

TBEA



Solution for A Zero-Carbon World

TBEA Xi'an Electric Technology Co., Ltd.

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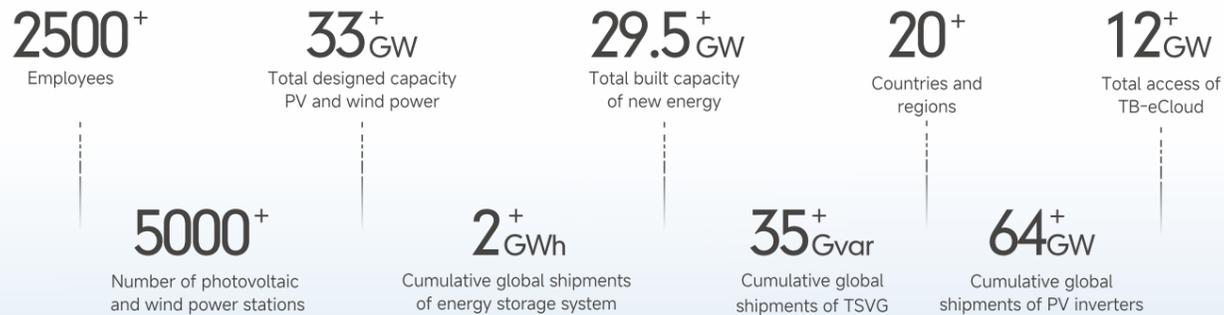
About Us



TBEA Xi'an Electric Technology Co.,Ltd. founded in 2010, is a wholly owned subsidiary of TBEA Group (Shanghai Stock: 600089), which focuses on solar power generation, battery energy storage system, power quality management, new power system distribution, flexible HVDC transmission solutions and smart O&M platform services, with main products of the integrated solutions including grid-connected solar inverters, PCS, HV STATCOM, energy routers for micro-grid, flexible HVDC transmission converter valves, etc.

In the filed of PV power generation, its full range of 8kW-9000kW grid-connected solar inverters have a total installed capacity of more than 64GW globally. For power quality management, the company has a statcom solution installation of more than 35Gvar. TBEA is also one of the first companies in China that provide complete solutions of BESS, Micro-grid, HVDC, SCADA and TB-eCloud smart O&M platform services.

With the mission of "Green Energy for Better Life", the company is dedicated to driving the sustainable development of human society by smart, efficient and green energy.



