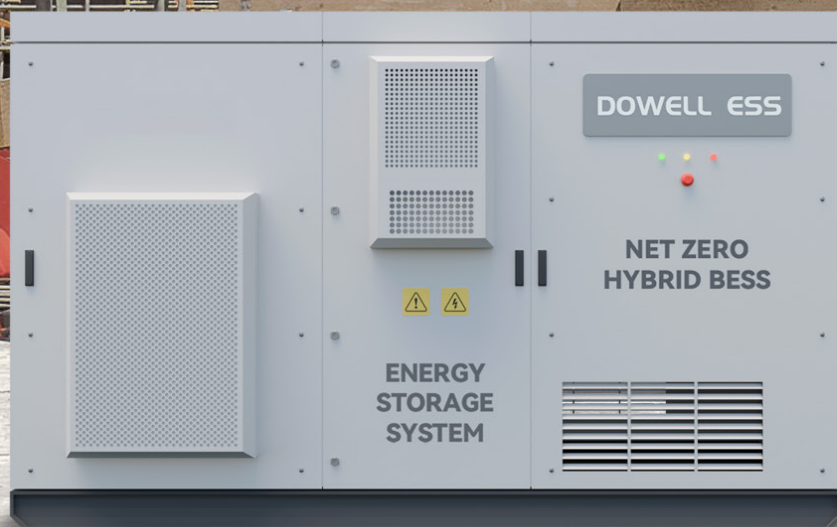


# Battery-Diesel Hybrid Series *H-Cube*

All in One Energy Storage System



Dowell Technology Co. Ltd.



