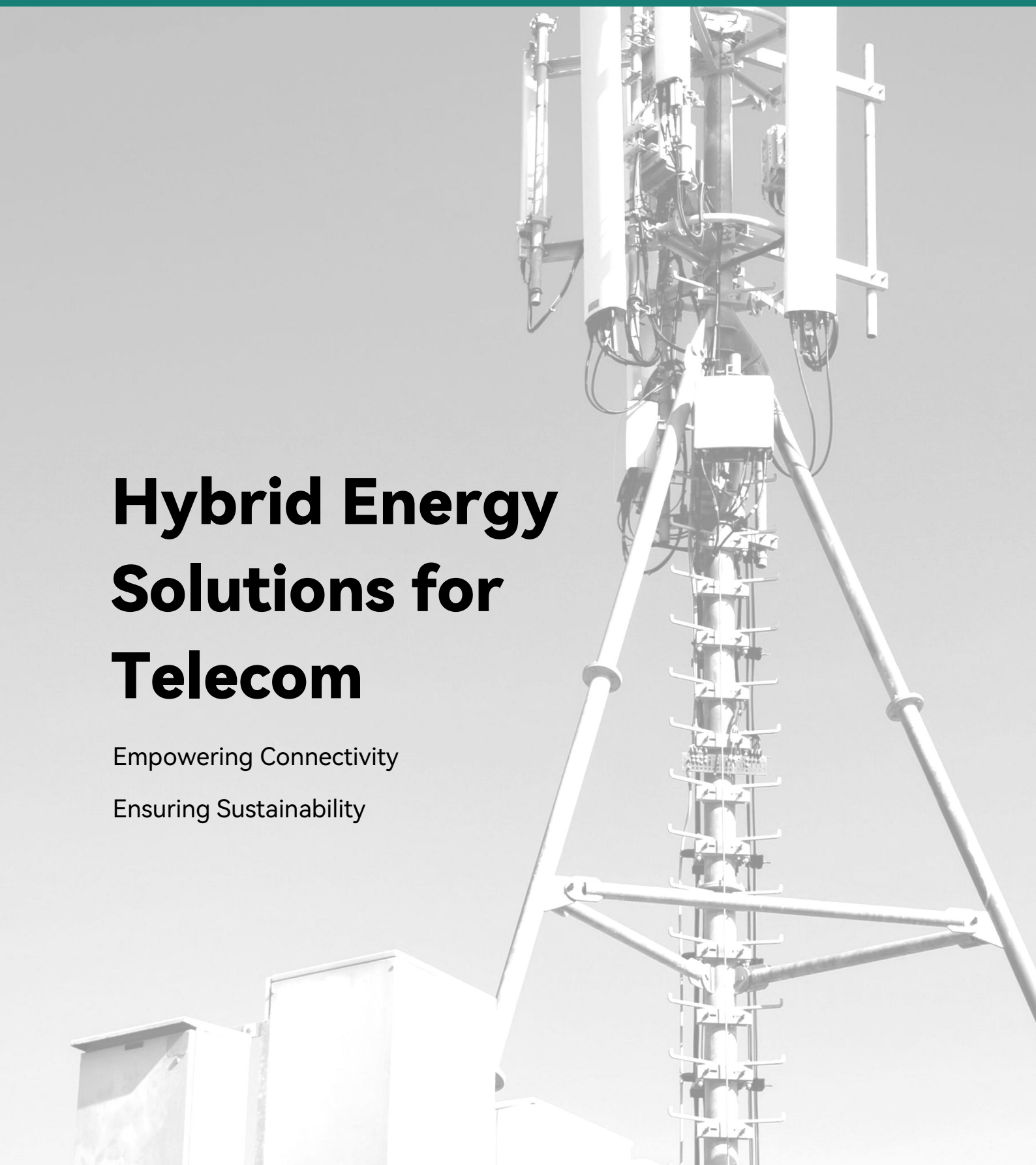
JUDING ENERGY

Solution Catalog



Hybrid Energy Solutions for Telecom

Empowering Connectivity

Ensuring Sustainability

With the global rollout of 5G technology, telecom operators face significantly higher power consumption compared to 4G. To address the urgent need for a scalable and cost-effective power solution, Dingli introduces the Green Cell Site – a Smart Hybrid Energy Solution. This innovative, containerized micro-grid energy system is designed for telecom towers, integrating a power management system, energy storage system, solar power system, and comprehensive power and environmental monitoring.

