JinKO

Sunny 365

Integratetd PV-Storage Solutions for Transportation

JinkoSolar Global Marketing Centre

Address: No. 1, Lane 1466, Shenchang Road, Minhang District, Shanghai
Postcode: 201106
Tel: +86-21-51808777
www.jinkosolar.com

Integratetd PV-Storage Solutions for Transportation

Key challenges facing the market

From Distributors/Installers

How to choose storage systems for PV?
complex pre-sales, O&M, warranty?

How to choose PV modules for storage?
multiple suppliers to coordinate?

Complex system design and installation.

Finger-pointing among suppliers when faults occur

From Plant Owners:

From Plant Owners:
Complex after-sales, O&M, warranty – multiple vendors.

Low system integration, poor synergy.

Finger-pointing among suppliers in case of failures.

Lack of unified standards for future expansion/upgrades.

Jinko: A one-stop solution provider

- We provide a comprehensive warranty and after-sales service for the entire solar-storage system, and will always take responsibility for any issues that may arise.
- We offer an integrated approach covering solution design, product delivery, installation, commissioning and operation and maintenance, to ensure optimal performance.
- Comprehensive technical support for PV-Storage systems and partner training.
- We guarantee a stable supply of the latest PV-Storage products.
- A standardised quality assurance system for after-sales operation and maintenance.

35	4000+	200+	120+
Global Service Centers	Strategic Customers	Distribution Countries	Global Marketing Branches

Airport Scenario Solutions

01 Scenario Description and Typical Load Characteristics

Scenario Description: Airports are classified as Class I critical power users, with high electricity demand and extremely stringent requirements for power supply reliability. Major loads include terminal lighting, air conditioning, and elevators; hangars; ground support equipment; runway navigation lights; and IT data centers. The load curve exhibits a bimodal pattern (morning peak from 8:00 to 10:00 and evening peak from 18:00 to 21:00) and is significantly influenced by flight schedules.

Typical Load Characteristics: Annual electricity consumption typically ranges from tens of millions to hundreds of millions of kWh, with significant load fluctuations and high peak power (approximately 5–10 MW for medium-sized airports and up to 20–50 MW for large airports). A base load persists overnight (airport overnight operations, security, check-in systems, etc.).

Policy Drivers: Civil aviation authorities and organizations in various countries—such as the Ministry of Ecology and Environment and the Civil Aviation Administration of China, which jointly issued the "Notice on Strengthening Environmental Impact Assessment Management to Promote the Green Development of Civil Transport Airports"—require that the concept of green development be integrated throughout the entire process of airport planning and construction.

Industry Assessment Driven: Civil aviation authorities in various countries, such as the Civil Aviation Administration of China (CAAC), have issued the "Guidelines for the Evaluation of Smart Energy Systems at Civil Airports" (2024), which explicitly incorporates metrics such as renewable energy utilization rates, the proportion of new energy vehicles, and the utilization rate of APU replacement facilities into the evaluation system.

02 Scenario Challenges

High electricity costs:
Airports fall under the category of large-scale industrial electricity consumption. Base electricity rates are calculated based on demand, and there is a significant difference between peak and off-peak rates, resulting in electricity expenses accounting for a high proportion of total costs.

Extremely high requirements for power supply reliability:
Any power outage could lead to flight delays or operational paralysis, necessitating the installation of emergency power sources; however, traditional diesel generators have high maintenance and operating costs and produce high carbon emissions.

Significant Pressure to Reduce Carbon Emissions:
As urban gateways, airports must meet ESG requirements and reduce carbon emissions, yet their rooftop and parking lot resources remain underutilized.

Stringent Safety Standards:
Terminal rooftops feature complex structures, and apron areas are subject to safety restrictions; installation locations must be carefully planned to address glare issues caused by photovoltaic modules.

03 Standardized Design Solutions for PV + BESS Capacity

PV Installation: It is recommended to utilize the rooftops of terminal buildings, parking lot canopies, and cargo terminal rooftops, with estimates based on available area.

Standardized Solutions:

For medium-sized airports (annual passenger throughput of 10–20 million)	15 MW of PV and 30 MWh of BESS .
For large airports (annual passenger throughput of 30 million or more)	30 MW of PV and 60 MWh of BESS.
International airports (annual passenger throughput of 80 million or more)	60 MW of PV and 120 MWh of BESS.

Tiger Neo Anti-Glare modules

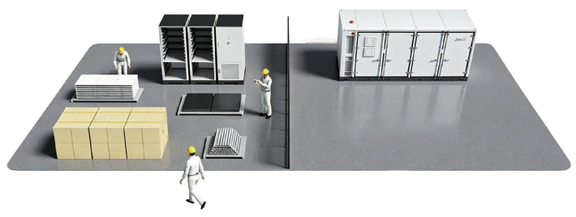
- **Exceptional anti-glare performance:** The intensity of reflected glare is significantly lower than that of conventional modules across all incident angles, with a reduction of up to 80 per cent or more, meeting the requirement of a runway glare rating (GR) ≤ 50 as stipulated in China's 'Technical Requirements for Apron Floodlighting at Civil Airports'.
- **Reflection suppression:** Reflectance is reduced by up to 85 per cent compared to conventional modules, whilst maintaining a glass transmittance equivalent to that of conventional modules.
- **High Power and High Power Generation:** Based on the proven Flying Tiger series, the front-side power output reaches up to 670W, with a conversion efficiency of 24.8 per cent and a bifaciality of 85±5 per cent, resulting in higher power generation per unit area.
- **Dual Authoritative Certifications:** Certified by TÜV Rheinland and the Swiss SPF, the anti-glare performance has been recognised by industry authorities.