### Highly Integrated

Convenient storage and transportation

### Excellent Performance

High ROI and quick payback



### Easy Operation

Simple operation and easy maintenance

### Multi-scenario Application

Power and capacity can be expanded and customized



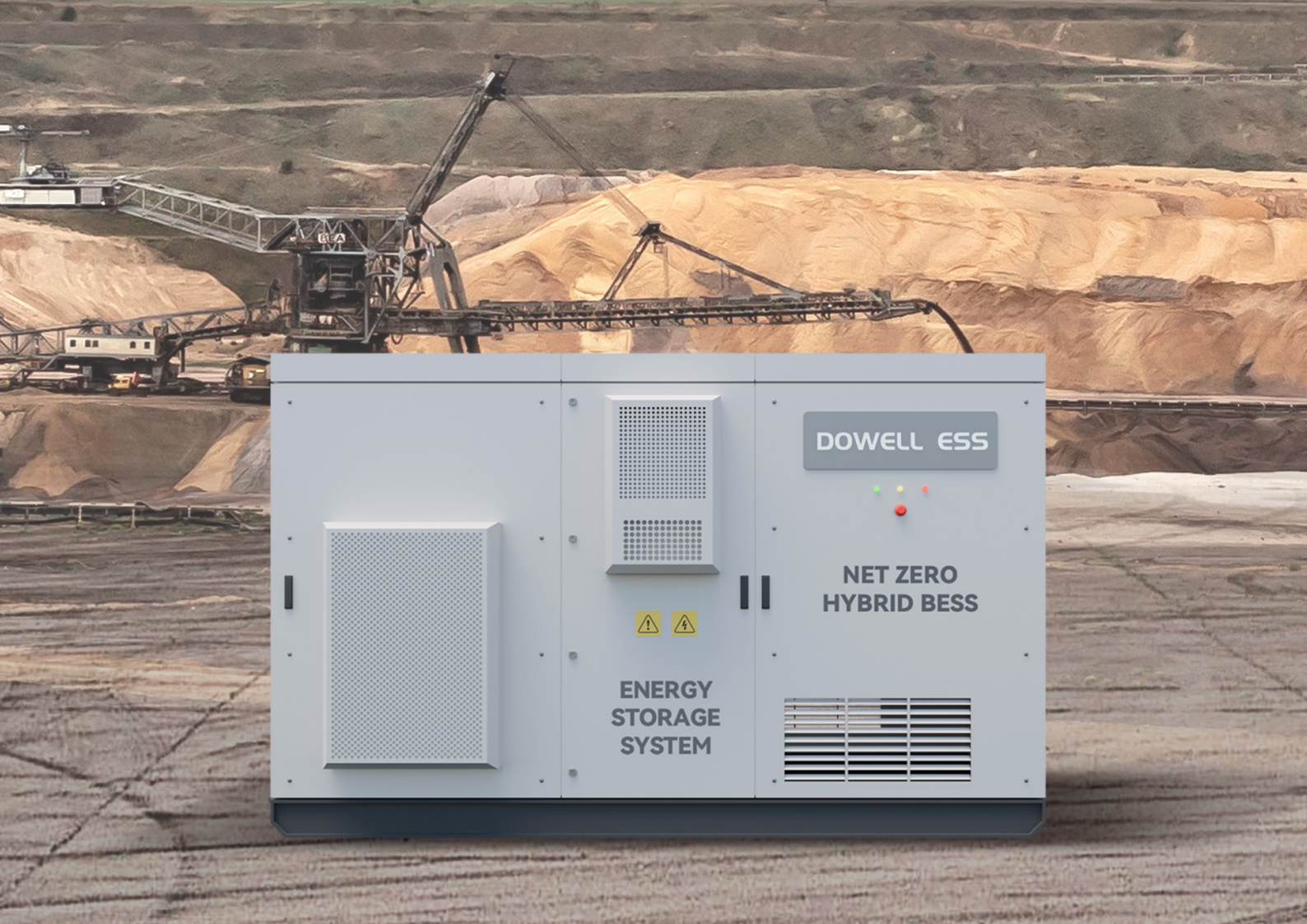
### Expert for Rental

Very suitable for rental use in construction sites, mines, etc.

### Worry-free Warranty

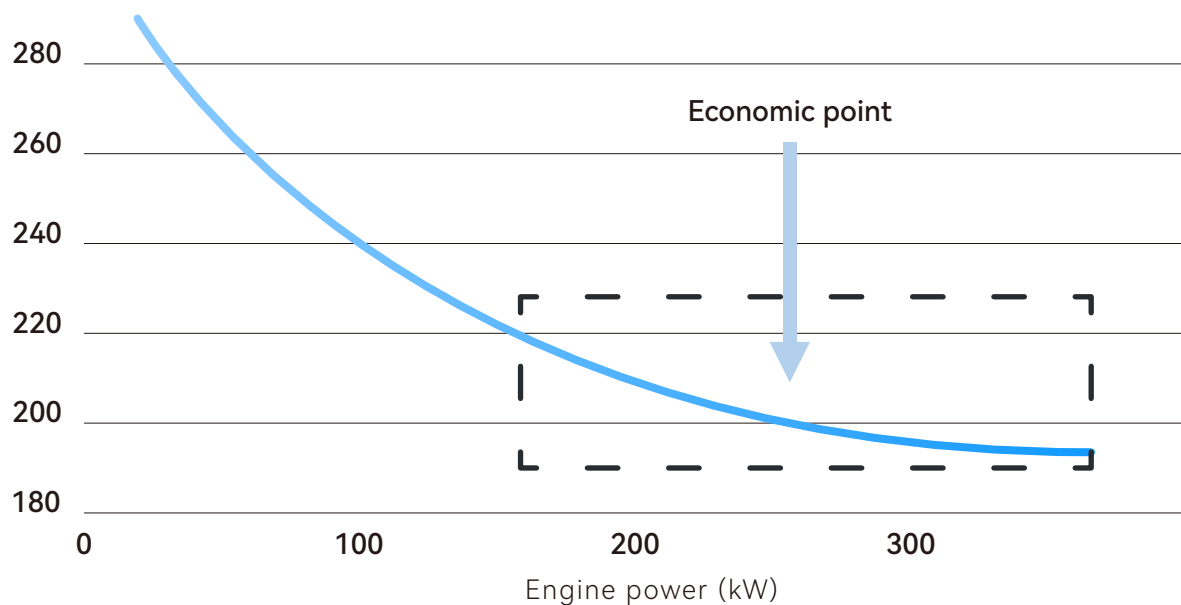
Battery: 4000 cycles (80% DOD) or 2 years after manufacture; Generator: 18 months after manufacture or 1500 hours running time





H-Cube Series is a new range of safe integrated hybrid energy storage system. It has the option of diesel generator, battery storage and hybrid solar inverter in one safe unit. H-Cube Series has been developed primarily to reduce emissions, reduce reliance on mains power and lower consumption costs.

