

Utility PV Plant Solution



TBEA Xi'an Electric Technology Co., Ltd.

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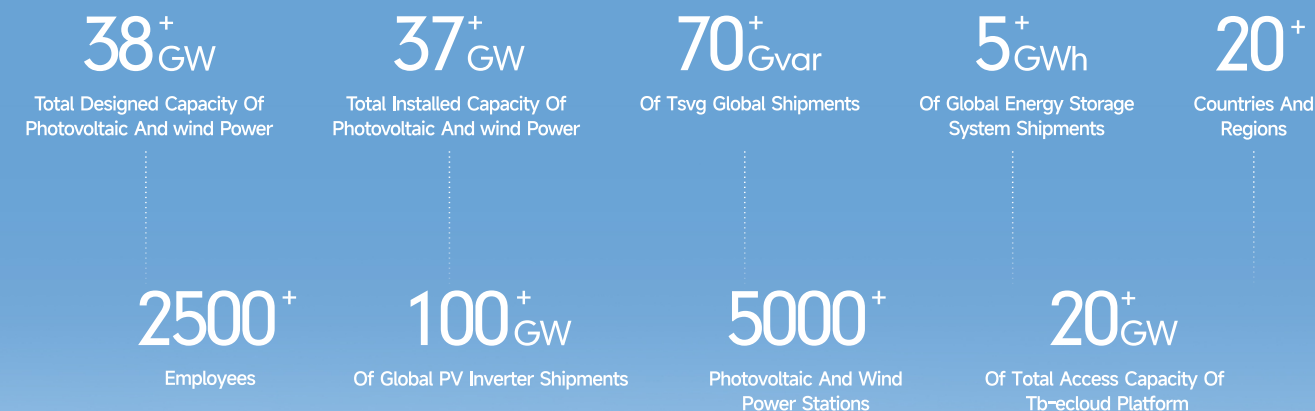
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Company overview

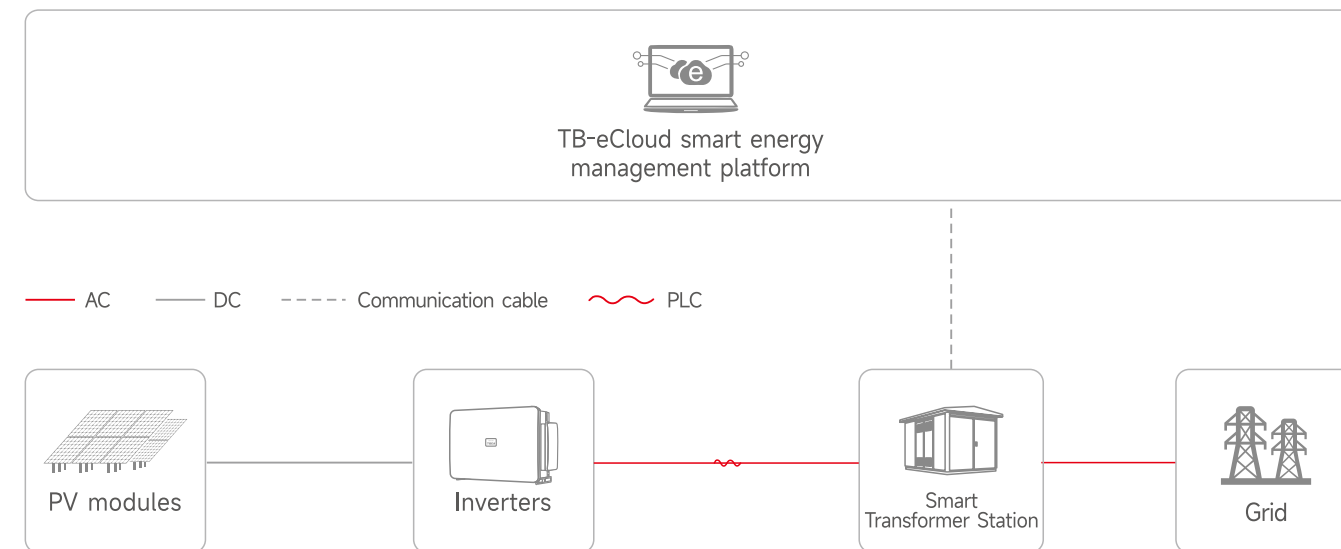
Become a global leader in green and smart energy services

TBEA Sunoasis Co., Ltd. was founded in 2000 and has long focused on photovoltaics, wind power, power electronics, and the energy internet, striving to become a globally outstanding green smart energy service provider. The company has always been driven by its mission of “providing green energy and creating a better life”, and has formed a development strategy characterized by “two engines driving growth – power electronics manufacturing and green energy services – along with dual circulation between domestic and international markets.” Its business covers more than 20 countries and regions, including Pakistan, India, Brazil, Spain, and the Philippines, offering customers integrated solutions for clean energy projects – from project development, investment/financing, design, construction, and commissioning to operation and maintenance. The company operates three high-end manufacturing industrial bases nationwide, with an annual inverter production capacity of 80 GW and a total installed capacity of 30 GW for wind and solar EPC projects, both ranking among the industry leaders. The company ranks 173rd on the 2025 Global Top 500 New Energy Enterprises list and has been continuously included in BloombergNEF’s Tier 1 PV Inverter Manufacturer List. As a national-level high-tech enterprise, the company has undertaken multiple major national science and technology initiatives in the new energy sector, achieving significant breakthroughs in key equipment and technologies such as grid-connected inverters, microgrids and energy storage, static var generators, and flexible DC products.



