

**KSTAR**

# Utility System Solution

**KSTAR** Powering  
the Future

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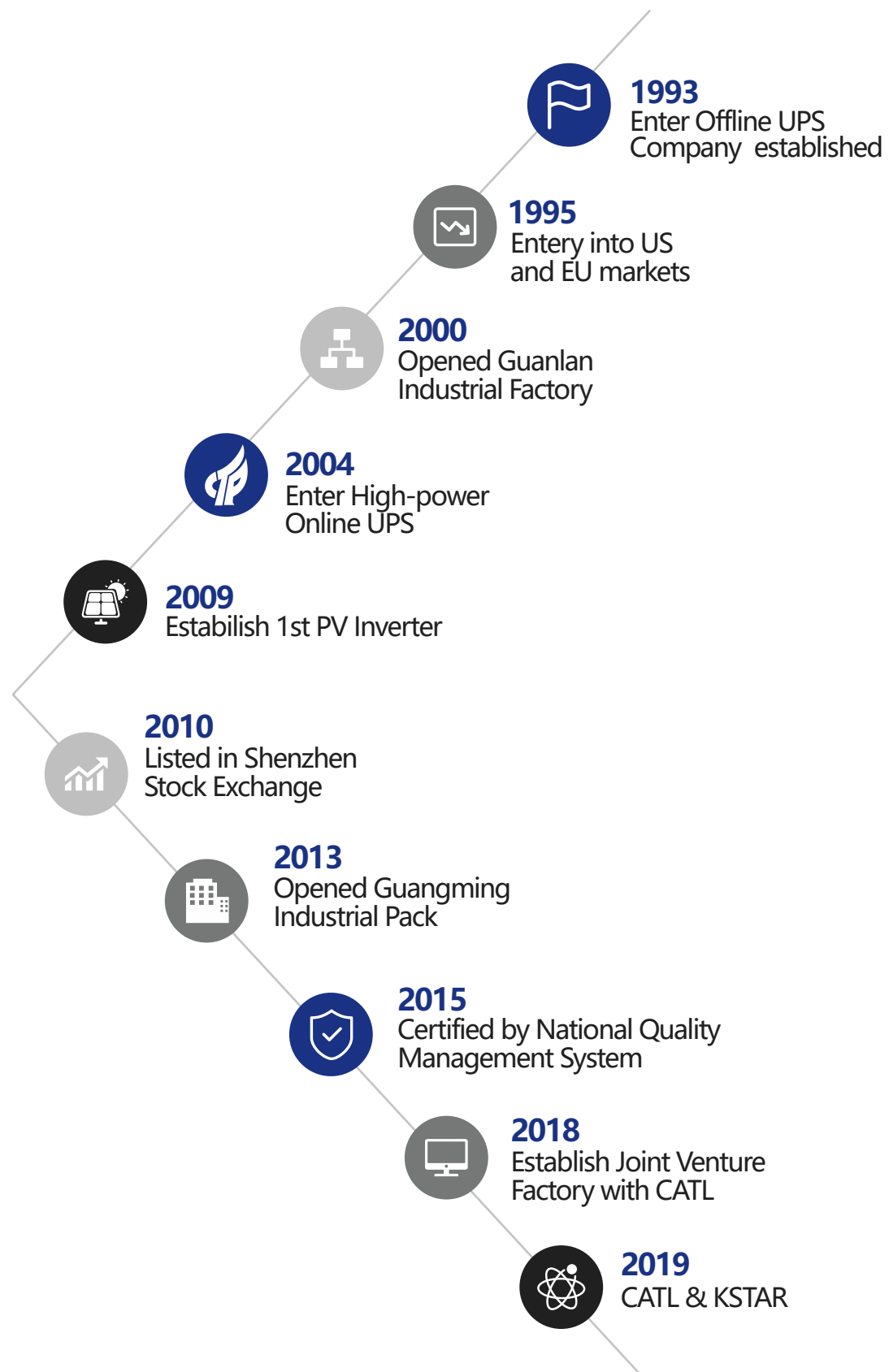
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# About KSTAR



## ► TECHNOLOGY, INNOVATION AND THE HISTORICAL INDUSTRIAL EXPERIENCE OF KSTAR FROM TODAY AVAILABLE FOR EVERY HOME

Founded in 1993, KSTAR is committed to new energy solutions with more than 42GW installation worldwide. Today, we are becoming the leading manufacturer in power electronics and new energy products.