# Saving Up To 30% In Fuel Consumption

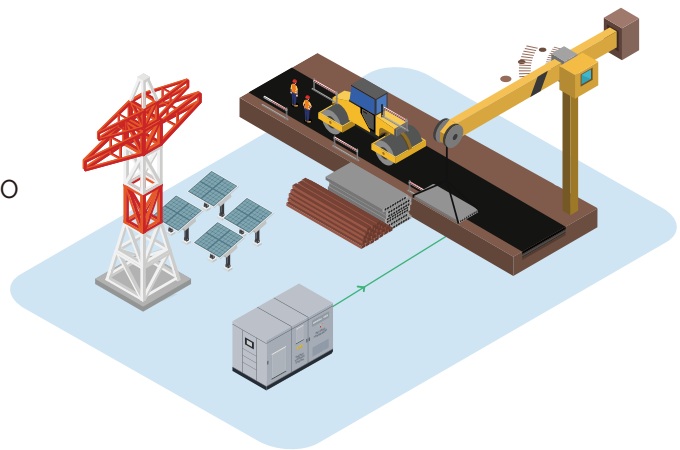


Through the engine + motor control + PCS main core control algorithm and dispatch management strategy, the on-load operating efficiency of the DC generator set is optimized, the fuel consumption of the generator set is reduced, and the cost of power supply is saved, achieving up to 30% more oil consumption save.

# Two Working Modes

## Hybrid Mode

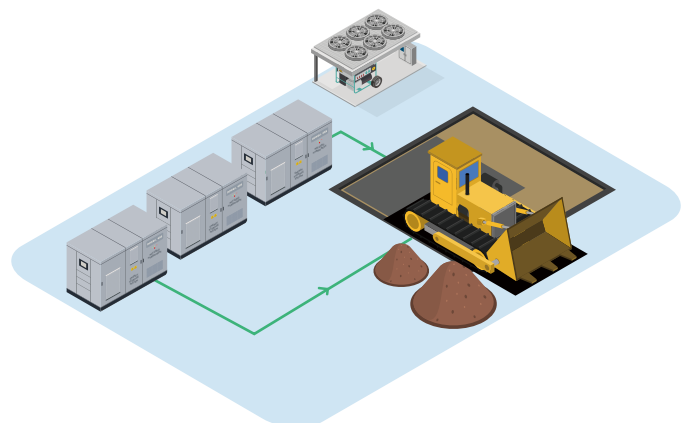
The DC generator system and battery storage system are set up to work together to supply power to the load. Suitable for application requiring high loads and extended power supply time.