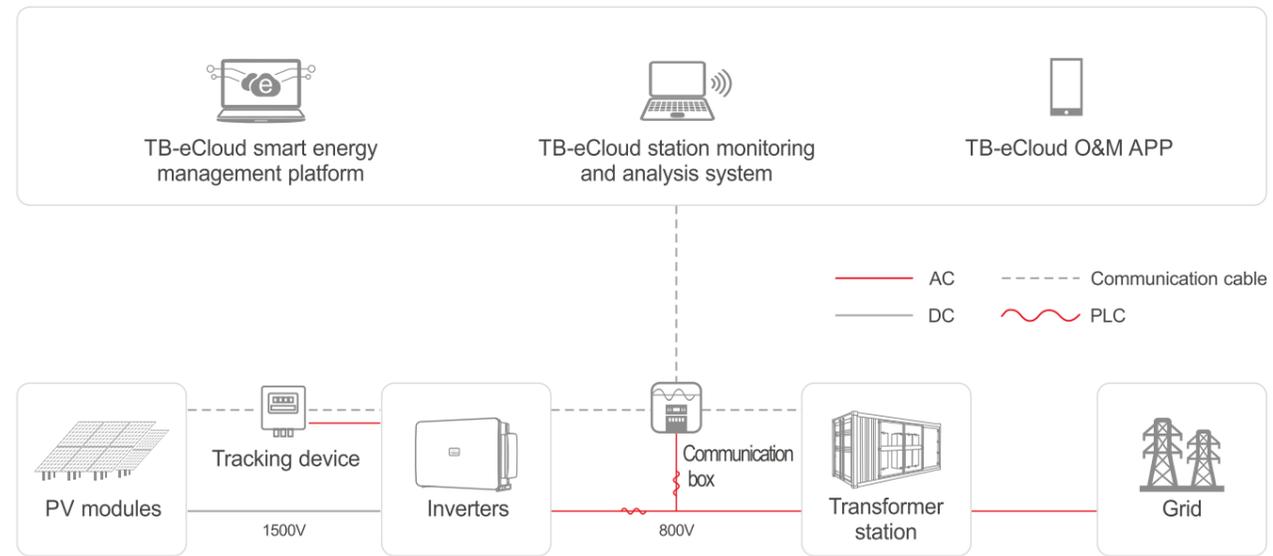
Xi'an Factory



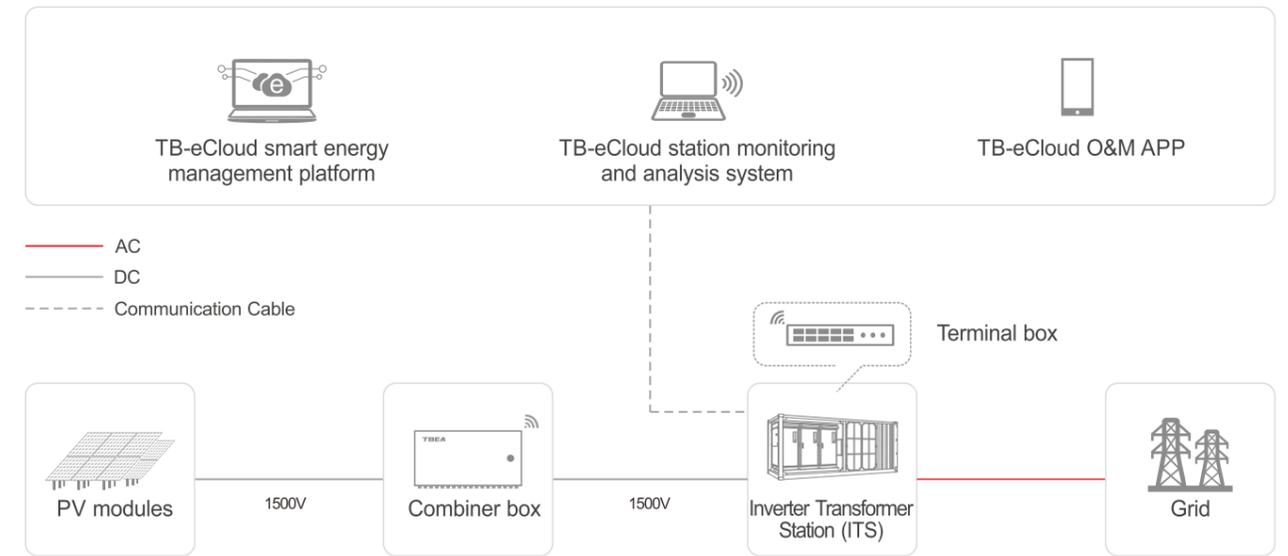
Indian Factory



Solution of String Inverter



Solution of Central Inverter



- 1500V
- High DC/AC ratio
- Large PV array
- Large PV modules 182/210
- Grid friendly
- Intelligent O&M

Recommended Application Scenarios



TS360KTL-HV-C1

1500V String Inverter



Grid Friendly

- Specific harmonic control technology, effectively reducing THDi
- Impedance adaptive technology, supporting weak grid network SCR~1.0
- Night SVG
- Fast active & reactive power response time <30ms, supporting power dispatch

Efficient Power Generation

- Maximum efficiency 99.02%, European efficiency 98.8%
- Optimized MPPT algorithm, ensuring maximum power generation efficiency
- Match 182 / 210 bifacial modules perfectly
- Higher DC / AC ratio, achieving optimal DC overload ratio to reduce LCOE