Key Components

1 Power Management System

Our system seamlessly integrates various energy sources, including wind, solar, fuel generators, and the grid, ensuring continuous energy access and optimal utilization..

2 Energy Storage System

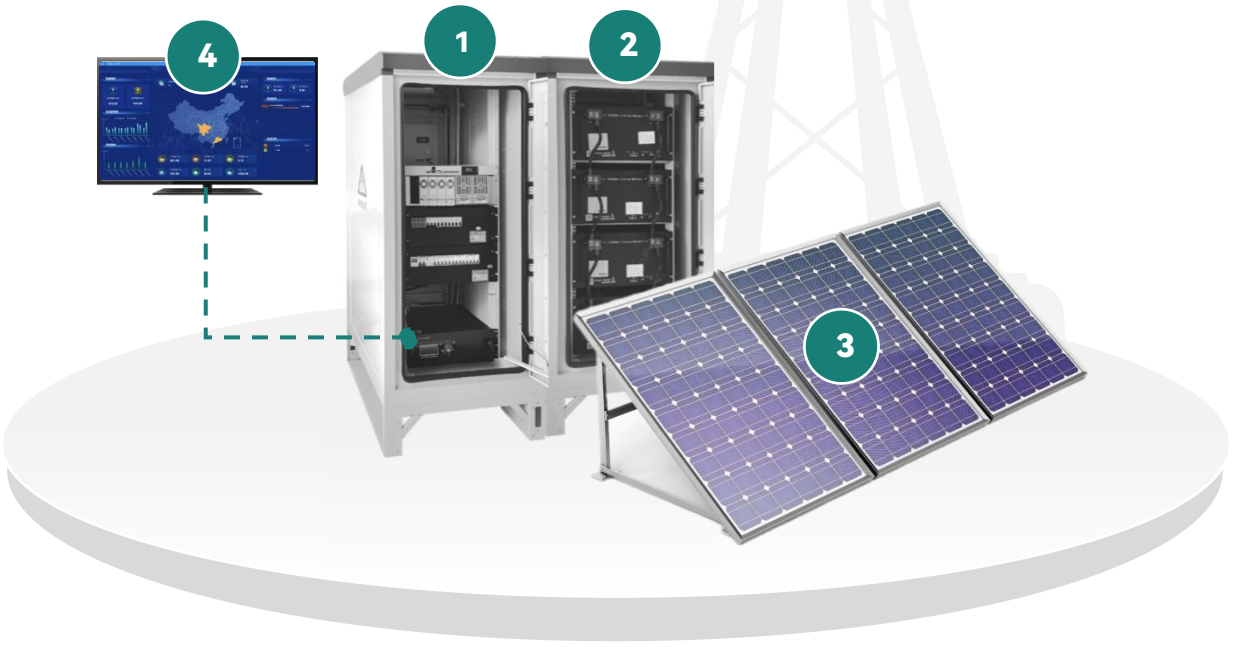
Designed for intelligent charging and discharging based on peak and off-peak periods, this system provides reliable emergency power backup, enhancing overall energy efficiency.

3 Solar Power System

Utilizing high-performance lithium-ion battery packs equipped with a built-in Battery Management System (BMS), our solar power solution ensures safe and efficient energy storage and usage.

4 Power & Environmental Monitoring System

This system precisely collects critical data, such as system voltage, current, wind and solar output, energy storage status, temperature, humidity, access control, lighting, and air conditioning, to maintain optimal operating conditions.



Features

Multi-Energy Complementary System

Our tailored energy solution seamlessly integrates multiple energy sources—solar, wind, grid, and generators—to provide a reliable and cost-effective power supply. This multi-energy approach ensures continuous power availability and maximizes efficiency.

Modular Design

Featuring a modular design for solar modules, rectifier modules, wind energy modules, and energy storage battery modules, our solution offers flexible configuration and easy maintenance. This modularity allows for scalable growth and simplified serviceability.

Remote and Intelligent Monitoring & Management

Our system includes a user-friendly interface designed for ease of operation. Intelligent alarms and fault analysis functions enable remote monitoring and maintenance from computers and mobile devices, enhancing operational efficiency and reducing downtime.