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## Battery-first Mode

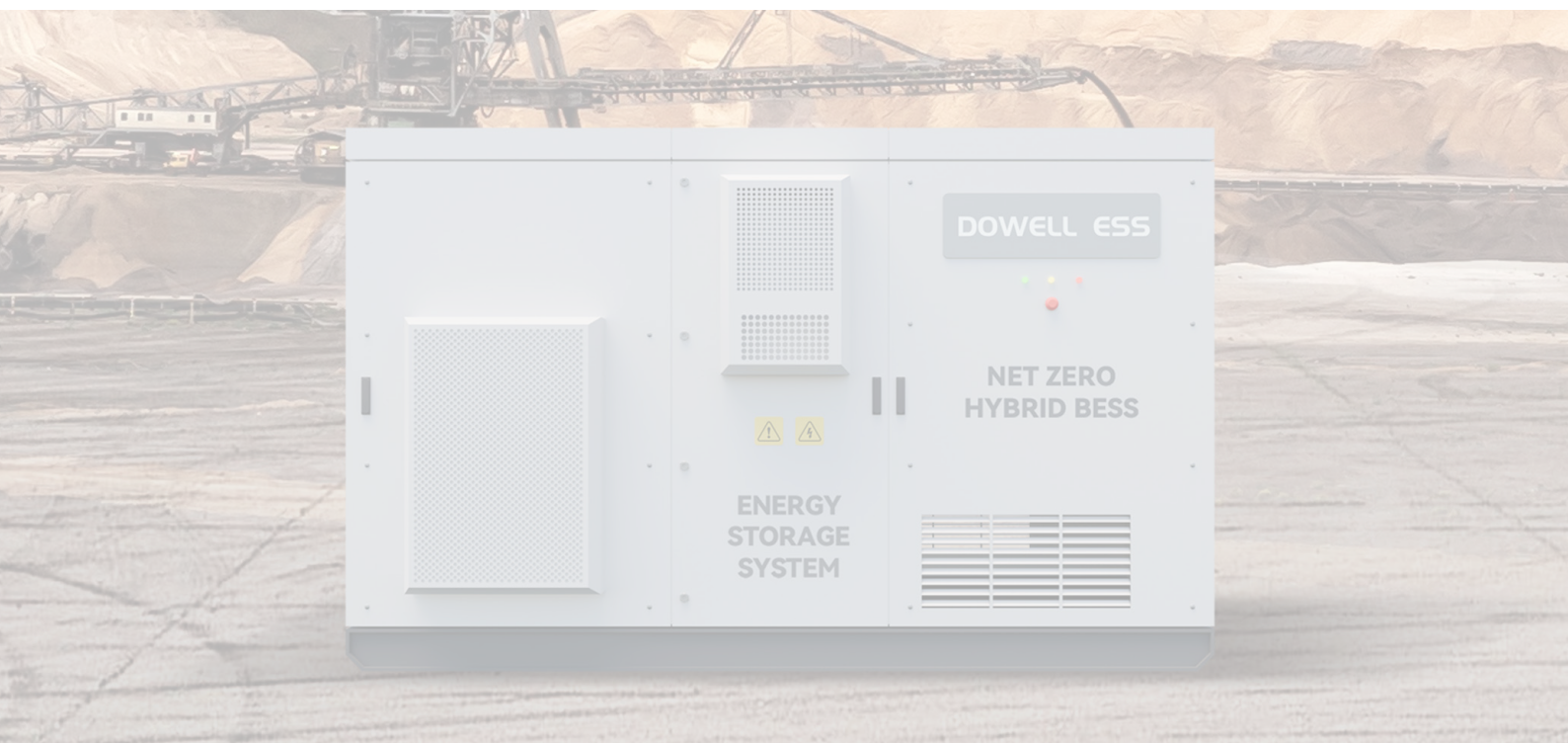
When multiple units are running in parallel, intelligent control start-stop technology is used to prioritize the operation of the battery storage system to provide load, and evaluate whether to start the DC generator system based on the load capacity.

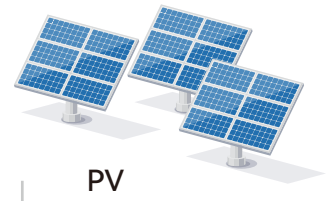
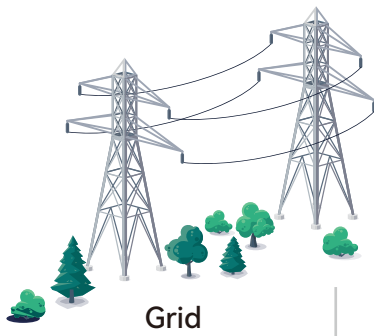