Safety and Reliability

- IP66 & C5, robust environment adaptability
- Intelligent cooling design
- Intelligent string disconnect switch, high safety

Intelligent Maintenance

- Intelligent and high precision IV curve diagnosis
- Anti-PID function, protecting PV module for degradation

Technical Specification



Model	TS360KTL-HV-C1
Efficiency	
Max. efficiency	99.02%
Max. european efficiency	98.8%
Input (DC)	
Max. input voltage	1500V
Max. input current per MPPT	75A
Max. short-circuit current per MPPT	125A
MPPT voltage range	500V ~ 1500V (860V ~ 1300V full load)
Number of inputs	24 / 30
Number of MPPT	6
Output (AC)	
Output power	363kW @30°C / 330kW @40°C / 300kW @50°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	<3% (at nominal power)
Protection	
Input DC switch	Support
Anti-islanding protection	Support
AC overcurrent protection	Support
DC reverse-polarity protection	Support
String fault detection	Support
DC surge protection	Type II
AC surge protection	Type II
Insulation monitoring	Support
Residual current monitoring unit	Support
Display and Communication	
Display	LED, WIFI+APP
Communication	RS485 PLC
General Data	
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	MC4 Evo2 (Max. 6mm ²)
AC connector	Support OT / DT Terminal (Max. 400mm ²)
Degree of protection	IP66
Topology	Transformerless
Standard Compliance	
Compliance	CE, IEC 62109-1/-2, EN 50530, IEC 62116, IEC 62910, IEC 60068, IEC 61683, CEA2019, NTS2.1, P.O.12.3, EN 50549-1/-2, ONS, SEC

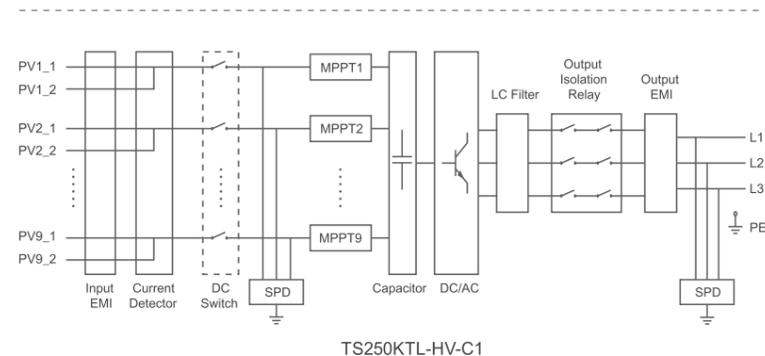
The technical parameters are for reference only, and the actual products shall prevail

TS228/250KTL-HV(-C1) 1500V String Inverter

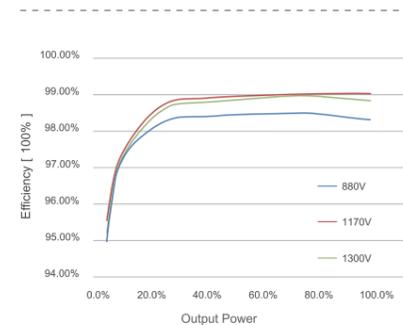


- 9/12 MPPTs with max. efficiency 99%
- Non-fuse design, higher safety and reliability
- PV-array anti-PID function
- Night SVG function with DC side isolated
- Flexible communication with RS485/PLC/WiFi
- Protection level IP66, anti-corrosion C5, minimum operating temperature -25°C, adapts to extreme environment with salty-mist, corrosion, humidity, low temperature
- Remote firmware upgrade