Airport Scenario Solutions

SunTera G3 6.25MWh

- **Grid-forming and Black Start:** Supports grid-forming operation, black start, and microgrid operation, suitable for weak grid and off-grid power supply scenarios.
- **High Safety and Reliability:** A five-layer safety protection system and long-life design ensure the long-term stable operation of long-duration energy storage systems.
- **High Integration and Rapid Deployment:**
  The system is highly integrated and factory-prefabricated, reducing on-site installation and commissioning work and shortening the project construction cycle.

- **Smart O&M:**
  Supports remote monitoring, condition diagnostics, and predictive maintenance to improve the operational and maintenance efficiency of large-scale energy storage systems.



Configuration Description:
This solution draws on the global RTC (Round-the-Clock) model for round-the-clock green power supply. Through large-scale over-provisioning of PV capacity and long-duration energy storage, it ensures round-the-clock green power supply for the AIDC.

04 Charging and Discharging

Prioritize on-site consumption of solar power during the day:

Solar power is prioritized to supply loads such as the terminal building and hangars, with surplus electricity stored in the energy storage system.

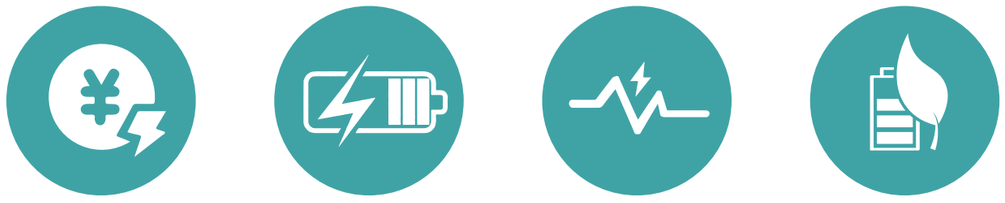
Emergency Backup Mode:

In the event of a grid outage, the energy storage system automatically switches to off-grid mode to supply power to critical loads
(control tower, check-in counters, security systems), ensuring operational safety.

Peak shaving and valley filling with energy storage:

During off-peak hours (00:00–08:00) the energy storage system charges;
during peak hours (10:00–12:00, 17:00–19:00), it discharges to reduce demand-based electricity charges.

05 Revenue Generation



Solutions for High-Speed Rail Stations and Train Stations

01 Scenario Description and Typical Load Characteristics

Scenario Description: High-speed rail stations and train stations are large transportation hubs where loads are concentrated in waiting halls, ticket offices, platform lighting, air conditioning, elevators, information displays, and security screening equipment. Load characteristics are strongly correlated with train schedules; loads are extremely high during peak passenger periods (such as the Spring Festival and other holidays), while they remain relatively stable during normal periods.

Typical Load Characteristics: Daytime loads are high (8:00–20:00), while nighttime loads are lower (approximately 30%–40% of daytime levels). For a medium-sized high-speed rail station (with a daily passenger throughput of 50,000–100,000), the peak load is approximately 3–5 MW.

Strong Policy Drives: Governments worldwide—such as China's State Council, in its "Action Plan for Carbon Peaking by 2030"—have explicitly listed "building green transportation infrastructure" as a key priority. The Ministry of Housing and Urban-Rural Development requires that the rooftop PV coverage rate for new public institution buildings reach 50% by 2025.

02 Scenario Challenges

Underutilized Roof Space:
High-speed rail stations typically have large station building rooftops, but structural load-bearing limitations (such as arched truss structures) make traditional PV installation difficult, and fall prevention and aesthetic considerations must also be addressed.

Complex electricity pricing structure:
Some high-speed rail stations are connected to dedicated railway power lines, where electricity pricing policies differ from those for general industrial use, and there is limited scope for demand management.

High operational safety requirements:
Photovoltaic modules must not compromise the structural safety of the station building and must prevent glare from interfering with train drivers' vision.

High passenger traffic density:
Mega-scale transportation hubs experience dense passenger flow, are subject to extremely strict fire safety regulations, and involve multi-disciplinary construction work.

03 Standardized Design Solutions for PV + BESS Capacity

Photovoltaic installations utilize station rooftops and canopies in station forecourts.

Standardized Solutions:

For medium-sized high-speed rail stations	3 MW of PV and 6 MWh of BESS .
For large hub stations	12 MW of PV and 25 MWh of BESS.

High-Efficiency Tiger Neo 3.0 Modules

In non-glare-sensitive environments such as high-speed rail stations and light rail systems, the Tiger Neo 3.0 ultra-high-power modules are used to maximize power generation:

- **High power, high output:** Based on the proven Tiger Neo modules, these modules feature a front-side power output of up to 670 W, a conversion efficiency of 24.8%, and a bifaciality of 85±5%, generating more electricity per square meter of roof space.
- **Excellent low-light performance:** Maintains a relative power output ratio of 96–98% under low irradiance of 200 W/m². Power generation gains can reach over 4% in low-irradiance scenarios such as cloudy or rainy days, as well as at dawn and dusk.