# Wind + Solar + Diesel + BESS + Grid Complementary Solutions

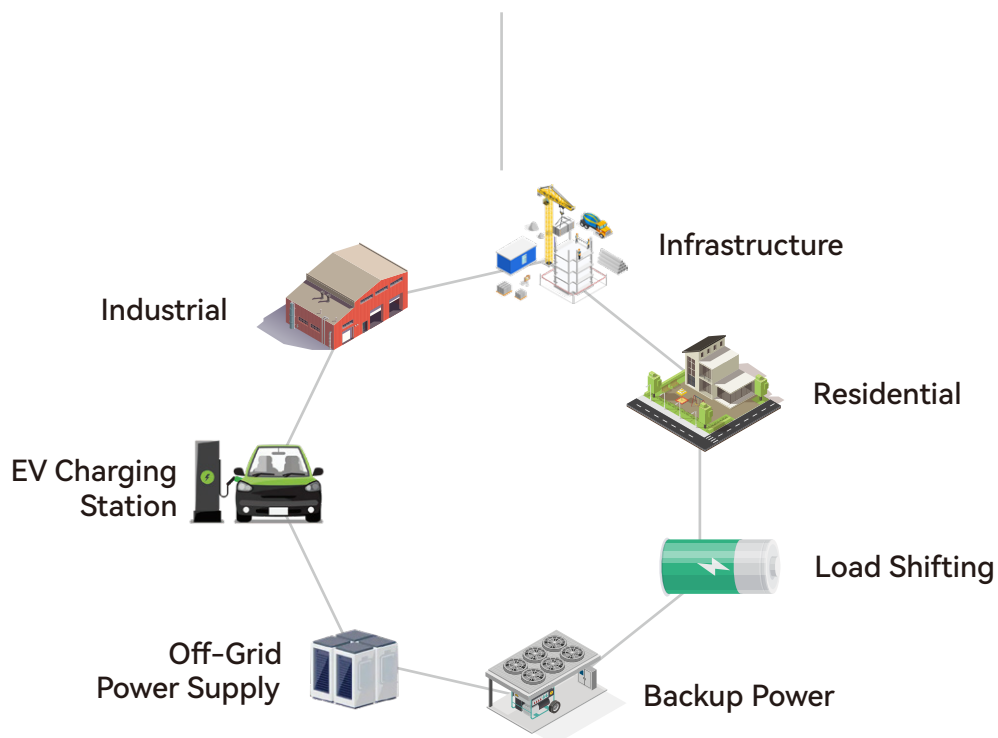
Through battery storage adjustment, unit operation management, and real-time monitoring, the whole system has high power supply reliability.

Equipped with an battery storage system, it can participate in peak-valley adjustment to earn electricity income when used in non-island applications.





All in One  
Energy Storage System



H-Cube Series integrates battery, genset, EMS and PCS, provide a powerful and effective solution to help operators prioritize power according to different load demands and operate critical loads and other loads independently.

From generating and absorbing power to regulating active and reactive power quality, H-Cube series can play multiple roles in microgrids, such as primary power supply and backup power supply.

It is perfectly compatible with solar energy and wind turbine, can be used both on-grid and off-grid.