Smart PV Solutions

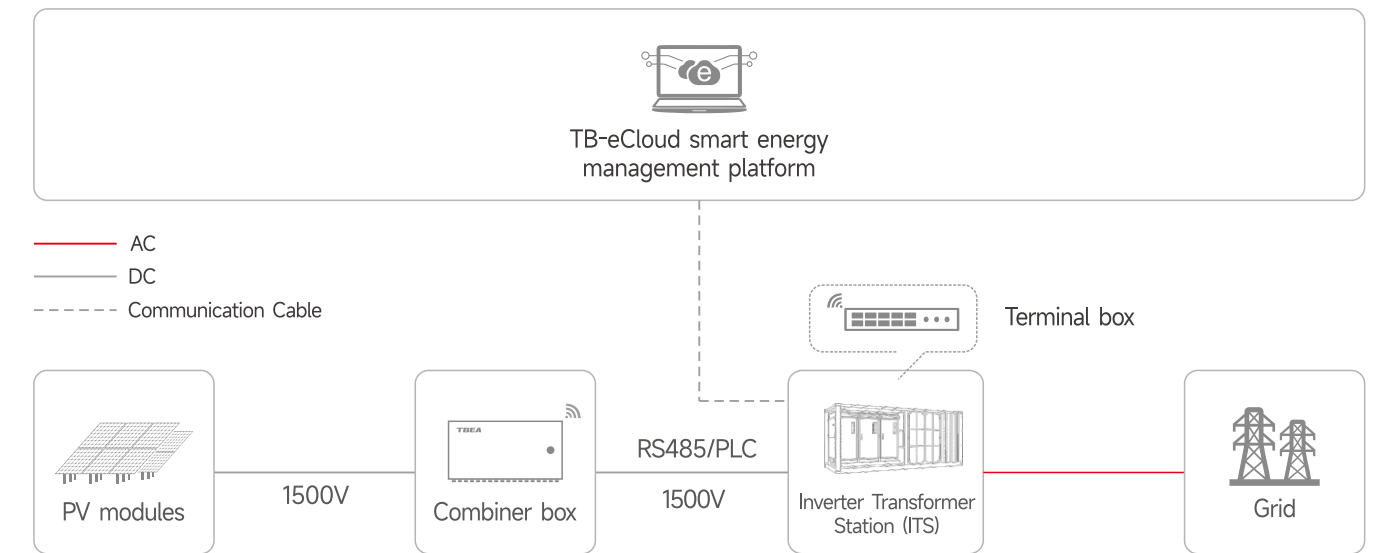
Solution of String Inverter



Recommended Application Scenarios



Solution of Central Inverter



TS300/330/360KTL-HV-C1

1500V String Inverter



Grid friendly

- Weak grid adaptability
- Various simulation models enable grid verification
- Night SVG

Efficient Power Generation

- Optimized MPPT algorithm, ensuring maximum power generation efficiency
- Higher DC / AC ratio, achieving optimal DC overload ratio to reduce LCOE

Safety and Reliable

- IP66 & C5, robust environment adaptability
- Intelligent Terminal Temperature Detection
- Intelligent DC Disconnecting System

Intelligent O&M

- Intelligent IV Diagnosis Technology (Optional)
- Anti-PID function protects PV modules from degradation
- Intelligent Dust Removal

Technical Parameters

Model	TS300KTL-HV-C1	TS330KTL-HV-C1	TS360KTL-HV-C1
Efficiency			
Max. efficiency	99.01%	99.02%	99.02%
Max. European efficiency		98.8%	
Input (DC)			
Max. input voltage	1500V		
MPPT voltage range	500V ~ 1500V		
Max. input current per MPPT	75A		
Max. short-circuit current per MPPT	125A		
Number of inputs	24(210)/30(182)		
Number of MPPT	6		
Output (AC)			
Output power	300kW@51°C/330kW@40°C/363kW@30°C		
Max. output apparent power	363kVA		
Max. output active power (cosΦ=1)	363kW		
Nominal output voltage	800V/3W+PE		
Nominal output frequency	50Hz/60Hz		
Max. output current	262A		
Adjustable power factor range	0.8(leading) ~ 0.8(lagging)		
Max. total harmonic distortion	THD _i <3% (rated power)		
Protection			
Input DC switch	Support		
Anti-PID function	Support		
AC overcurrent protection	Support		
Leakage current protection	Support		
DC reverse connection protection	Support		
DC surge protection	Type II		
AC surge protection	Type II		
Insulation monitoring	Support		
Residual current monitoring unit	Support		
Display and Communication			
Display	LED		
Communication	RS485 PLC		
Protection			
Dimensions (W×H×D)	1120mm×820mm×365mm		
Weight	110kg		
Operating temperature range	-40°C ~ 60°C		
Cooling method	Smart forced air cooling		
Max. operating altitude	5000m (> 4000m derating)		
Relative humidity range	0% ~ 100%		
DC connector	Support 4&6mm² Cable		
AC connector	Support OT / DT Terminal (Max. 400mm²)		
Degree of protection	IP66		
Topology	Transformer Less		
Standard Compliance			
Compliance	RoHS, CE, IEC 62109-1/-2, EN 50530, IEC 61683, IEC 62910, IEC 60068, EN 50549-2, IEC 61000-6, PO12.2, CEI 0-16, CEA		

The technical parameters are for references only, and the actual shall prevail.
Due to the multi-supplier for some key components, the actual may have a ±8% deviation, please refer to the actually delivered product.

TC4400KF / TC4400KF-B1

1500V Central Inverter



Supportive to Grid

- Specific harmonic control technology, effectively reducing THDi
- Impedance adaptive technology, supporting weak grid network SCR ~ 1.0
- Night SVG (optional), better supporting the grid
- Fast active & reactive power response and control

Efficient and Economical

- Maximum efficiency 99%, European efficiency 98.7%
- Optimized MPPT algorithm, ensuring maximum power generation efficiency
- 18 / 21 / 24 inputs optional, match large bifacial modules perfectly
- Anti-PID+recovery function protects the health of PV modules

Stable and Reliable

- IP55 / IP65 & C4 (C5 optional), robust environment adaptability
- Dual air duct heat dissipation
- Intelligent fan speed control and fault detection for system reliability
- Infineon IGBT
- Higher short circuit breaking ability (65kA)

Integrated and Convenient

- Modular design, flexible configuration of PV array, easy for O&M
- Integrated zone monitoring function to realize online fault analysis and diagnosis
- Optional PLC Communication, IV curve scan and diagnosis, Arc fault circuit interrupter