KSTAR is fully committed to the R&D and has been providing high-quality products with full service to over 180 countries and regions worldwide. KSTAR is dedicated to being a trusted partner for global energy revolution. Let's power the future together.

## ► Office and service center globally







## **GSM-MV**

### **6.25MW Inverter Transformer Solution**



All-in-one Solution



Plug & Play



Standard Shipping Container



Friendly to Grid




Low LCOE



Easy Maintenance



# DC1500V Outdoor Inverter

 Max. PV Voltage up to 1500V  
DC/AC Ratio up to 1.8

 AGC/AVC, Night SVG Function  
LVRT/HVRT/FRT Function

 Full Power Output Under 55°C  
IP55 Outdoor Protection

 Modular Design for Easy Maintenance  
Max. 24 DC Inputs

## Technical Specifications


MODEL	GSM3125D
<b>Input(DC)</b>	
Max. DC Input Voltage	1500Vdc
Min./Start Voltage	860V/940V(adjustable)
MPPT Voltage Range	875~1300V
No. of MPPT	2
No. of DC Input	Max. 24*400A ( 20*500A/630A optional )
Max. DC Input Current	4009A
<b>Output(AC)</b>	
Rated AC Output Power	3125kW@50°C
Max. AC Output Power	3438kW@45°C
Rated AC Voltage	600Vac, 3W+PE
AC Voltage Range	510Vac~660Vac
Rated Grid Frequency	50/60Hz
AC Grid Frequency Range	45~55/55~65(adjustable)
Rated Output Current	3007A
Max. Output Current	3308A
Power Factor (cosφ)	0.8leading~0.8lagging
THDi	<3%
<b>Efficiency</b>	
Max. Efficiency	99.00%
Euro Efficiency	98.70%
<b>Protection</b>	
DC Input Protection	Load Break Switch + Fuse
AC Output Protection	Circuit Breaker
Surge Protection	DC Type II/AC Type II
Anti-islanding Protection	Yes
Insulation Monitoring	Yes
Leakage Current Monitoring	Yes
Overheat Protection	Yes
DC Reverse Polarity Protection	Yes
AC Short-circuit Protection	Yes
Anti-PID Function	Optional
<b>General Specifications</b>	
Dimensions (W x H x D ) mm	2350*2400*1300
Weight(kg)	3500
IP Class	IP55
Topology	Transformerless
Operating Ambient Temperature Range	-40 ~ +60°C ( > 50°C derating )
Operating Relative Humidity Range	0~100%
Max. Operating Altitude	4000m ( > 3000m derating )
Cooling Method	Forced Air Cooling
Power Consumption at Night	< 250W
Communication	Modbus RS485
Display	Touch Screen


\*Specifications subject to change without prior notice.