Industrial Manufacturing



Mining Operations



Public Sectors



Communities



Grid Services



Independent Power Providers

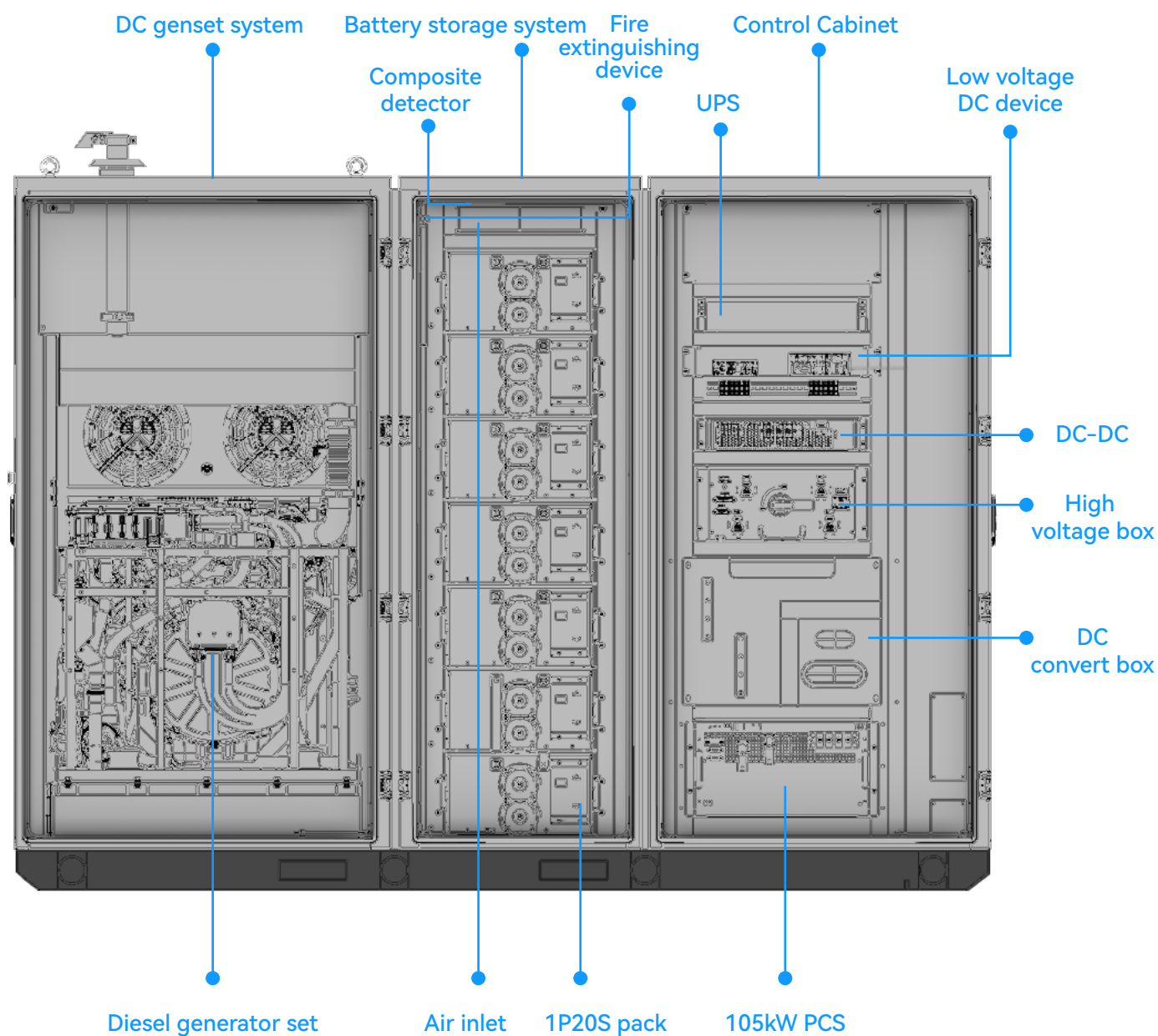


Remote Communities



EV Charging

# System Composition

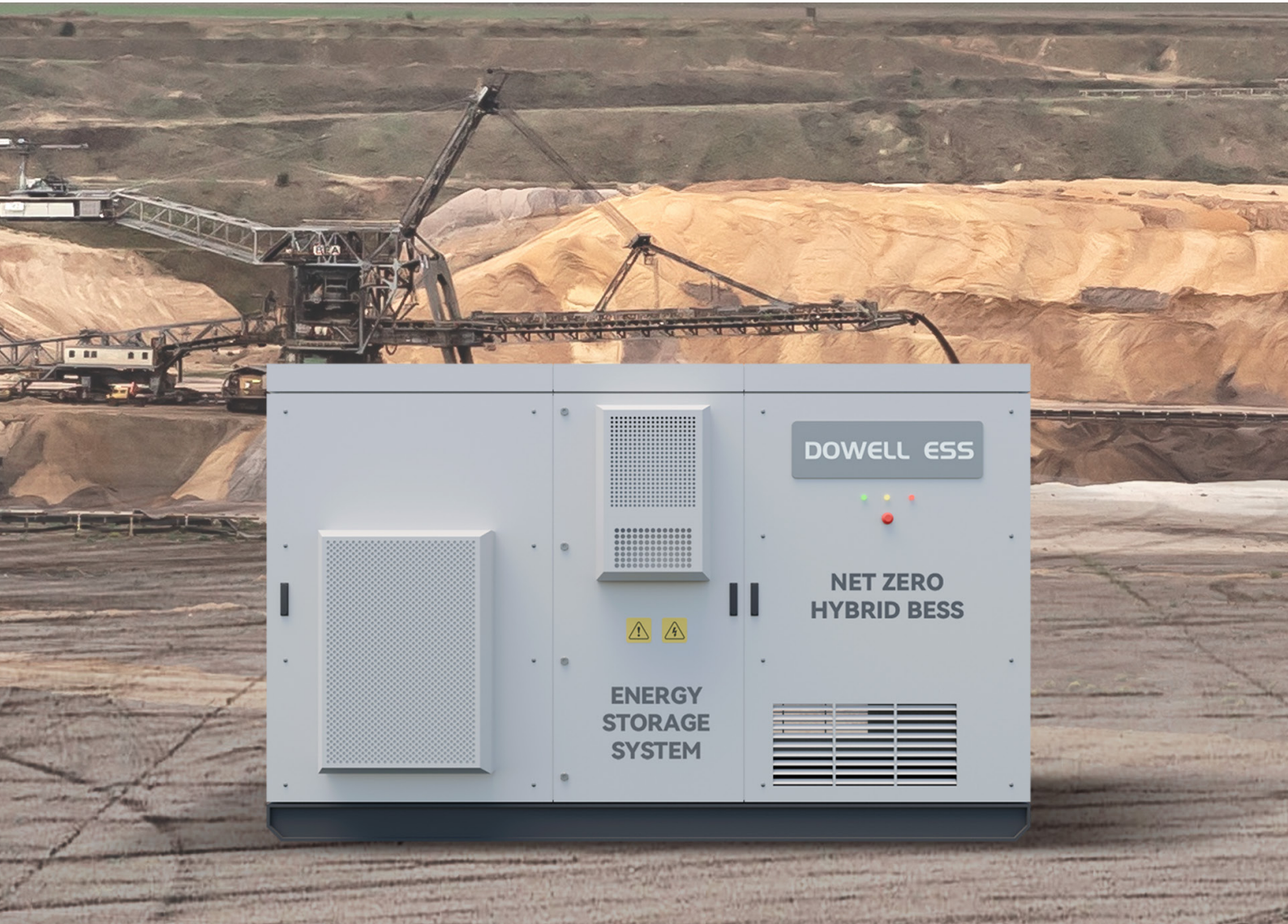


# H-Cube Technical Parameters



| Battery Storage System                |                                    |          |          |          |          |          |                 |                 |                 |
|---------------------------------------|------------------------------------|----------|----------|----------|----------|----------|-----------------|-----------------|-----------------|
| Battery Type                          | LFP                                |          |          |          |          |          |                 |                 |                 |
| Cell                                  | 3.2V/280Ah                         |          |          |          |          |          |                 |                 |                 |
| Rated Current                         | 140A（0.5C）                         |          |          |          |          |          |                 |                 |                 |
| PACK Configuration                    | 1P20S                              |          |          |          |          |          |                 |                 |                 |
| RACK Configuration                    | 1P140S                             |          |          |          |          |          | 1P240S          |                 |                 |
| Battery Configuration                 | 1P140S                             | 2×1P140S | 3×1P140S | 4×1P140S | 5×1P140S | 6×1P140S | 1P240S          | 2*1P240S        | 5*1P240S        |
| Voltage Range                         | 392~504Vdc                         |          |          |          |          |          | 672~864Vdc      |                 |                 |
| Battery Capacity(kWh)                 | 120                                | 240      | 360      | 480      | 600      | 720      | 215.04          | 430.08          | 1075.2          |
| Rated Power(kW)                       | 60                                 | 120      | 180      | 240      | 300      | 360      | 105             | 210             | 500             |
| Peak Power(kW)                        | 60                                 | 120      | 180      | 240      | 300      | 360      | 115             | 230             | 500             |
| DC Genset System                      |                                    |          |          |          |          |          |                 |                 |                 |
| Rated Power(kW)                       | 60                                 | 120      | 180      | 240      | 300      | 360      | 100             | 200             | 400             |