Solutions for High-Speed Rail Stations and Train Stations

SunTera G3 6.25MWh

- **Grid-forming and Black Start:** Supports grid-forming operation, black start, and microgrid operation, suitable for weak grid and off-grid power supply scenarios.
- **High Safety and Reliability:** A five-layer safety protection system and long-life design ensure the long-term stable operation of long-duration energy storage systems.
- **High Integration and Rapid Deployment:**
  The system is highly integrated and factory-prefabricated, reducing on-site installation and commissioning work and shortening the project construction cycle.

- **Smart O&M:**
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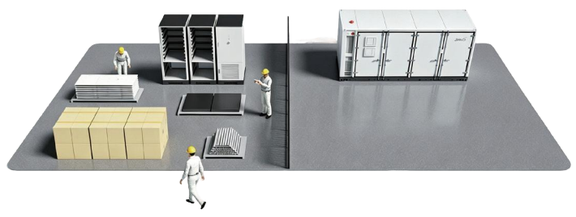

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04 Charging and Discharging

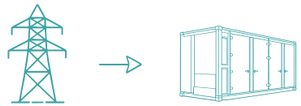
PV Self-Generation and Self-Consumption

PV-generated electricity is prioritized to supply basic loads such as station lighting, air conditioning, and elevators, with surplus electricity stored in the energy storage system.

Peak Shaving and Backup

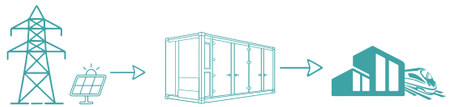
Discharge occurs during the midday peak (11:00–14:00) and evening peak (17:00–19:00) to reduce demand.

Nighttime Charging



Charging takes place during off-peak hours (23:00–07:00) to take advantage of lower electricity rates; once the energy storage system is fully charged, it is held in reserve for discharge during the next day's peak hours.

Seasonal Adjustments



During periods of extreme passenger traffic, such as the Spring Festival and National Day holidays, the energy storage system is fully charged in advance to support high loads around the clock.

05 Revenue Generation

- Electricity Cost Savings
- Demand Management
- Peak-Valley Arbitrage
- Carbon Trading Revenue

Solutions for Gas Station Scenarios

01 Scenario Description and Typical Load Characteristics

Scenario Description: Gas stations (including charging stations and hydrogen refueling stations) are distributed commercial facilities. Their loads include fuel dispensers, lighting, convenience stores, car wash machines, and charging stations (if any). Load levels are high during the day (8:00–22:00) and extremely low at night, and are significantly affected by holidays and peak travel periods.

Typical Load Characteristics: The average peak load for a single gas station is approximately 50–100 kW; if equipped with fast-charging stations (e.g., four 120-kW fast-charging stations), the peak load can surge to over 500 kW, placing a significant strain on the power grid.

Policy Drivers: Governments worldwide—such as China's Ministry of Transport and the National Development and Reform Commission (along with 11 other departments)—have jointly issued the "Implementation Plan for Promoting the Large-Scale Application of New Energy Heavy-Duty Trucks." This mandates that charging and battery-swapping facilities, hydrogen refueling and swapping stations, integrated hydrogen production and refueling stations, green fuel refueling stations, and necessary clean energy development and energy storage facilities must be planned, designed, and constructed simultaneously with the main project.

02 Scenario Challenges

Pressure to Expand Charging Infrastructure:
As electric vehicles become more widespread, gas stations are transitioning into "fuel + electricity" integrated energy stations. However, the capacity of existing transformers is limited, and expanding capacity is costly and time-consuming.

High Electricity Costs During Peak Hours:
Charging stations operate during daytime peak hours when electricity rates are high, and may incur penalties for exceeding demand limits.

Limited Space: Gas stations have small footprints and limited roof (canopy) area. Additionally, they require explosion-proof and lightning protection measures, imposing special requirements on photovoltaic modules (corrosion resistance, spark-free).

Explosion-Proof and Fire Safety:
Gas stations are classified as flammable and explosive environments, subject to nearly stringent safety requirements.

03 Standardized Design Solutions for PV + BESS Capacity

PV Capacity: Utilize canopy roofs and convenience store rooftops.

Standardized Solution:100 kW PV, 400 kWh energy storage.

Gas station environments impose far stricter requirements on the safety, fire resistance rating, and reliability of PV modules than conventional distributed projects.

"Safety Guardian" Modules

- **Ultimate Safety:** Certified to the rigorous dual IEC and UL Class A fire safety standards, these modules incorporate five core technologies—Class A system fire protection, UL 94 V-0 flame-retardant materials, dual certification for needle flame and glowing wire tests, anti-arc design, and robust mechanical load capacity—to truly fulfill the safety commitment of "no ignition, no fire spread, anti-static protection, resistance to wind and snow, and protection against short circuits caused by moisture penetration."
- **High Power Output and High Energy Generation:** Based on the proven Tiger Neo module, it delivers a front-side power output of up to 670W, a conversion efficiency of 24.8%, and a bifaciality of 85±5%, generating more electricity per square meter of roof area.
- **High Mechanical Load Capacity:** Passed tests with a front-side load of 6,000 Pa and a back-side load of 4,000 Pa, with hail resistance up to 55 mm (2.2 times the certification standard of 25 mm), capable of withstanding extreme weather conditions such as heavy snow, hail, and typhoons.