# DC 1500V Container Solution

 Max. PV Voltage up to 1500V  
DC/AC Ratio up to 1.5

 AGC/AVC Night SVG Function  
LVRT/HVRT/FRT Function

 Full Power Output Under 50°C  
IP54 Outdoor Protection

 Modular Design for Easy Maintenance  
Max. 28 DC Inputs

## Technical Specifications


MODEL	GSM3125C
<b>Input(DC)</b>	
Max. DC Input Voltage	1500Vdc
Min./Start Voltage	920V/980V(adjustable)
MPPT Voltage Range	920~1300V
No. of MPPT	2
No. of DC Input	Max. 28*250A ( 16*400A optional )
Max. DC Input Current	4080A
<b>Output(AC)</b>	
Rated AC Output Power	3125kW@50°C
Max. AC Output Power	3600kW@25°C
Rated AC Voltage	630Vac, 3W+PE
AC Voltage Range	504Vac~693Vac
Rated Grid Frequency	50/60Hz
AC Grid Frequency Range	45~55/55~65(adjustable)
Rated Output Current	2864A
Max. Output Current	3299A
Power Factor (cosΦ)	0.8leading~0.8lagging
THDi	<3%
<b>Efficiency</b>	
Max. Efficiency	99.00%
Euro Efficiency	98.70%
<b>Protection</b>	
DC Input Protection	Circuit Breaker
AC Output Protection	Circuit Breaker
Surge Protection	DC Type II/AC Type II
Anti-islanding Protection	Yes
Insulation Monitoring	Yes
Leakage Current Monitoring	Yes
Overheat Protection	Yes
DC Reverse Polarity Protection	Yes
AC Short-circuit Protection	Yes
Anti-PID Function	Optional
<b>General Specifications</b>	
Dimensions (W x H x D ) mm	2991*2591*2438
Weight(kg)	5000
IP Class	IP54
Topology	Transformerless
Operating Ambient Temperature Range	-40 ~ +60°C ( > 50°C derating )
Operating Relative Humidity Range	0~100%
Max. Operating Altitude	4000m ( > 3000m derating )
Cooling Method	Forced Air Cooling
Power Consumption at Night	< 100W
Communication	Modbus RS485
Display	Touch Screen


\*Specifications subject to change without prior notice.






# DC 1500V Turnkey Solution

 Max. PV Voltage up to 1500V  
DC/AC Ratio up to 1.8

 AGC/AVC Night SVG Function  
LVRT/HVRT/FRT Function

 Max. 48 DC Inputs  
IP54 Outdoor Protection

 Modular Design for Easy Maintenance  
Full Power Output Under 50°C

## Technical Specifications


MODEL	GSM6250D-MV
<b>Input(DC)</b>	
Max. DC Input Voltage	1500Vdc
Min./Start Voltage	860V/940V(adjustable)
MPPT Voltage Range	875~1300V
No. of MPPT	4
No. of DC Input	Max. 48*400A ( 40*500A/630A optional )
Max. DC Input Current	8018A
<b>Output(AC)</b>	
Rated AC Output Power	6250kW
Max. AC Output Power	6876kW
Inverter Max. Output Current	6616A
AC Output Voltage	10~35kV
Rated Grid Frequency	50/60Hz
AC Grid Frequency Range	45~55/55~65(adjustable)
Power Factor (cosΦ)	0.8leading~0.8lagging
THDi	<3%
<b>Efficiency</b>	
Inverter Max. Efficiency	99.00%
Inverter Euro Efficiency	98.70%
<b>Transformer</b>	
Transformer Rated Power	6250kVA
Transformer Max. Power	6876kVA
LV/MV Voltage	0.6kV-0.6kV/(10~35)kV
Vector Group	Dy11y11
Cooling Type	ONAN
Oil Type	Mineral Oil(PCB free)
<b>Protection</b>	
DC Input Protection	Load Break Switch + Fuse
AC Output Protection	Circuit Breaker
MV Output Protection	Circuit Breaker
Surge Protection	DC Type II/AC Type II
Anti-islanding Protection	Yes
Insulation Monitoring	Yes
Leakage Current Monitoring	Yes
Overheat Protection	Yes
DC Reverse Polarity Protection	Yes
AC Short-circuit Protection	Yes
Anti-PID Function	Optional
<b>General Specifications</b>	
Dimensions (W x H x D)mm	12192*2896*2438
Weight(t)	29
IP Class	Inverter IP55/Others IP54
Auxiliary Power Supply	5kVA
Operating Ambient Temperature Range	-40 ~ +60°C
Operating Relative Humidity Range	0~100%
Max. Operating Altitude	1000m ( Standard )
Cooling Method	Forced Air Cooling
Communication	Standard: Modbus RS485, Optional: IEC104 Optical Fiber
Display	Touch Screen


\*Specifications subject to change without prior notice.