| Standby Power(kW)                     | 65                                 | 130      | 195      | 260      | 325      | 390      | 122             | 210             | 500             |
| Continuous Power(kW)                  | 60                                 | 120      | 180      | 240      | 300      | 360      | 93              | 147             | 300             |
| DC Genset Qty(Set)                    | 1                                  | 2        | 3        | 4        | 5        | 6        | 1               | 1               | 1               |
| Max Efficiency（kWh/L）                 | 4.06                               |          |          |          |          |          | 4.19            | 4.24            | 4.42            |
| Cylinders Qty - bore × stroke（mm）     | 4-85×104                           |          |          |          |          |          | 4-108×132       | 6-110×132       | 4-141×170       |
| Exhaust Volume（L）                     | 2.36                               |          |          |          |          |          | 4.837           | 17.5            | 15.93           |
| Motor Type                            | Permanent magnet synchronous motor |          |          |          |          |          |                 |                 |                 |
| Working Voltage(Vdc)                  | 576/400~720                        |          |          |          |          |          |                 |                 |                 |
| Motor Rated Power/Speed(kW/rpm)       | 65/2100                            |          |          |          |          |          | 100/1705        | 200/1600        | 421/1500        |
| Motor Peak Power/Speed(kW/rpm)        | 80 / (2100~3000)                   |          |          |          |          |          | 135/(1705~3000) | 240/(1600~2500) | 500/(1500~2500) |
| Motor Max Speed(rpm)                  | 3000                               |          |          |          |          |          | 3000            | 2500            | 2500            |
| Motor Protection Level                | IP67                               |          |          |          |          |          |                 |                 |                 |
| Cooling Method                        | Liquid-cooling                     |          |          |          |          |          |                 |                 |                 |
| Rated/Max Capacity(kVA)               | 85/170                             |          |          |          |          |          | 100/200         | 200/400         | 500/600         |
| Motor Controller Protection Level     | IP67                               |          |          |          |          |          |                 |                 |                 |
| Whole System                          |                                    |          |          |          |          |          |                 |                 |                 |