Technical Parameters

Model	TC4400KF	TC4400KF-B1
Efficiency		
Max. efficiency	> 99.0%	
Max. European efficiency	> 98.7%	
Input (DC)		
Max. input voltage	1500V	
Min. input voltage / start-up voltage	900V / 905V	938V / 950V
MPPT voltage range at nominal power	900V ~ 1300V	938V ~ 1300V
Number of MPPT	3	
Number of inputs	21 (18/24optional)	
Max. input current	3×1913A	3×1915A
Output (AC)		
Nominal output power	4400kW @45°C	4400kW @52°C
Max. output apparent power	5060kVA @25°C	5280kVA @25°C
Max. output active power (cosΦ=1)	5060kW	5280kW
Nominal output voltage	630V / 3W+PE	660V / 3W+PE
Nominal output frequency	50Hz / 60Hz	
Nominal output current	3×1344A	3×1283A
Max. output current	3×1546A	3×1540A
Adjustable power factor range	0.8 (leading) ~ 0.8 (lagging)	
Max. total harmonic distortion	<3% (at nominal power)	
DC current injection	<0.5%In	
Protection		
DC input protection	Disconnecting switch + Fuse	
AC output protection	Circuit breaker	
DC / AC surge protection	Type II (Type I+II, optional)	
DC short circuit protection	Support	
Output overcurrent protection	Support	
Grid monitoring	Support	
Ground fault monitoring	Support	
Anti-islanding protection	Support	
Insulation monitoring	Support	
Overheat protection	Support	
Other Functions		
Anti-PID function	Optional	
SVG function	Optional	
General Data		
Dimensions (W×H×D)	2714×2262×1955mm	
Weight	3600kg	
Degree of protection	IP65 / IP55(optional)	
Operating temperature range	-35°C~ 60°C (>45°C derating)	-35°C~ 60°C (>52°C derating)
Cooling method	Smart forced air cooling	
Max. operating altitude	>3000m derating	
Relative humidity range	0% ~ 100%	
Display	WLAN+WebHMI / APP	
Communication	RS485 / Ethernet	
Night standby loss	<200W	
Topology	Transformer Less	
Standard Compliance		
Compliance	CE, IEC 62109-1/-2, IEC 61727, EN 50530, IEC 62116, IEC 62910, IEC 60068, IEC 61683, NTS 631, CEA2019	

The technical parameters are for reference only, and the actual products shall prevail

TC3600KF

1500V Central Inverter



Supportive to Grid

- Specific harmonic control technology, effectively reducing THDi
- Impedance adaptive technology, supporting weak grid network SCR~1.0
- Night SVG (optional), better supporting the grid
- Fast active & reactive power response and control



Efficient and Economical

- Maximum efficiency 99%, European efficiency 98.7%
- Optimized MPPT algorithm, ensuring maximum power generation efficiency
- 16-20 inputs optional, match large bifacial modules perfectly



Stable and Reliable

- IP65 & C5, robust environment adaptability
- Dual air duct heat dissipation & built-in heat exchanger
- Infineon IGBT
- Higher short circuit breaking ability (65kA)



Integrated and Convenient

- Modular design of power modules, easy for maintenance
- Integrated zone monitoring function to realize online fault analysis and diagnosis

Technical Parameters

Model	TC3600KF
Efficiency	
Max. efficiency	> 99.0%
Max. European efficiency	> 98.7%
Input (DC)	
Max. input voltage	1500V
Min. input voltage / startup voltage	900V
MPPT voltage range at nominal power	900V ~ 1300V
Number of MPPT	2
Number of inputs	16 / 18 / 20
Max. input current	4075A
Output (AC)	
Nominal output power	3125kVA
Max. output apparent power	3594kVA
Max. output active power (cosΦ=1)	3594kW
Nominal output voltage	630V / 3W + PE
Nominal output frequency	50Hz / 60Hz
Nominal output current	2864A
Max. output current	3294A
Adjustable power factor range	0.8 (leading) ~ 0.8 (lagging)
Max. harmonic content	<3%In (at nominal power)
DC current injection	≤0.5%In
Protection	
DC input protection	Disconnecting switch + fuse
AC output protection	Circuit breaker
DC / AC surge protection	Type II or Type I+II
DC short circuit protection	Support
Output overcurrent protection	Support
Grid monitoring	Support
Ground fault monitoring	Support
Anti-island protection	Support
Insulation monitoring	Support
Overheat protection	Support
Other Functions	
Anti-PID function	Optional
SVG function	Optional
General Parameters	
Dimensions (W×H×D)	2263mm×2325mm×1188mm
Weight	2700kg
Protection degree	IP65
Operating temperature range	-35°C~ 60°C (>50°C derating)
Cooling method	Smart forced air cooling
Max. operating altitude	3000m, customizable
Relative humidity range	0% ~ 100%
Communication	RS485 / Ethernet
Night standby loss	<200W
Topology	Transformer Less
Standard Compliance	
Compliance	IEC 62109-1/-2, EN 50530, IEC 62116, IEC 62910, IEC 60068, IEC 61683, CEA2019

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TC4400KT-EL

Inverter Transformer Station



Product Introduction

The product integrates central inverters (4400kW), transformer, RMU, and other auxiliaries into a 20-foot container. It converts LV DC power produced by photovoltaic modules to MV AC power for injection into the grid system, offering an all-in-one integrated solution for PV power plants.



Advantages

Efficient and Economical

- Match large bifacial modules perfectly, 18/21/24 DC input, support 1.8 DC/AC ratio
- Max. efficiency >99%, European efficiency >98.7%
- High capacity, reduce quantity of MV equipment, reduce CAPEX

Integrated and Convenient

- Prefabricated and tested, easy transportation and installation
- Modular inverter design, easy for O&M replacement and maintenance

Stable and Reliable

- Protection rating IP54 (inverter rated IP55/IP65) and corrosion resistance level C4 (C5 optional), suitable for harsh environments
- Scientific thermal design, and effective cooling to improve performance

Supportive to Grid

- Comply with standards IEC61727, IEC62109-1/2, IEC62116, IEC62271-202/212, IEC60076, IEC61439
- SCR~1.0, Low/high voltage ride through (L/HVRT)
- Active & reactive power and power factor control