Schematic Drawing



Efficiency Curve



Technical Specification

Model	TS228/250KTL-HV-C1	TS228/250KTL-HV
Input (DC)		
Max. DC voltage	1500V	
Max. DC current per MPPT	40A	30A
Max. short circuit current per MPPT	50A	
MPPT voltage range	500V~1500V	
Full power MPPT range	880V~1300V	
Independent MPPT number	9	12
Max. input number	18	24
Output (AC)		
AC output power	250kVA@30°C / 228kVA@40°C / 208kVA@50°C	
Nominal output current	180A@30°C / 165A@40°C / 150A@50°C	
Max. AC current	180A	
Nominal AC voltage	800Vac , 3W+PE	
Grid voltage range	720V ~ 880V	
Rated AC frequency	50Hz / 60Hz	
AC frequency range	45Hz ~ 55Hz / 55Hz ~ 65Hz	
DC current injection	<0.5%*I _{pn}	
Power factor range	0.8 (leading) ~ 0.8 (lagging), adjustable	
Current harmonic distortion	< 3%	
Grid type	IT	
Inverter Efficiency		
Max. efficiency	99%	
Max. european efficiency	98.7%	
Isolation method	Transformerless	
IP protection	IP66	
Night power consumption	< 3W	
Environment Parameters		
Operating ambient temperature range	-25°C ~ 60°C	
Ambient humidity	0% ~ 100%	
Max. operating altitude	5000m (>4000m derating)	
Cooling method	Smart forced air cooling	
Display and Communication		
Display	LED Indicators , WiFi + APP	
Communication interfaces	RS485 / PLC	
Protection Function		
Anti-islanding protection	Yes	
Low-voltage ride-through (LVRT)	Yes	
DC input reverse polarity protection	Yes	
AC short-circuit protection	Yes	
Leakage current protection	Yes	
Grid voltage frequency protection	Yes	
RCD detection	Yes	
Lightning protection	DC Type II / AC Type II	
Insulation resistance detection	Yes	
Mechanical Data		
Dimensions (W × H × D)	1100mm × 700mm × 360mm	
Weight	110kg	
DC connector	MC4 EVO2	
AC connector	Waterproof Connector + DT Terminal	
Installment method	Wall Mounted Type	

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 DC 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 standard IEC60076, IEC62271-200/202, IEC61439, EN50588-1
- MV voltage up to 35kV

Technical Specification



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 ~ 35kV		20kV ~ 35kV
Rated frequency	50Hz / 60Hz		
Transformer type	Oil-immersed, fully sealed, Dy11	Oil-immersed, fully sealed, Dy11y11	
Transformer tapplings	±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

TS3450 / 6850KT-EL

Smart Transformer Station



Product Introduction

The product integrates LV panel, transformer, RMU and other auxiliaries to a 20-foot container, convert LV AC power to MV AC power and inject to grid system, thus provide an integrated solution to solar stations.

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

Technical Specification



Model	TS3450KT-EL	TS6850KT-EL
Input		
Available inverters	TS228/250KTL-HV(-C1)	
Max. LV inputs	15	30
AC power	3750kVA@30°C, 3450kVA@40°C	7500kVA@30°C, 6850kVA@40°C
Rated input voltage	800V	
LV switches	MCCB (250A / 800Vac / 3P, 15pcs)	MCCB (250A / 800Vac / 3P, 30pcs)
	ACB (3200A / 800Vac / 3P, 1pcs)	ACB (3200A / 800Vac / 3P, 2pcs)
Output		
Rated output voltage	10kV ~ 35kV	
Rated frequency	50Hz / 60Hz	
Transformer type	Oil-immersed, fully sealed, Dy11	Oil-immersed, fully sealed, Dy11y11
Transformer tapings	±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	<15T	<21T
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

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 grid supporting
- Fast active & reactive power response, supporting power dispatch

Efficient and Economical

- Maximum efficiency 99%, European efficiency 98.7%
- Optimized MPPT algorithm, ensuring maximum power generation efficiency
- 18 / 21 / 24 inputs optional, match 182 / 210 bifacial modules perfectly
- Anti-PID+repair 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

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

Technical Specification



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 @51°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 (>51°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	Transformerless	
Standard Compliance		
Compliance	CE, 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

TC3125/3600KF

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 grid supporting
- Fast active & reactive power response, supporting power dispatch