Solutions for Gas Station Scenarios

Uncompromising Safety

- **Cell-Level Thermal Isolation**

  Nano-insulation is embedded between cells to prevent thermal runaway propagation.

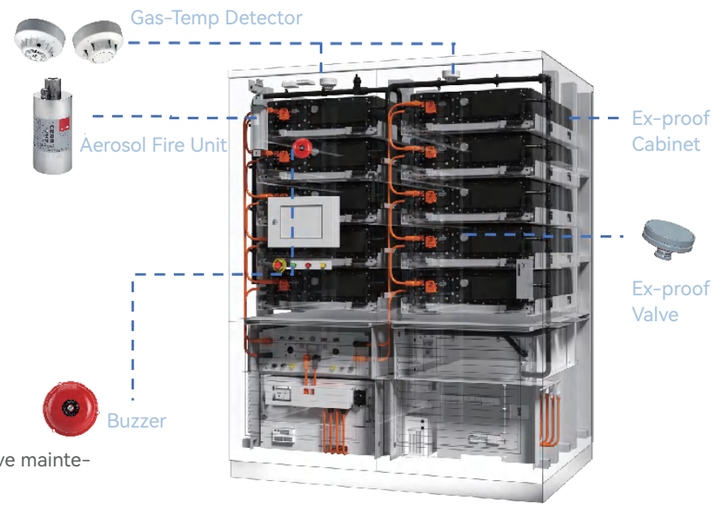
- **Electrical Armor Shielding**

  Full-metal enclosures and FPC sampling boards physically eliminate short-circuit fire risks.

- **Multi-Modal Fire Suppression**

  Multi-dimensional detection paired with a perfluorohexanone (FK-5-1-12) gas system ensures silent, sub-second hazard suppression.

- **Full-Stack Early Warning**
  Real-time BMS monitoring transforms passive maintenance into proactive risk avoidance.



Superior Efficiency & Maximized ROI

- **90% AC RTE (Round-Trip Efficiency):**
  Ultra-low liquid-cooling power consumption and our in-house PCS boost daily net profit by 2%.

- **Precise Thermal Management (ΔT <2℃):**
  Exclusive 26-point high-density cooling minimizes degradation, ensuring 8,000 cycles and a ≥15-year design life.

- **All-Weather Operation:**
  A wide operating temperature range of -30℃ to 55℃ guarantees uninterrupted yields in extreme climates.

Intelligent O&M

- **AI-Driven Arbitrage:**
  EMS prediction algorithms dynamically optimize charge/discharge strategies based on real-time Time-of-Use pricing and demand.

- **Intuitive Visual Interface:**
  Jinko Cloud (Web/App) syncs seamlessly, tracking daily revenue and asset appreciation in real time.

- **Proactive O&M:**
  Cloud-collaborative remote diagnostics shift operations from reactive downtime to predictive alerts.

Solutions for Gas Station Scenarios

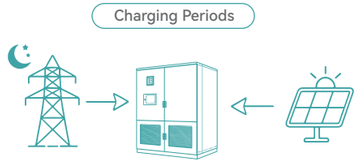
04 Charging and Discharging

Prioritize PV + Energy Storage for Charging Stations

PV power is used directly to power charging stations; when insufficient, energy storage supplements it to avoid peak-hour electricity rates from the grid.

Energy Storage Charging and Discharging Strategies

Charging Periods

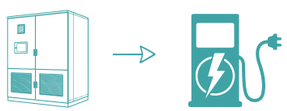


Charge from the grid during nighttime off-peak hours, or charge during the day when there is excess PV power.

Discharge Periods

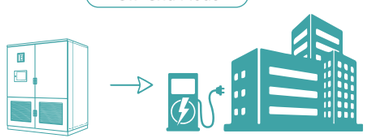
Discharge during peak charging hours to replace electricity purchased from the grid.

Demand Management



If the gas station's transformer capacity is limited, the energy storage system can discharge the moment a charging station starts up to prevent transformer overload and avoid demand-related penalties.

Off-Grid Mode



In the event of a grid failure, the energy storage system can power critical equipment—such as convenience stores, lighting, and fuel dispenser controls—to maintain basic operations.

05 Revenue Generation

Electricity Bill Arbitrage for Charging Stations

Self-Generation and Self-Consumption of Solar Power

Demand Management Revenue

Increased Charging Service Fees

PV Solutions for Expressways (Median Barriers)

01 The Need for a Zero-Carbon Transition

Policy Drivers: Ten government departments, including the Ministry of Transport, issued the "Guiding Opinions on Promoting the Integrated Development of Transportation and Energy," which calls for the construction of clean energy projects along expressways "wherever feasible."

Specific Targets: The "Guiding Opinions" explicitly state that by 2027, electricity should account for 10% of the transportation sector's energy consumption, and installed capacity of non-fossil energy along transportation infrastructure should reach no less than 5 million kilowatts.

Zero-Carbon Pilot Initiatives: The Ministry of Transport has launched "near-zero-carbon" pilot projects; to date, 19 zero-carbon highway service area pilot projects have been announced nationwide.

02 Installation Areas

Expressways offer a wide variety of space resources for photovoltaic installations, primarily including median barriers and noise barriers, slopes and slope protection structures, tunnel entrances and exits, interchanges and ramp loops, service areas, and toll stations.

03 Scenario Challenges

Traffic Safety Hazards:
With heavy traffic and high speeds on expressways, the mirror-like glare from traditional photovoltaic modules can cause momentary visual interference for drivers and even lead to safety incidents.

