~5V                       | Battery String Current Monitoring Interval  | ≤50ms          |
| Over-current Protection               | 250A/1s                    | SOC Calculation Accuracy                    | ≤8%            |
| Short-Circuit Protection              | 500A/10ms                  | Input Insulation Resistance                 | ≥10MO, 1000VDC |