Efficient and Economical

- Maximum efficiency 99%, European efficiency 98.7%
- Optimized MPPT algorithm, ensuring maximum power generation efficiency
- 16-20 inputs optional, match 182/210 bifacial modules perfectly

Stable and Reliable

- IP65 & C5, robust environment adaptability
- Dual air duct heat dissipation& built-in heat exchanger

Integrated and Convenient

- Modular design of power modules, easy for maintenance
- Fan, capacitor life prediction, transition from passive to active maintenance

Technical Specification

TBEA

Model	TC3125/3600KF
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℃~ 60℃ (>50℃ 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	Transformerless
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

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

- Compatible with 182/210 solar module, 18/21/24 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

- IP55/IP65 protection, C4/C5 anti-corrosion, adaptable to harsh environments
- Scientific thermal design, and effective cooling to improve performance

Supportive to Grid

- Comply with standard IEC61727, IEC62109-1/2, IEC62116, IEC62271-200/202, IEC60076, IEC61439
- SCR ~ 1.0, Low/high voltage ride through (L/HVRT)
- Active & reactive power and power factor control

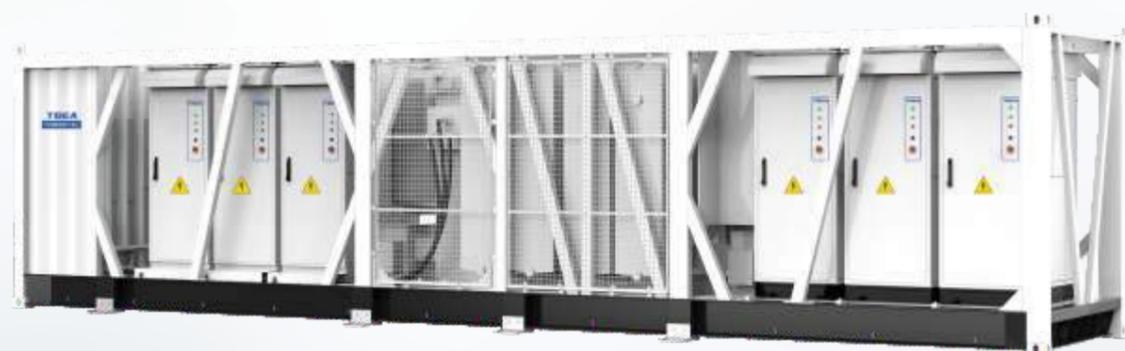
Technical Specification



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 @51°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) ; tier1 / tier2 (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 (> 51°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, IEC62271-200/202, 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 (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

- Compatible with 182/210 solar module, 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

- IP55/IP65 protection, C4/C5 anti-corrosion, adaptable to harsh environments
- Scientific thermal design, and effective cooling to improve performance

Supportive to Grid

- Comply with standard IEC61727, IEC62109-1/2, IEC62116, IEC62271-200/202, IEC60076, IEC61439
- SCR ~ 1.0, Low/high voltage ride through (L/HVRT)
- Active & reactive power and power factor control

Technical Specification



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 @51°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) ; tier1 / tier2 (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 (> 51°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, IEC62271-200/202, IEC60076, IEC61439	

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

TC3125KFT / TC6250KFT Inverter Transformer Station

Technical Specification



Product Introduction

The product integrates central inverters (2*3125kW/2*3400kW), 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 182/210 photovoltaic module, 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

- IP65 protection, C4/C5 anti-corrosion, adaptable to harsh environments
- Scientific thermal design, and effective cooling to improve performance

Supportive to Grid

- Comply with standard 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

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℃ ~ 60℃ (>50℃ 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		
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