| Rated Power(kW)                       | 105                                | 210      | 315      | 420      | 525      | 630      | 105             | 200             | 500             |
| Continuous Power(kW)                  | 105                                | 210      | 315      | 420      | 525      | 630      | 115             | 200             | 500             |
| Peak Power(kW)                        | 115                                | 230      | 345      | 460      | 575      | 690      | 115             | 220             | 500             |
| Bidirectional DC/DC Conversion Module | YES                                |          |          |          |          |          |                 |                 |                 |
| Rated Output Voltage                  | DC: 600/720Vdc AC: 380/400Vac      |          |          |          |          |          |                 |                 |                 |
| Rated AC Output Frequency(Hz)         | 50                                 |          |          |          |          |          |                 |                 |                 |
| Rated AC Output Current(A)            | 152                                |          |          |          |          |          | 174A            | 303A            | 760A            |
| Wiring Method                         | 3P+PE/3P+N+PE                      |          |          |          |          |          |                 |                 |                 |
| On-grid/off-grid switching            | Optional                           |          |          |          |          |          | /               |                 |                 |
| Controller & Communication Port       | Total 2 sets/ RS485、CAN、ETH、4G     |          |          |          |          |          |                 |                 |                 |
| Working Temperature                   | 0℃~45℃                             |          |          |          |          |          |                 |                 |                 |
| Storage Temperature                   | -20℃~55℃                           |          |          |          |          |          |                 |                 |                 |
| Working Humidity                      | 0~95%                              |          |          |          |          |          |                 |                 |                 |
| System Noise                          | ≤75dB                              |          |          |          |          |          |                 |                 |                 |
| Protection Level                      | IP54                               |          |          |          |          |          |                 |                 |                 |

**DOWELL** POWER THE FUTURE



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