04 Suitable Modules

Highway scenarios—particularly vertical installations such as guardrails and noise barriers—impose special requirements on PV modules that far exceed those of conventional distributed projects, including anti-glare performance, bifaciality, dust-resistant self-cleaning capabilities, low-light response, and mechanical load capacity.

High-Efficiency Tiger Neo 3.0 Modules

- **Exceptional Glare Reduction:** Reflected glare intensity is significantly lower than that of conventional modules across all incident angles, with a reduction of up to 80% or more, meeting the mandatory requirement of a runway glare rating (GR) ≤ 50 as specified in China's "Technical Requirements for Apron Flood Lighting at Civil Airports."
- **Reflection Suppression:** Reflectance is reduced by more than 85% compared to conventional modules, while maintaining glass transmittance comparable to that of conventional modules.
  High Power, High Power Generation: Based on the proven Feihu series, the front-side power output reaches up to 670W, with a conversion efficiency of 24.8%, resulting in higher power generation per unit area.
- **Ultra-High Bifaciality:** The module's bifaciality reaches 85±5%. In vertical installation scenarios, the rear side efficiently captures ground reflections and ambient scattered light, enhancing overall power generation.
- **Excellent Low-Light Response:** Under low irradiance conditions of 200 W/m², the relative power ratio remains at 96–98%; power generation gains can reach over 4% in low-irradiance scenarios such as overcast days, rainy weather, and dawn/dusk.

Best Practice Case Studies

Athens International Airport—The World's Largest Airport with Integrated Photovoltaic and Energy Storage

Location: Athens, Greece

Configuration: 123.8 MWh Jinko SunTera liquid-cooled energy storage system, comprising 36 containerized energy storage units

Model: Self-generation and self-consumption, with year-round on-site storage and utilization of clean energy

Shanghai Metro Line 14 6.56 MW Project

Location: Fengbin Base, Shanghai

PV Capacity: 6.56 MWp PV system, capable of generating approximately 6.7 million kWh of green electricity in the first year of operation.

Model: Self-generation for self-consumption

Taiyuan Wuxu Zero-Carbon Airport—China's First Zero-Carbon Aviation Hub

Location: Taiyuan, Shanxi Province, China

Configuration: Total installed capacity of 108.5 MW, of which approximately 40 MW consists of Feihu anti-glare modules installed in the light-sensitive areas on either side of the runway

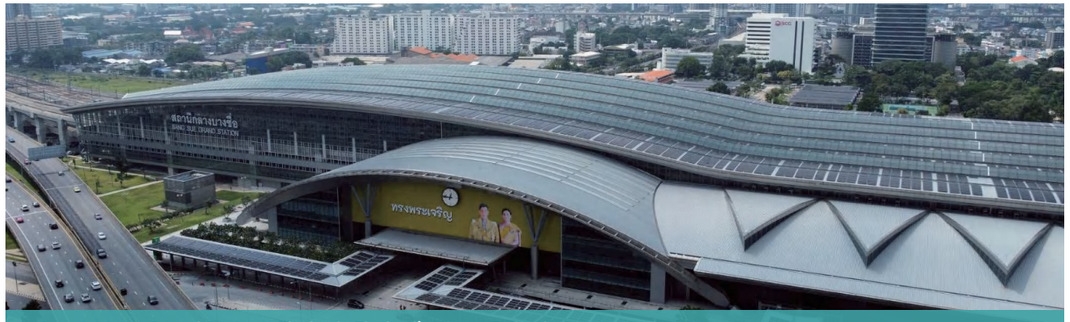
Operating model: Self-generation for self-consumption; photovoltaic + medium-to-deep geothermal energy + cross-seasonal heating and cooling storage + multi-form energy storage

Lebanon Carport

Location: Matn District, Lebanon

PV Capacity: 250 kW PV system, comprising 240 pieces Tiger Neo 3.0 modules , Energy Storage Capacity: 3.34 MWh

Model: Self-generation for self-consumption



Lumpini Apiva Central Station in Thailand—Thailand's Largest Rail Hub

Location: Bangkok, Thailand

Configuration: 9.728 MWp rooftop PV system, featuring over 15,000 Tiger Neo series modules

Model: Self-generation for self-consumption

Sinochem-Total Solar-Powered Gas Station Project

Location: Wuxi, Jiangsu

PV Capacity: A total of 120 PV modules were installed, with an installed capacity of 30 kW; annual electricity generation is projected to reach 35,370 kWh.

Model: Self-generation for self-consumption.

TIGER Neo III

66QL6-BDV

650-670 Watt

85±5% Bifaciality

BIFACIAL MODULE

Higher Power on Front Side

Leading power class based on the enhanced N-type TOPCon platform, through cutting-edge technology and an optimized layout that captures more sunlight.

Better Generation on Rear Side

Enabling industry-leading bifaciality in TOPCon cells through an improved structure that enhances light absorption and trapping.

Optimized Heat Resistance

Optimized temperature coefficient via advanced graphical patterning, busbar and multi-cells technology.

Proven Low Light Performance

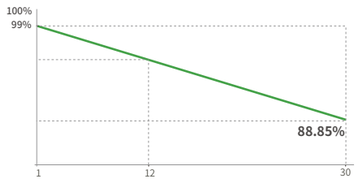
Enhanced cell structure ensures superior module performance under low-light conditions.

