

Hybrid Power- PowerCube 1000 Products Overview



Scenario: Off grid or poor grid

Challenges: High fuel consumption & D.G. maintenance costs, short battery lifespan are caused by traditional solution with D.G., batteries, rectifiers & standalone components.

Huawei Solution: With the concept of "Single", highly integrated PowerCube adopts advanced power conversion technology and intelligent management to maximize efficiency of energy utilization, reduce power expenses & protect investment.

Solar Hybrid

For off grid or poor grid, peak sun hour > 3hrs. Solar is the main power source. **Low TCO, less maintenance costs**

S1: Pure Solar



- Low power (< 1.5KW)
- "Zero" OPEX
- Green energy

S2: Solar & Diesel



- Medium & large power
- Best price/performance
- Smooth evolution from diesel to solar

S3: Solar & Grid (Diesel)



- Poor grid: Solar complements grid
- Good grid: Solar is priority

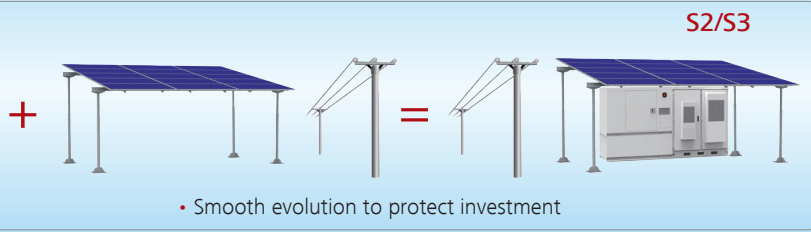
Diesel Hybrid

For off grid or poor grid. Diesel is the main power source. **Fuel saving, integrated design**

D1: Diesel & ESS



- 40~60% fuel saving & 90% maintenance costs saving
- 75% footprint saving & fast deployment



- Smooth evolution to protect investment

Grid Hybrid

For poor grid (Class II, Class III, Class IV grid). Grid is the main power source. **Removing D.G., Free maintenance**

G2: Advanced Fast Charging



Energy storage:

- Full charging < 2hrs
- 4~5yrs lifespan

Advanced lithium energy storage control tech.

G3: Enhanced Fast Charging



Energy storage:

- Full charging < 3hrs
- 4~5yrs lifespan

Advanced hybrid energy storage control tech.

G4: Standard Fast Charging



Energy storage:

- Full charging < 4hrs
- 3~4yrs lifespan

Advanced lead-acid energy storage control tech.

- Removing D.G. or "Zero" D.G. running time

- Smooth evolution to solar hybrid system

NetEco

Site energy network management system



- **Statistics Report:** Power from fuel, solar energy & grid
- **Refueling Suggestion:** Priority based on remaining fuel
- **KPI Mgmt.:** Customized KPI enquiry & report
- **Intelligent Analysis:** Analysis abnormal KPI

- **Maintenance Reminding:** Intelligent detection reminding
- **Remote Function:** Real-time remote mgmt. & upgrade
- **Asset Mgmt.:** Whole network power equipment list
- **Stolen Alarm:** Fuel, PV panels

Advantages of Huawei compared with Industry

Off Grid Scenario

Single (Dual) D.G.



- Continuous D.G. running
- Average fuel consumption 50L/day
- Maintenance interval: 10 days
- Footprint: 20m²

Industry D.G. & Battery Hybrid



- Simple switching between D.G. & batteries
- 30~40% fuel saving
- Maintenance interval: 20 days
- Footprint: 20m²

Huawei Diesel Hybrid



- Intelligent algorithm between D.G. & deep cycle energy storage
- 40~60% fuel saving
- Maintenance interval: 125 days
- Footprint: < 5m²

Poor Grid Scenario

Backup D.G.



- D.G. supplies power when grid outage
- Frequent D.G. running
- D.G. & battery replacement: every 5yrs
- Footprint: 15~20m²

Backup Battery



- Battery supplies power when grid outage
- "Zero" D.G. running
- Frequent power off of site. Battery: undercharging, 1~2yrs lifespan
- Footprint: about 5m²

Huawei Grid Hybrid



- Fast charging system
- No D.G. or "Zero" D.G. running
- No power off of site. Energy storage system: fast charging, 3~5yrs lifespan
- Footprint: 1m²