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

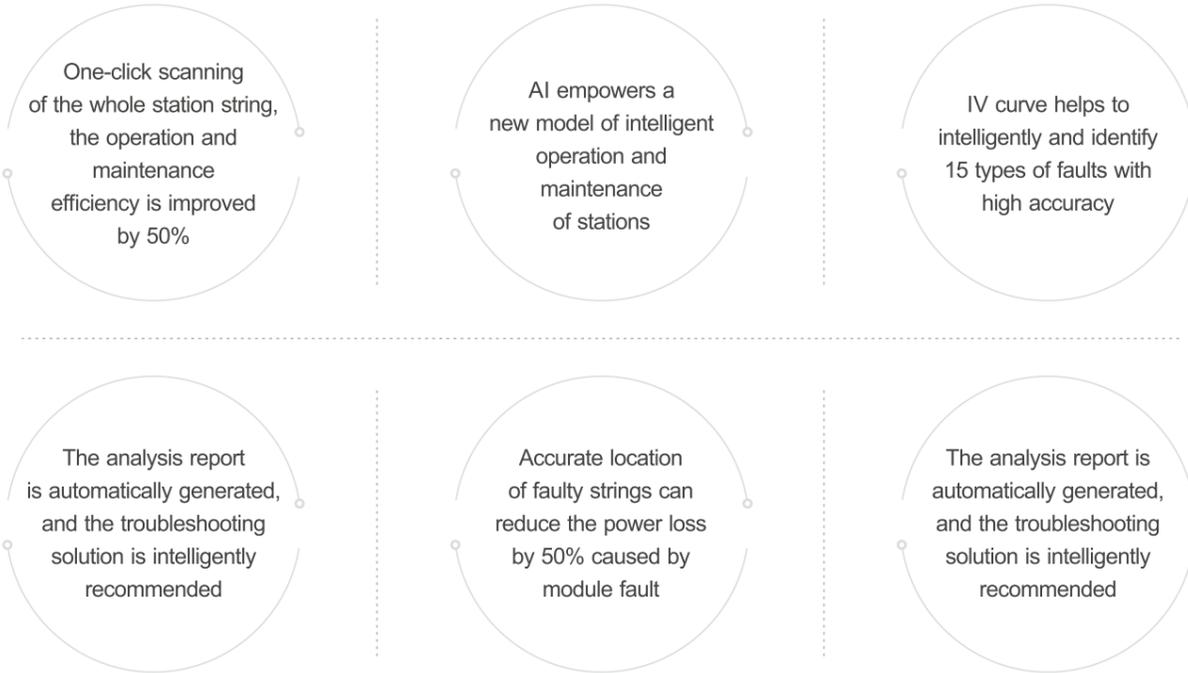
Technical Specification



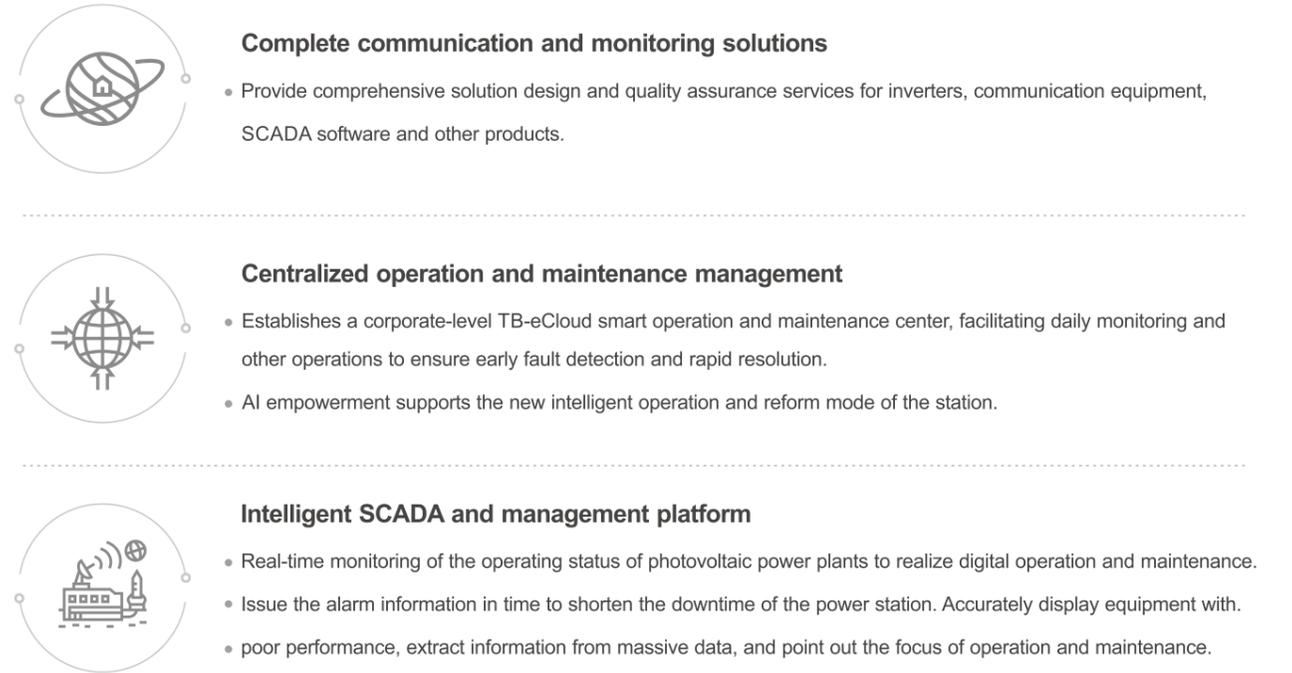
Electrical Parameters	
Operating input voltage(single phase)	85 ~ 260Vac
Frequency	47Hz - 63Hz
PLC input voltage(three phase)	680 ~ 920Vac
Environmental Parameters	
Operating temperature	-40℃ ~ 65℃
Operating humidity	5% ~ 95%
Operating altitude	<5000m
Basic Configuration	
Ring switch	Optional
Optical 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)	773.5mm × 840mm × 280mm
Weight	55kg
Protection degree	IP65
Installation method	Hanging Wall

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

TBEA I-V Curve Diagnosis



TB-eCloud Smart O&M Platform



Exceptional Performance in Extreme Environments



Desert and heavy sandstorm environments

- Midong, China
- **3.5GW**
- TS330KTL-HV-C1



High altitudes up to 4300 meters

- Yalong River, China
- **1GW**
- TS330KTL-HV-C1



High humidity and condensation environments

- Huizhou, China
- 200MW