Safety-First Design

Our system is designed with robust safety features, including lightning protection and an IP55-rated cabinet with temperature control, ensuring reliable operation in harsh outdoor environments. Additionally, it is equipped with a fire extinguishing agent for lithium batteries to automatically address fires, preventing potential disasters

Visual Data Report Analysis

Our solution precisely collects vital energy management data, allowing operators to check statistics reports on power generation, revenue, and risk alarms via computers or mobile devices. This feature supports intelligent management and aids in the digital transformation of telecom operations.

Benefits

Energy Efficiency

Significantly reduces energy consumption and operational costs by leveraging multiple energy sources.

Scalability

Modular design allows for easy expansion and customization to meet growing demands.

Reliability

Ensures continuous and stable power supply through a complementary energy system.

Remote Management

Enhances operational efficiency with remote monitoring and intelligent management features.

Data-Driven Insights

Provides detailed visual data reports for informed decision-making and strategic planning.

Safety

Designed to withstand harsh conditions and equipped with advanced safety mechanisms to prevent and manage potential hazards.

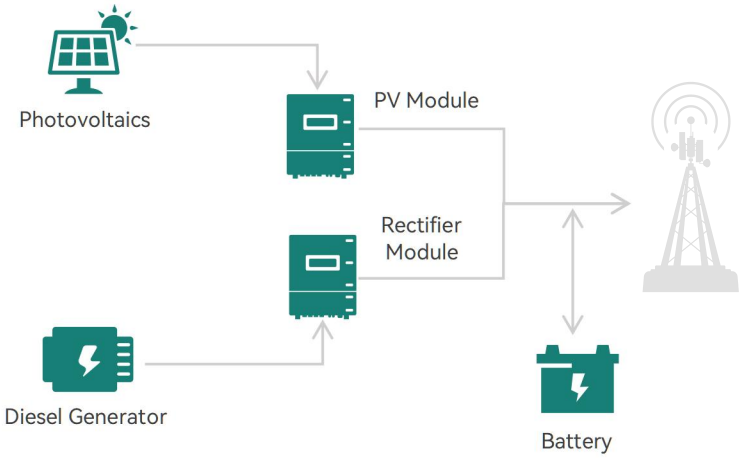
Applications

Dingli's Smart Hybrid Energy Solution is engineered to meet the dynamic needs of modern telecom operators. With its advanced features, modular design, and robust safety mechanisms, our solution ensures reliable power supply, efficient management, and enhanced operational safety, making it the ideal choice for the telecom industry's future.

We provide integrated hybrid power solution of PV, DG (Diesel Generator), electricity and battery storage in the area of no grid and unstable grid.

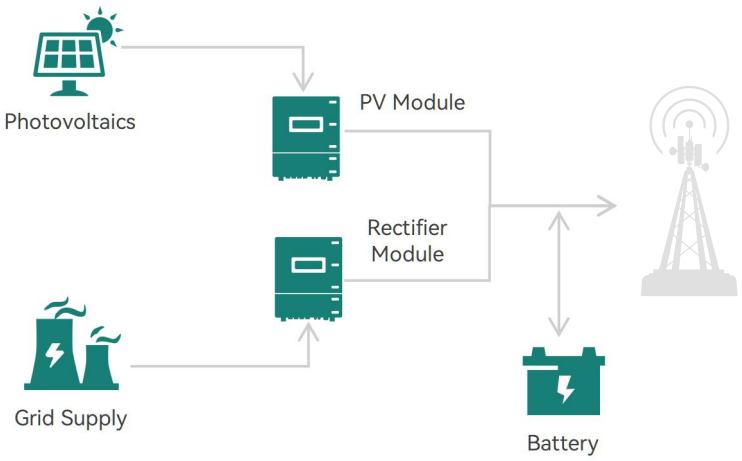
Off - grid Solar

- Solar is the primary energy source backed by solar batteries and optional standby DG
- Renewable and reliable power supply