Industry Leading Warranty

Advanced metallization and iterated module encapsulation deliver superior resistance to PID, LID / LeTID, and UV degradation.

Mechanical Load Enhanced

Certified to withstand:
5400 Pa front side max static test load
2400 Pa rear side max static test load



12Year Product Warranty | **30**Year Linear Power Warranty | **1**% First-year Degradation | **0.35**% Annual Degradation Over 30 Years

- IEC61215:2021 / IEC61730:2023
- IEC61701 / IEC62716 / IEC60068 / IEC62804
- ISO9001:2015: Quality Management System
- ISO14001:2015: Environment Management System
- ISO45001:2018: Occupational health and safety management systems

JKM650-670N-66QL6-BDV-F2-EN

66QL6-BDV 650-670 Watt

Mechanical Characteristics

Cell Type	N- type Mono-crystalline
No. of Cells	264 (66×4)
Dimensions	2382×1134×30 mm
Weight	32.5 kg
Front Glass	2.0 mm, Anti-reflection Coating
Back Glass	2.0 mm, Heat Strengthened Glass
Frame	Anodized Aluminium Alloy
Junction Box	IP68 Rated
Protection Class	Class II
IEC Fire Type	Class C
Connector Type	JK03M / JK03M2 / Others*
Output Cables (Including Connector)	4.0 mm^2 (+): 600 mm , (-): 400 mm or Customized Length

*MC4-EVO2 available upon request and subject to availability

Packaging Configuration

Pallet Dimensions	2396×1110×1251 mm
Packing Detail (Two pallets = One stack)	36 pcs/pallet, 72 pcs/stack, 720 pcs/ 40'HQ Container

Specifications (STC)

Maximum Power - Pmax [Wp]	650	655	660	665	670
Maximum Power Voltage - Vmp [V]	42.57	42.70	42.83	42.96	43.09
Maximum Power Current - Imp [A]	15.27	15.34	15.41	15.48	15.55
Open-circuit Voltage - Voc [V]	50.26	50.44	50.62	50.80	50.98
Short-circuit Current - Isc [A]	15.98	16.04	16.10	16.16	16.22
Module Efficiency STC [%]	24.06	24.25	24.43	24.62	24.80
Bifacial Factor	85 ± 5%				
Power Tolerence	0 ~ +3 %				
Temperature Coefficient of Pmax	-0.26 %/°C				
Temperature Coefficient of Voc	-0.24 %/°C				
Temperature Coefficient of Isc	0.046 %/°C				

STC: Irradiance 1000W/m^2, Cell Temperature 25°C, AM=1.5

Specifications (BNPI)

Maximum Power - Pmax [Wp]	724	729	735	741	746
Maximum Power Voltage - Vmp [V]	42.52	42.69	42.86	43.03	43.20
Maximum Power Current - Imp [A]	17.04	17.10	17.17	17.23	17.30
Open-circuit Voltage - Voc [V]	50.38	50.56	50.74	50.92	51.10
Short-circuit Current - Isc [A]	17.80	17.87	17.94	18.00	18.07

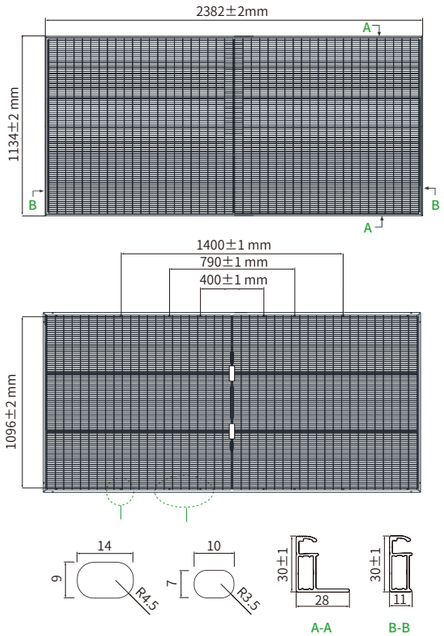
BNPI: Irradiance: Front 1000W/m^2, Rear 135W/m^2, Cell Temperature 25°C, AM=1.5

Application Conditions

Level T_{98} ⩽ 70 °C	-40 °C ~ +70 °C*
Maximum System Voltage	1500 VDC (IEC)
Maximum Series Fuse Rating	35 A
Bifaciality Coefficents	φVoc: 98±5 %, φIsc: 85±5 %, φPmax: 85±5 %

*Short-term up to 85°C; higher operation requires IEC TS 63126 testing

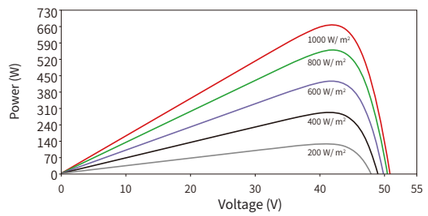
Engineering Drawings



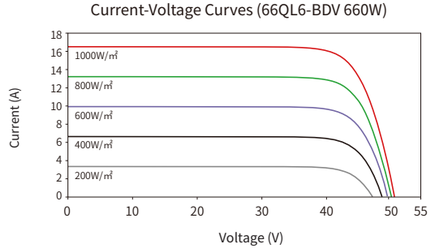
Note: For specific dimensions and tolerance ranges, please refer to the corresponding detailed module drawings.