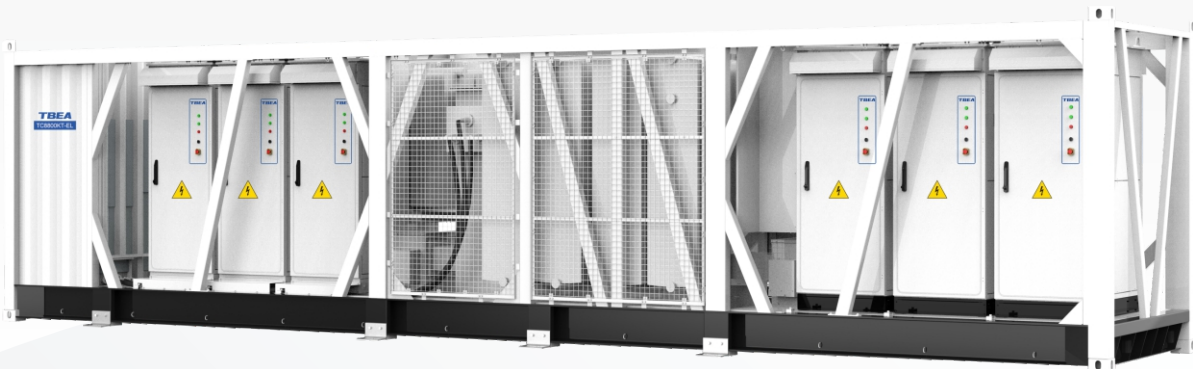
Technical Parameters

Model	TC4400KT-EL	TC4400KT-EL-50
Inverter DC input		
Max. input voltage	1500V	
Min. input voltage	900V	938V
MPP voltage range	900V ~ 1500V	938V ~ 1500V
Number of MPPT	3	
Number of DC input	18 / 21 / 24	
Max. input current	3×1913A	3×1915A
Inverter AC output		
Nominal output power	4400kW @45°C	4400kW @52°C
Max. output apparent power	5060kVA @25°C	5280kVA @25°C
Nominal output voltage	630V	660V
Nominal output frequency	50Hz / 60Hz	
Max. total harmonic distortion	< 3%In	
DC current injection	< 0.5%In	
Power factor at rated power	>0.99	
Power factor range	0.8 (leading) ~ 0.8 (lagging)	
Inverter protection	IP65 / IP55 (optional)	
Efficiency		
Max. efficiency	> 99.0%	
Max. European efficiency	> 98.7%	
Transformer		
Type	Oil-immersed, fully sealed, Dy11	
Nominal voltage	10kV ~ 35kV / 0.63kV	10kV ~ 35kV / 0.66kV
Efficiency	>99% (standard); tier 1/ tier 2 (optional)	
Short circuit impedance	8% (deviation ±10%)	
General		
Dimension (W×H×D)	6058mm×2896mm×2438mm, standard 20-foot container	
Protection	IP54	
Temperature range	-35°C ~ 60°C (> 45°C derating)	-35°C ~ 60°C (> 52°C derating)
Relative humidity range	0% ~ 100% (no condensing)	
Max. operating altitude	1500m / > 1500m (optional)	
Communication interface	RS485 / Ethernet	
Communication protocol	Modbus-RTU / Modbus-TCP / IEC104	
Auxiliary transformer	Dry, 3 phase, Dyn11, level H	
	7kVA / 0.63kV / 0.4kV	7kVA / 0.66kV / 0.4kV
UPS	1kVA, 30min	
Standard Compliance		
Compliance	IEC61727, IEC62109-1/2, IEC62116, IEC62271-202/212, IEC60076, IEC61439	

The technical parameters are for reference only, and the actual products shall prevail

TC8800KT-EL

Inverter Transformer Station



Product Introduction

The product integrates central inverters (2*4400kW), transformer, RMU, and other auxiliaries into a 40-foot container. It converts LV DC power produced by photovoltaic modules to MV AC power for injection into the grid system, offering an all-in-one integrated solution for PV power plants.

Advantages

Efficient and Economical

- Match large bifacial modules perfectly, 36/42/48 DC inputs, support 1.8 DC/AC ratio
- Max. efficiency >99%, European efficiency >98.7%
- High capacity, reduce quantity of MV equipment, reduce CAPEX

Integrated and Convenient

- Prefabricated and tested, easy transportation and installation
- Modular inverter design, easy for O&M replacement and maintenance

Stable and Reliable

- Protection rating IP54 (inverter rated IP55/IP65) and corrosion resistance level C4 (C5 optional), suitable for harsh environments
- Scientific thermal design, and effective cooling to improve performance

Supportive to Grid

- Comply with standards IEC61727, IEC62109-1/2, IEC62116, IEC62271-202/212, IEC60076
- SCR ~ 1.0, Low/high voltage ride through (L/HVRT)
- Active & reactive power and power factor control

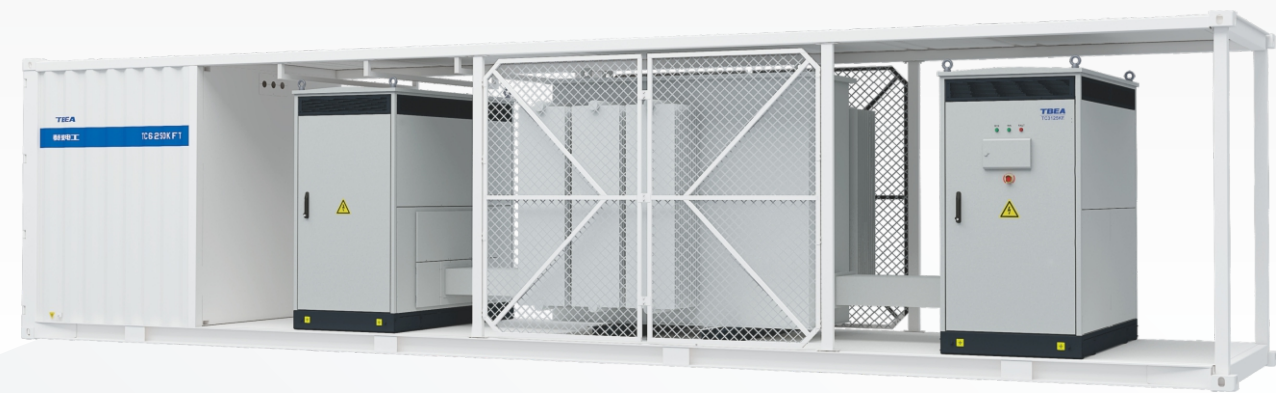
Technical Parameters

Model	TC8800KT-EL	TC8800KT-EL-50
Inverter DC input		
Max. Input voltage	1500V	
Min. input voltage	900V	938V
MPP voltage range	900V ~ 1500V	938V ~ 1500V
Number of MPPT	6	
Number of DC input	36 / 42 / 48	
Max. input current	6×1913A	6×1915A
Inverter AC output		
Nominal output power	8800kW @45°C	8800kW @52°C
Max. output apparent power	10120kVA @25°C	10560kVA @25°C
Nominal output voltage	630V	660V
Nominal output frequency	50Hz / 60Hz	
Max. total harmonic distortion	< 3%In	
DC current injection	< 0.5%In	
Power factor at rated power	>0.99	
Power factor range	0.8 (leading) ~ 0.8 (lagging)	
Inverter protection	IP65 / IP55 (optional)	
Efficiency		
Max. efficiency	>99.0%	
Max. European efficiency	>98.7%	
Transformer		
Type	Oil-immersed, fully sealed, Dy11y11	
Nominal voltage	20kV ~ 35kV / 0.63 - 0.63kV	20kV ~ 35kV / 0.66 - 0.66kV
Efficiency	>99% (standard); tier 1/ tier 2 (optional)	
Short circuit impedance	9.5% (deviation ±10%)	
General		
Dimension (W×H×D)	12192mm×2896mm×2438mm, standard 40-foot container	
Protection	IP54	
Temperature range	-35°C ~ 60°C (> 45°C derating)	-35°C ~ 60°C (> 52°C derating)
Relative humidity range	0% ~ 100% (no condensing)	
Max. operating altitude	1500m / > 1500m (optional)	
Communication interface	RS485 / Ethernet	
Communication protocol	Modbus-RTU / Modbus-TCP / IEC104	
Auxiliary transformer	Dry, 3 phase, Dyn11, level H	
	10kVA / 0.63kV / 0.4kV	10kVA / 0.66kV / 0.4kV
UPS	1kVA, 30min	
Standard Compliance		
Compliance	IEC61727, IEC62109-1/2, IEC62116, IEC62271-202/212, IEC60076, IEC61439	