- TS330KTL-HV-C1



High temperatures up to 50°C

- India RENEW
- **1.3GW**
- TS330KTL-HV-C1



Extremely low temperatures down to -40°C

- Damaogqi, China
- 100MW
- TS228KTL-HV



Mountainous terrains

- Yunnan, China
- 250MW
- TS250KTL-HV

Globally Reliable, Extensive Deployment



CHINA BEISHAWO PROJECT

☑ TS330KTL-HV-C1

3.5GW



INDIA ADANI PROJECT

☑ TS300KTL-HV-C1

1GW



CHINA BAYANNAOER PROJECT

☑ TS330KTL-HV-C1

800MW



CHINA TACHENG PROJECT

☑ TS320KTL-HV

500MW



CHINA LUOPU PROJECT

☑ TS330KTL-HV-C1

500MW



SPIC BRAZIL UFV MARANGATU PROJECT

☑ TS228KTL-HV + TS6850KT-ET

446MW



SPAIN SOLARIA PROJECT

☑ TC8600KFT

423MW



CHINA NILEKE PROJECT

☑ TS320KTL-HV

1GW



SPIC BRAZIL UFV PANANTI PROJECT
☑ TS228KTL-HV + TS6850KT-ET

292MW



CGN BRAZIL NOVA OLINDA PROJECT
☑ TC2050KF

292MW



CHINA YUNNAN QIAOJIA PROJECT
☑ TS228KTL-HV

240MW



SPAIN OHLA PROJECT
☑ TS228KTL-HV + TS6850KT-ET

230MW



BULGARIA C SOLAR PROJECT
☑ TS250KTL-HV + TS6850KT-EL

109MW



PHILIPPINES PRIME INFRA PROJECT
☑ TC6800KFT

140MW