Electrical Performance

Power-Voltage Curves (66QL6-BDV 660W)



Current-Voltage Curves (66QL6-BDV 660W)



Note: Please read the safety and installation manual before using the product. We reserve the right of final interpretation. The specifications in this datasheet are subject to change without notice.

SunGiga G2 Plus

520kWh

Liquid Cooling ESS Solution

The Jinko ESS 520 Liquid-Cooled Integrated Cabinet is a high-density, modular 1000V energy storage system. It consolidates battery modules, BMS, PCS, and fire protection into one cabinet, providing 522 kWh of capacity and 130.5 kW of power. Engineered for scalable and diverse applications, it offers exceptional safety, reliability, intelligent cooling, and smart software management.

High Integration, Flexible Deployment

All-in-one design integrating PCS (Power Conversion System) simplifies transportation, installation, and operation & maintenance. Modular architecture supports parallel connection of multiple units for scalable capacity expansion.

Enhanced Safety and Reliability

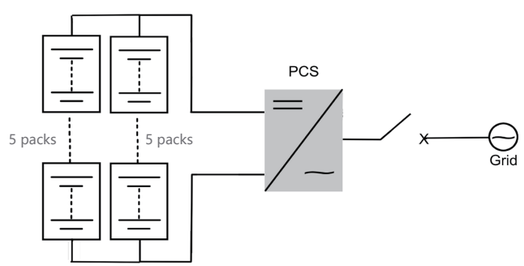
Comprehensive intelligent monitoring ensures real-time protection of the battery system. Built-in heating function maintains optimal operating temperatures, improving performance and reliability in varying climates.

Advanced Liquid Cooling Technology

Non-uniform liquid cooling pipeline design minimizes temperature differences between cells (ΔT ⩽ 2℃). Multiple cooling control modes adapt to operational needs, reducing auxiliary power consumption.

Intelligent Cloud-based Operation

Remote firmware updates ensure continuous system optimization. Cloud monitoring platform enables multi-device access for real-time oversight, analytics, and control.



DC Side

Cell Type	LFP 3.2V/314Ah
Nominal Capacity	522 kWh
Rated Voltage	832 Vdc
Nominal Voltage Range	728V~936V
Pack Quantity	10 pcs
Max. Charge/Dischage Power	0.25 P
System Configuration	2P260S

AC Side

Rated AC Power	130.5 kW
Rated Voltage	400 Vac
AC Connection	3P4W
Rated Frequency	50/60 Hz
THDi	＜3%

General Parameters

Life cycle	8000 @70%EOL
Operating Temperature	-30°C~55°C, derating > 45°C
Operating Humidity	⩽95%RH, without condensation
Operating Altitude	⩽3000m
Ingress Protection	IP55 (Cabinet); IP66 (PCS)
Corrosion Protection Class	C3 (C5 Optional)
Fire suppression system	System aerosol gas extinguisher + Somke detection + Temperature sensing + Flammable gas detection
Cooling Method	Liquid cooling
Max. Parallel Quantity	6 Units in parallel
Communication Protocol	RS485/CAN/Ethernet
Dimensions (W×D×H)	1920x1430x2400 mm
Weight	≈5,000 kg
Compliance Standards	IEC 62619, IEC 62477, IEC 60730, IEC 63056, IEC 61000, IEC 62040, IEC 62933, UN 38.3, UL 9540A, NFPA 69

Version: IEC_2026_A3

SunGiga G2

261kWh

Liquid Cooling ESS Solution

The Jinko 261 kWh Liquid-Cooled Integrated Cabinet is a compact, all-in-one energy storage solution for 1000V applications. It fully integrates the battery, BMS, PCS, and fire protection to deliver 261 kWh of capacity and 130.5 kW of power. Designed for flexible deployment, it ensures high safety, intelligent thermal management, and advanced system control in a single, streamlined unit.

In-house LFP Cell for Longevity & Reliability

Utilizes proprietary 314Ah $LiFePO_4$ cells, ensuring quality control and supply stability. Supports over 8,000 cycles for extended service life and lower lifecycle cost.

Higher Energy Density in Compact Design

Achieves 28% higher energy density with 10% reduced volume. Occupies only 1.5m^2 footprint, boosting system density by 33%.

Pre-integrated & Plug-and-play System

Fully assembled and tested at factory for quick installation. Reduces on-site deployment time and simplifies logistics and commissioning.

Flexible & Safe Operation

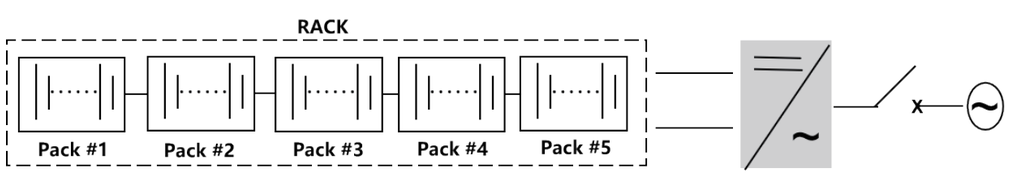
Hybrid inverter (PCS) supports both on-grid and off-grid modes. Features controlled venting for thermal runaway management and integrated fire alarm linkage.

Advanced Thermal Management

Precise temperature control with non-uniform flow channel design. Maintains cell temperature variation within ⩽2°C, enhancing safety and lifespan.