The technical parameters are for reference only, and the actual products shall prevail

TC3125KFT / TC6250KFT

Inverter Transformer Station



Product Introduction

The product integrates central inverters (2*3125kW), transformer, RMU, and other auxiliaries into a 40-foot container. It converts LV DC power from photovoltaic modules to MV AC power for injection into the grid system, offering an all-in-one integrated solution for PV power plants.

Advantages

Efficient and Economical

- Match large bifacial modules perfectly, DC 32/36/40 inputs, support 1.8 DC/AC ratio
- Max. efficiency >99%, European efficiency >98.7%
- High capacity, reduce quantity of MV equipment reduce CAPEX

Integrated and Convenient

- Prefabricated and tested, easy transportation and installation
- Modular inverter design, easy for O&M replacement and maintenance

Stable and Reliable

- Protection rating IP54 (inverter rated IP65) and corrosion resistance level C4 (C5 optional), suitable for harsh environments
- Scientific thermal design, and effective cooling to improve performance

Supportive to Grid

- Comply with standards IEC 62109-1/-2, EN 50530, IEC 62116, IEC 62910, IEC 60068, IEC 61683, CEA2019
- SCR ~ 1.0, Low/high voltage ride through (L/HVRT)
- Active & reactive power and power factor control

Technical Parameters

Model	TC3125KFT	TC6250KFT
Inverter DC input		
Max. input voltage	1500V	
Min. input voltage	900V	
Mpp voltage range	900V ~ 1300V	
Number of MPPT	2	4
Number of DC input	16 / 18 / 20	32 / 36 / 40
Max. input current	1×4075A	2×4075A
Inverter AC output		
Nominal output power	3125kVA	6250kVA
Max. output apparent power	3594kVA	7188kVA
Nominal output voltage	630V	
Nominal output frequency	50Hz / 60Hz	
Max. total harmonic distortion	<3%In	
DC current injection	<0.5%In	
Power factor at rated power	>0.99	
Power factor range	0.8(leading) ~ 0.8(lagging)	
Inverter protection	IP65	
Efficiency		
Max. efficiency	> 99.0%	
Max. european efficiency	> 98.7%	
Transformer		
Type	Oil-immersed, fully sealed, Dy11	Oil-immersed, fully sealed, Dy11y11
Nominal voltage	10KV~35KV / 0.63KV	20KV~35KV / 0.63KV-0.63KV
Efficiency	> 99% (standard) ; tier1 / tier2 (optional)	
Short circuit impedance	8% (deviation±10%)	
General		
Dimension (W×H×D)	2438mm×2896mm×6058mm	2438mm×2896mm×12192mm
Protection	IP54	
Temperature range	-35°C ~ 60°C (>50°C derating)	
Relative humidity range	0% ~ 100%	
Max.operating altitude	1500m, Customizable	
Communication interface	RS485 / Ethernet	
Communication protocol	Modbus-RTU / Modbus-TCP / IEC104	
Auxiliary transformer	Dry, 3 phase, Dyn11, level H	
	7kVA / 0.63kV / 0.4kV	10kVA / 0.63kV / 0.4kV
UPS	1kVA, 30min	
Standard Compliance		
Compliance	IEC 62109-1/-2, EN 50530, IEC 62116, IEC 62910, IEC 60068, IEC 61683, CEA2019	

The technical parameters are for reference only, and the actual products shall prevail

TS3000 / 6000 / 9000KT-EL Smart Transformer Station



Product Introduction

The product integrates LV panel, transformer, RMU, and other auxiliaries into a 20-foot container. It converts LV AC power to MV AC power for injection into the grid system, offering an all-in-one integrated solution for PV power plants.

Advantages

Integrated and Economic

- Prefabricated and pre-tested, simple installation onsite without internal cabling
- Standard container design for easy transportation
- High capacity, reduce quantity of MV equipment save investment of the whole plant

Efficient and Smart

- Low power consumption, Tier 1/2 PEI efficiency
- LV panel, transformer and RMU real-time monitored, LV panel and RMU remote controlled

Stable and Reliable

- IP54 protection for LV and MV room, IP68 for transformer body
- C4/C5 anti-corrosion, adaptable to harsh environments

Grid Support

- Comply with standards IEC60076, IEC62271-200/202, IEC61439, EN50588-1
- MV voltage up to 35kV

Technical Parameters

Model	TS3000KT-EL	TS6000KT-EL	TS9000KT-EL
Input			
Available inverters	TS300KTL-HV-C1, TS330KTL-HV-C1, TS360KTL-HV-C1		
Max. LV inputs	10	20	28
AC power	3630kVA@30°C, 3300kVA@40°C 3000kVA@50°C	7260kVA@30°C, 6600kVA@40°C 6000kVA@50°C	10164kVA@30°C, 9240kVA@40°C 8400kVA@50°C
Rated input voltage	800V		
LV switches	MCCB (400A / 800Vac / 3P, 10pcs)	MCCB (400A / 800Vac / 3P, 20pcs)	MCCB (400A / 800Vac / 3P, 28pcs)
	ACB (3200A / 800Vac / 3P, 1pcs)	ACB (3200A / 800Vac / 3P, 2pcs)	ACB (4000A / 800Vac / 3P, 2pcs)
Output			
Rated output voltage	10kV ~ 36kV		20kV ~ 36kV
Rated frequency	50Hz / 60Hz		
Transformer type	Oil-immersed, fully sealed, Dy11	Oil-immersed, fully sealed, Dy11y11	
Transformer tappings	±2×2.5%		
Transformer oil type	Mineral oil (PCB free)		
Transformer cooling type	ONAN		
Transformer efficiency	> 99% (standard) ; tier1 / tier2 (optional)		
RMU type	SF6 gas insulated		
Auxiliary transformer	Dry type, 5kVA, 800V / 400V, Dyn11, level H		
UPS	1kVA, 30min		
Protection			
Transformer monitoring and protection	Oil level, temperature and pressure		
Rated short-circuit breaking current	20kA / 3s		
MV relay protection	50 / 51, 50N / 51N		
LV surge protection	Type I+II		
Protection degree	IP54 for LV / MV room		
	IP68 for transformer body		
Anti-corrosion degree	C4 / C5 (optional)		
General			
Dimension	6058mm×2896mm×2438mm, standard 20-foot container		
Weight	<18T	<24T	<28T
Temperature range	-25°C ~ 60°C		
Relative humidity	0% ~ 95%		
Max. operating altitude	1000m (standard) / > 1000m (optional)		
Measuring and control device	CEM9000 or similar		
Communication interface	RS485		
Communication protocol	Modbus-RTU / Modbus-TCP / IEC104		
Color	RAL7035		
Standard Compliance			
Compliance	IEC60076, IEC 62271-200/202, IEC61439, EN50588-1		