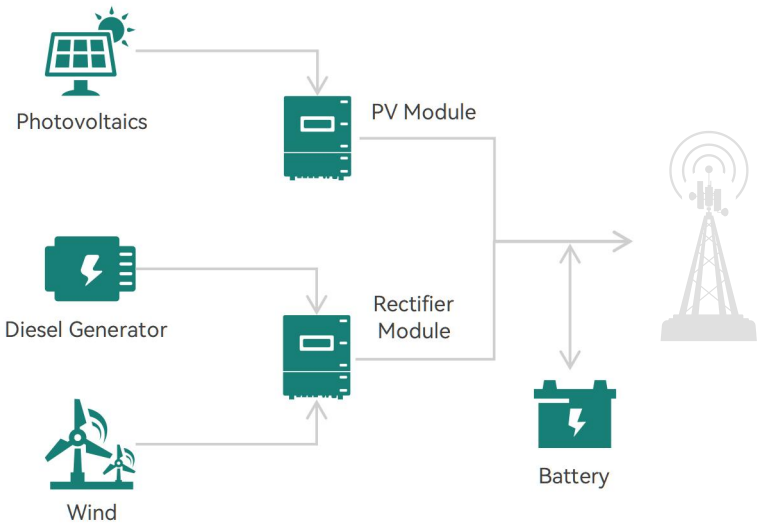
On - grid

- Solar power with standby batteries reduce cost on the grid
- Achieve energy demand with cost-saving



Off - grid Hybrid

- Solar supplements wind power usage together with batteries and DG
- Access to sufficient power supply



Products Spec.

System

Dimension	900mm*900mm*2100mm
Weight	＜200KG
Temperature Control	AC air conditioner 220VAC/1500W, with back-up fan system. Need extra 500W heater for low temperature areas
Cabling Mode	Bottom inlet and outlet
Ambient Noise Level	GR487, Noise≤65dB@1.5m，45℃
Protection Level	IP55
Cabinet Space	42U
Reserved Space	16U flexible 420mm*420mm space for user equipment
Max. Battery Capacity	43kwh
MIBF	≥100,000 hours

AC Distribution

Input Mode	220380VAC three phase four line mode, Single phase compatible
Input Voltage	Three phase, 147VAC-519VAC; Single phase,85 VAC-300VAC
Input Frequency	Rated 50Hz/60Hz
Input Capacity	1*63A/3P MCCB
SPD	20KA/40KA(8/20us)

AC Output	1KVA/3KVA(Customized capacity),Output accuracy 220V±3%, 7A Single-phase AC socket

DC Distribution

Output Voltage	42VDC--58VDC,rated 53.7VDC/42VD
Max. Capacity	18KW(6*3KW)
Battery Branch	2*200A
BLVD Branch	2*125A MCB,3*63A MCB
LLVD Branch	2*63A MCB,2*32A MCB,2*16A MCB
SPD	10KA/20KA(8/20us)

MPPT

Operating Temperature	—20℃ ~ + 55℃
Input Voltage Mode	Solar power input, rated 68Vdc, max.150Vdc
Input Voltage Range	58Vdc ~ 150Vdc
Max PV Open Circuit Voltage	165Vdc
Output Voltage Range	42V ~ 58V
Output DC Current	0 ~ 68A
Conversion Efficiency	Max. 98.2%
Dimension	41mm*287mm*132mm

Rectifier

Input Voltage	85VAC--300VAC,Rated:220VAC
Rated Power	3000W(175VAC--300VAC)
Efficiency	Max.96%
Operating Temperature	-40℃--+75℃
Dimension	130mm*85mm*288mm
Weight	≤2.5KG
Power Factor	≥0.99
THD	≤5%

Controller

Alarm Output	8 DO
Communication Port	RS232、RS485、CAN、FE
Storage Capacity	50,000 historical records and alarms

Display Mode	LCD
Network Mode	IP、4G、GPRS

Inverter (Optional)

System Capacity	6KVA
Power	5KW
AC Rated Current	22A
Input Frequency	45-66 Hz
AC Input Voltage	180-280V
Output Voltage	220-240V AC
Battery Rated Current	110A
DC Input Voltage	48VDC
PV Input Voltage	60-145VDC
PV Input Current	80A
Communication Port	RS232、RS485
Protection	Overvoltage protection, overcurrent protection, high temperature alarms and protection, battery high voltage alarms
Power Factor	≥0.99
Operating Temperature	-10℃ - +50℃
Efficiency	>93%
Humidity	≤95%
Dimension	440×400×130 (3U)

Battery Module(Optional)

Materials	Lithium-ion battery
Nominal Voltage	48VDC
Rated Charging Voltage	53.5VDC
Charge/Discharge Current	200A/100@35℃
Cycle Life	3500 cycles @0.5C,85%DOD,35℃
Capacity	200Ah@0.2C,35℃(4800wh@0.2C,35℃)
Protection	Over temperature, overcurrent, overcharge, over discharge, and short circuit protection
Max. Parallel Connection	CAN:20
Dimension	442mm*396mm*260mm