Scalable & Rugged Configuration

Supports expansion of up to 12 cabinets for flexible capacity. Wide operating temperature range ensures performance in harsh climatic conditions.



DC Side

Cell Type	LFP 3.2V/314Ah
Max. Charge/Dischage Power	0.5P
System Configuration	1P260S
Pack Quantity	5 pcs
Nominal Capacity	261 kWh
Rated Voltage	832V
Nominal Voltage Range	728V~936V

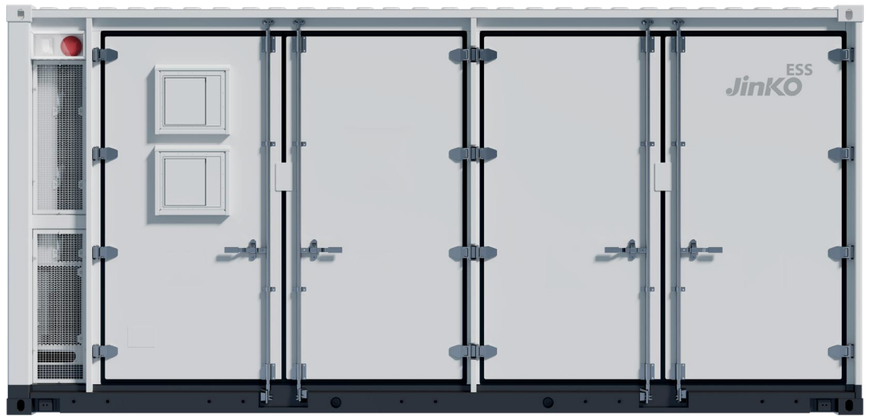
AC Side

Rated AC Power	130.5 kW
Rated Voltage	400 Vac
AC Connection	3P4W
Rated Frequency	50/60 Hz
THDi	＜3%

General Data

Operating Temperature	-30°C~55°C, derating > 45°C
Operating Humidity	⩽95%RH, without condensation
Operating Altitude	⩽3000m
Ingress Protection	IP55
Cooling Method	Liquid cooling
Max Parallel Quantity	12 units in parallel
Fire Suppression System	System aerosol gas extinguisher + Smoke detection + Temperature sensing +Flammable gas detection
Corrosion Protection Class	C3 (C5 Optional)
Communication	RS485/CAN/Ethernet
Dimensions（W×D×H）	1100x1430x2400 mm
Weight	≈2,850 kg
Compliance Standards	IEC 62619, IEC 62477, IEC 60730, IEC 63056, IEC 61000, IEC 62040, IEC 62933, UN 38.3, UL 9540A, NFPA 69

Version: IEC_2026_A2



SunTera G3

6.25MWh

Energy Storage System

The Jinko ESS 6.25 MWh energy storage system leverages our latest liquid-cooled technology and high-capacity 588 Ah $LiFePO_4$ cells to achieve industry-leading energy density, safety, and efficiency. Engineered for grid-scale applications, it maximizes storage capacity and long-term reliability in a standardized 20-foot container layout.

Intelligent Liquid Cooling for Thermal Stability

Features a serpentine multi-parallel flow channel design that maintains a cell temperature difference of less than 2.5°C. Multiple cooling control modes optimize thermal management and reduce auxiliary system power consumption.

Enhanced System Efficiency

Implements a rack-level energy management scheme, increasing RTE (Round-Trip Efficiency) by over 1%. Integrated with active balancing technology to boost available charge/discharge capacity by 5%.

Comprehensive Safety Architecture

Equipped with five-tier protection from cell to system level to prevent thermal runaway. Combines gas detection and water-based fire suppression in a hybrid explosion-proof system for enhanced hazard containment.

Smart O&M & Flexible Deployment

Intelligent control system streamlines commissioning and lowers operational costs. Supports flexible placement configurations (back-to-back or side-by-side) to maximize energy density and adapt to site layout.

Solar-Storage Integration

Seamlessly combine solar PV generation with energy storage to optimize self-consumption, maximize renewable utilization, and ensure a continuous, stable power supply.

Grid Support Services

Deliver critical grid services including frequency regulation, voltage support, and peak shaving to enhance network stability, reliability, and power quality.

Energy Market Participation

Enable revenue generation through energy arbitrage, capacity markets, and ancillary service provision, creating economic value while supporting overall grid efficiency.

Battery parameters

Type of cell	Lithium Iron Phosphate(LFP)
Cell specification	587/588Ah
Charge/discharge power	0.5P/0.25P
Configuration of system	1P416S×8
Rated capacity	6.25 MWh
Rated voltage	1331.2V

System parameters

Dimension(L×W×H)	6058×2438×2896mm
Weight	48,000 kg
Cooling method	Liquid Cooling
Operating temperature	-40~55°C
Operating humidity	⩽100%RH
Altitude	⩽4500m
Noise level	⩽80dB(A), @1m/ 75dB(optional)
IP grade	IP55
Corrosion class	C4/(C5 optional)
Fire suppression system	Temperature sensor + Smoke detector + Combustible gas detector + Deflagration venting• ○Optional• •+ Aerosol + Water sprinkler
Communication	Ethernet / CAN
Certification Standards	IEC62619, IEC61000, IEC62477, UL9540A, UL1973, UL9540, NFPA68, NFPA69, NFPA855

Version:EN_2026_A2