The technical parameters are for reference only, and the actual products shall prevail

PV Combiner Box



Intelligent and Efficient

- 1500V-Specific PV Fuse, both positive and negative terminal
- String current and voltage monitoring
- L4 IV curve scan and diagnosis

- 1500V-Specific PV SPD with fault alarms
- MCCB state monitoring
- Fast PLC communication

Safe and Reliable

- Arc fault circuit interrupter≤40ms
- Optional IP66 ingress protection

Flexibility and Convenience

- PA66 Gland / MC4 terminal connector
- Output cable cross section area 50–500mm²

Technical Parameters

Model	TH-SC-22 / 24	TH-SC-14-20	TH-SC-8-12
Electrical Parameters			
Max. PV string voltage	1500V		
Max. PV string inputs	24 / 22	20 / 18 / 16 / 14	12 / 10 / 8
Max. input current per strings	10~21A		
Max. output current	250/315/350/400/500/630A		
SPD	1500 Vdc Type II (optional: Type I+II)		
DC output switch	MCCB / Disconnect switch (optional)		
Environmental Parameters			
Protection	IP65 / IP66 (optional)		
Anti corrosion degree	C4/ (C5 optional)		
Environment temperature	-40 to 60 °C		
Environment humidity	0 – 95%		
Max. operating altitude	4000m (>3000m customized)		
Mechanical Parameters			
Dimensions (W*H*D)	950mm ×600mm ×200mm	850mm ×600mm ×200mm	800mm ×600mm ×200mm
Weight	45Kg		
Installation method	Bracket, holding pole		
Material	Steel		
Input terminal type	PA66 Gland / PV connector (optional)		
Output cable	50–500mm²		
Communication and Protection Parameters			
RS485 communication	Standard		
PLC communication	Optional (only) match with TBEA Central Inverter		
String current and bus voltage monitoring	Standard		
Monitoring for MCCB state	Standard		
PV SPD failure monitoring	Standard		
Parallel arc fault circuit interrupter	Optional (only) match with TBEA Central Inverter		
IV curve scan and diagnosis	Optional (only) match with TBEA Central Inverter		
Standard Compliance			
Compliance	IEC 63027:2023, IEC 61439-1, IEC 61439-2, IEC 62109-1		

The technical parameters are for reference only, and the actual products shall prevail

Smart Communication Box



Intelligent and Efficient

- Support automatic access of inverter communication, Built-in webserver for convenient monitoring and management
- PLC communication delay <30ms

Safe and Reliable

- IP65 protection degree, equipped with overcurrent protection and lightning protection
- Integrated with PID protection, improving efficiency of PV modules

Flexibility and Convenience

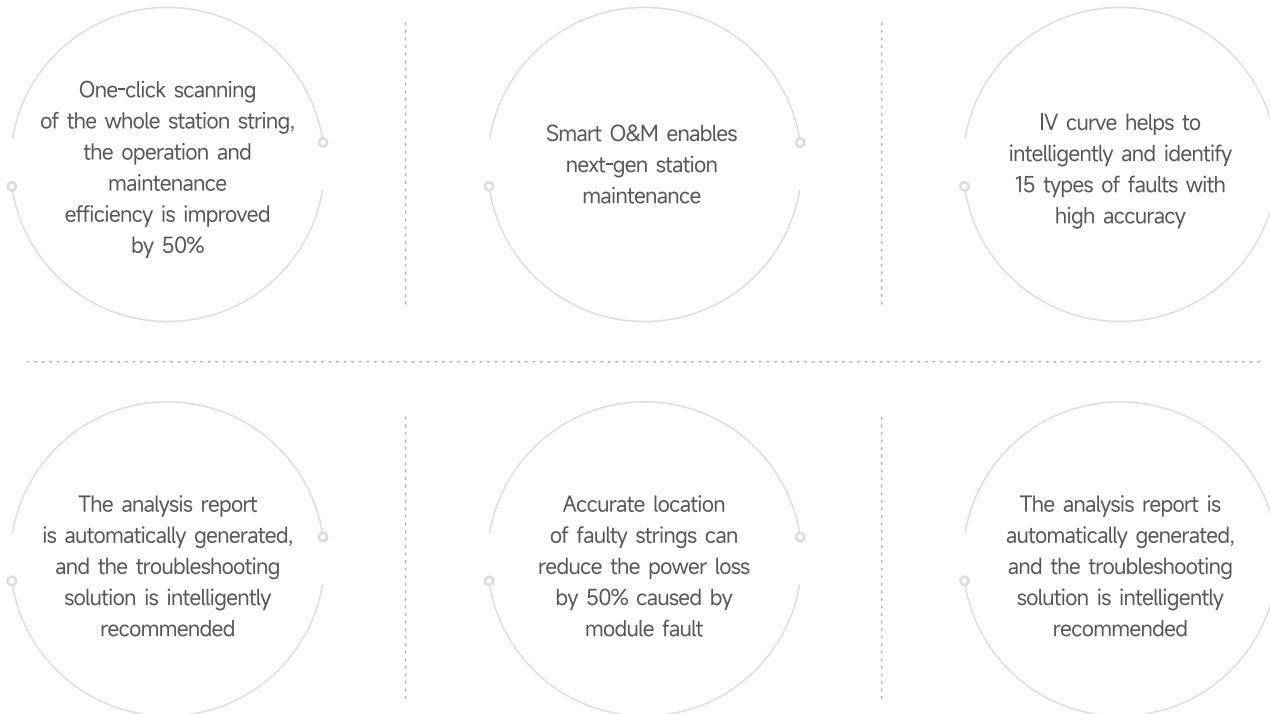
- Abundant interfaces, accessible to multiple devices
- Multiple configuration solution, suitable for different application scenarios

Technical Parameters

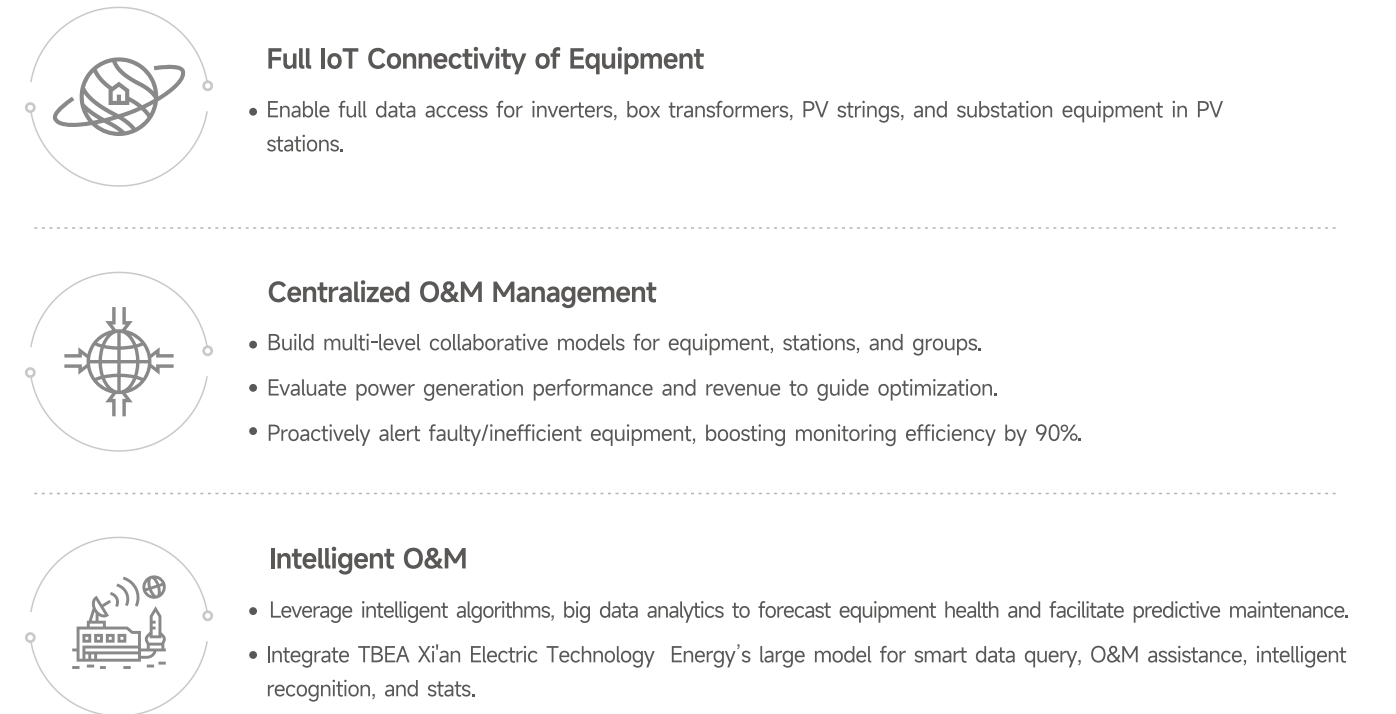
Electrical Parameters	
Operating input Voltage (single phase)	90~264Vac
Frequency	47Hz~63Hz
PLC input Voltage (three phase)	680~920Vac
Environmental Parameters	
Operating temperature	-25°C~60°C
Operating humidity	0~95%
Operating altitude	≤4000m
Basic Configuration	
Ring switch	Optional
Optical fiber interface	2
RS485 interface	5
PLC module	1 For standard (2 for optional)
PID module	1 For standard (2 for optional)
Mechanical Parameters	
Cable connection method	TCMO bottom side
Dimensions (W×H×D)	773.5×840×279.5mm
Weight	≤65kg
Protection degree	IP65
Installation method	wall-mounted installation

The technical parameters are for reference only, and the actual products shall prevail

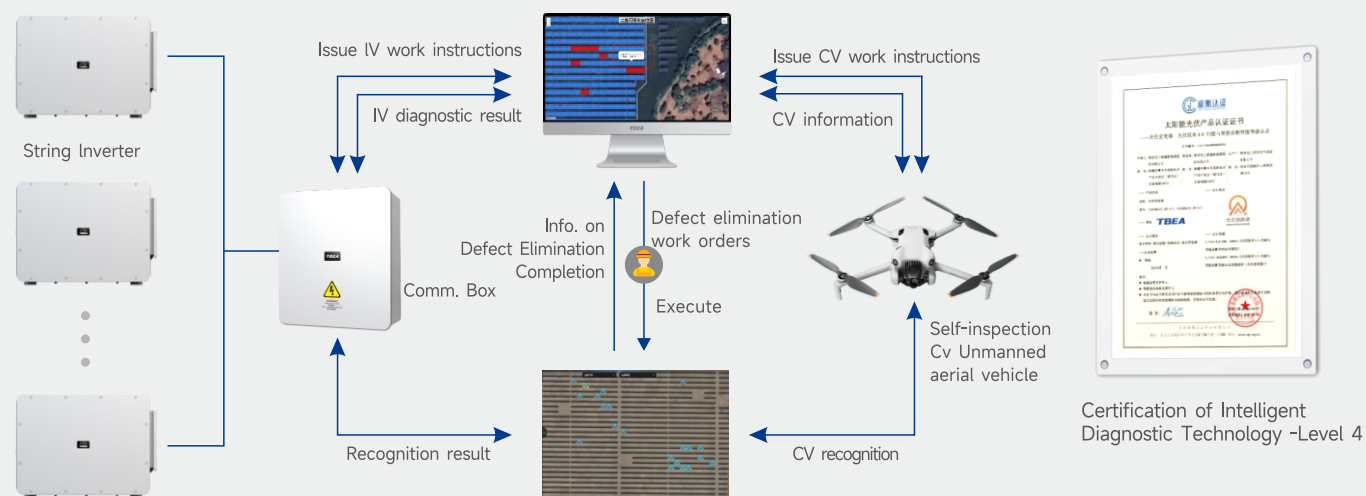
TBEA I-V Curve Diagnosis



TB-eCloud Smart O&M Platform

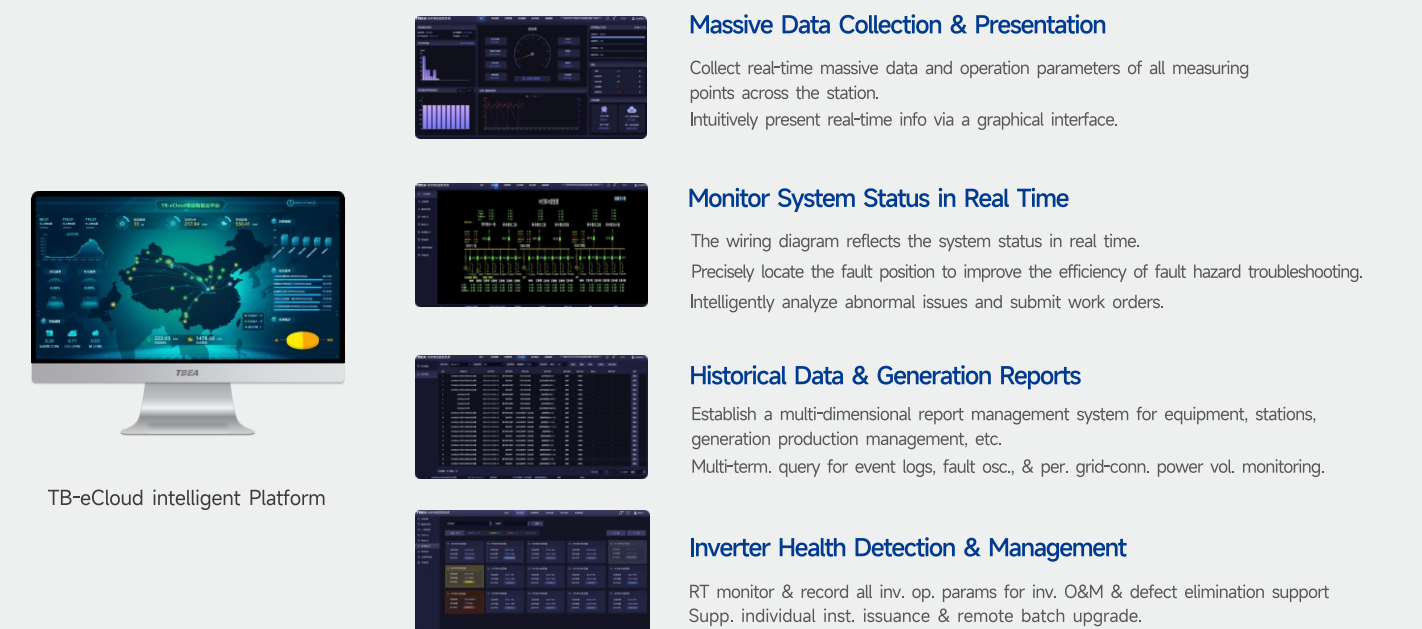


IV&CV intelligent diagnostic technology



O&M Management Solution

Monitoring System of PV Power Station



Application Case



Spain Voltalia Project 135MW

The 135MW solar photovoltaic project developed by Voltalia benefits from Spanish solar resources, with consistently high annual irradiance. At the same time, the project operates under demanding conditions, including extreme summer temperatures, large diurnal temperature variations, and grid instability driven by the high penetration of renewable energy, resulting in low system inertia.

These challenges place rigorous demands on both the thermal resilience and weak-grid performance of the equipment. TBEA's advanced string inverter solutions are specifically engineered to excel in such environments. With the higher power density in the market and strong grid adaptability, TBEA deliver stable and reliable performance even under intense irradiance, significant temperature fluctuations, and frequent grid disturbances.

By fully meeting the customer's stringent requirements for reliability, energy yield, and grid compatibility, TBEA's technology provides a robust foundation for safe, efficient project operation-maximizing performance while securing long-term, stable returns.



135 MW
Capacity

TS330KTL-HV-C1 series
Feb. 2026



India Adani Project 1GW

The Adani 1GW project in India is located in the Thar Desert of Rajasthan. This area not only faces the challenge for a weak power grid environment but also endures the dual tests of higher intensity sandstorms and extreme high temperatures all year round, placing extremely high demands on the stability and adaptability of power station equipments.

However, TBEA Xian Electric Technology string inverters, with their excellent high-temperature adaptability and comprehensive environmental protection capabilities, can operate stably under such harsh natural and power grid conditions. They fully meet the requirements of the power station in terms of equipment performance, reliability, and grid compatibility, providing a solid guarantee for the efficient progress of the project.



1 GW
Capacity

TS300KTL-HV-C1
Sep. 2024

Application Case



**China Inner Mongolia Tengger
1000MW Wind-Solar-Storage
Integrated Project**

TBEA Xi'an Electric Technology provided a central inverter solution for this project, using its self-developed TC4400KT-CL inverter-transformer station. The equipment has been operating stably in the desert under extreme sand and dust conditions.

Our solution helps customers achieve the goal of "PV + Diversification". By integrating PV array construction with desertification control, the project promotes coordinated ecological and industrial economic benefits, establishes a protective system for the Tengger Desert ecosystem, and transmits "green power" to the grid, effectively fulfilling its dual responsibilities in ecological protection and renewable energy supply.

The China Inner Mongolia Tengger 1000MW project is a key project of China's national billion-kilowatt renewable energy base.



**Brazil Ceará
482MW Project**

TBEA Xi'an Electric Technology provided a central inverter solution for the project, using self-developed TC3125KFT and TC6250KFT inverter-transformer stations.

These units effectively withstand the highly corrosive high-salt environment, meet the local grid's technical requirements for active/reactive power and voltage control, and integrate an off-grid auxiliary power supply function. The solution supports the project in becoming a model renewable energy demonstration, continuously delivering green power to the grid and contributing to local energy conservation efforts.

The Brazil Ceará 482MW Project is a large-scale PV demonstration project in Brazil.

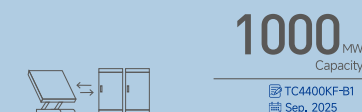


**India Gujarat
1000MW Project**

TBEA Xi'an Electric Technology provided a central inverter solution for the project, using the self-developed TC4400KF-B1 central inverter.

The equipment meets high DC/AC ratio design requirements, enables deep compatibility with the customer's transformer, and operates continuously and stably at full power in temperatures up to 51°C. It also provides strong support for low-SCR weak grids, ensuring reliable operation of the project.

The India Gujarat 1000MW Project is a large-scale PV demonstration project in India.



Application Case



India Renew Project
1.53GW



Spain Ohla Project
230MW



Bulgaria C Solar Project
109MW



China Bayannaoer Project
800MW



Poland Photovoltaic Project
82MW



Brazil Ufv Pananti Project
292MW



Brazil Ufv Marangatu Project
446MW



Romania Photovoltaic Project
54MW



China Yunnan Qiaojia Project
240MW