# DC 1500V Turnkey Solution

 Max. PV Voltage up to 1500V  
DC/AC Ratio up to 1.5

 AGC/AVC Night SVG Function  
LVRT/HVRT/FRT Function

 Full Power Output Under 50°C  
IP54 Outdoor Protection

 Modular Design for Easy Maintenance  
Max. 56 DC Inputs

## Technical Specifications


MODEL	GSM6250C-MV
<b>Input(DC)</b>	
Max. DC Input Voltage	1500Vdc
Min./Start Voltage	920V/980V(adjustable)
MPPT Voltage Range	920~1300V
No. of MPPT	4
No. of DC Input	Max. 56*250A ( 32*400A optional )
Max. DC Input Current	8160A
<b>Output(AC)</b>	
Rated AC Output Power	6250kW
Max. AC Output Power	7200kW
Inverter Max. Output Current	6598A
AC Output Voltage	10~35kV
Rated Grid Frequency	50/60Hz
AC Grid Frequency Range	45~55/55~65(adjustable)
Power Factor (cosΦ)	0.8leading~0.8lagging
THDi	<3%
<b>Efficiency</b>	
Inverter Max. Efficiency	99.00%
Inverter Euro Efficiency	98.70%
<b>Transformer</b>	
Transformer Rated Power	6250kVA
Transformer Max. Power	7200kVA
LV/MV Voltage	0.63kV-0.63kV/(10~35)kV
Vector Group	Dy11y11
Cooling Type	ONAN
Oil Type	Mineral Oil(PCB free)
<b>Protection</b>	
DC Input Protection	Circuit Breaker
AC Output Protection	Circuit Breaker
MV Output Protection	Circuit Breaker
Surge Protection	DC Type II/AC Type II
Anti-islanding Protection	Yes
Insulation Monitoring	Yes
Leakage Current Monitoring	Yes
Overheat Protection	Yes
DC Reverse Polarity Protection	Yes
AC Short-circuit Protection	Yes
Anti-PID Function	Optional
<b>General Specifications</b>	
Dimensions (W x H x D)mm	12192*2896*2438
Weight(t)	29
IP Class	IP54
Auxiliary Power Supply	5kVA
Operating Ambient Temperature Range	-40 ~ +60°C
Operating Relative Humidity Range	0~100%
Max. Operating Altitude	1000m ( Standard )
Cooling Method	Forced Air Cooling
Communication	Standard: Modbus RS485, Optional: IEC104 Optical Fiber
Display	Touch Screen


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## String Grid-Tied PV Inverter

 1500Vdc, 800Vac  
Smart I-V Curve Function

 12 MPPT, 24 PV Strings Input  
DC and AC Type II SPD

 Optional AFCI Function  
Reactive Power Control

 PLC Communication  
Max. DC/AC Ratio up to 1.5

## Technical Specifications

MODEL	KSG-250UH-M0
<b>Input(DC)</b>	
Max. DC Voltage	1500V
Nominal Voltage	1080V
Start Voltage	650V
MPPT Voltage Range	500V-1500V
Number of MPPT	12
Strings Per MPPT	2
Max. Input Current Per MPPT	30A
Max. Short-circuit Current Per MPPT	50A
<b>Output(AC)</b>	
Nominal AC Output Power	250KW 30°C / 225KW 40°C / 200KW 50°C
Max. AC Apparent Power	250kVA
Nominal AC Voltage	800V 3W+PE
AC Grid Frequency Range	50/60Hz±5Hz
Max. Output Current	180.4A
Power Factor (cos φ)	0.8leading-0.8lagging
THDi	<3%
<b>Efficiency</b>	
Max. Efficiency	99.00%
Euro Efficiency	98.7%
<b>Protection Devices</b>	
DC Switch	Yes
Anti-islanding Protection	Yes
Output Over Current Protection	Yes
DC Reverse Polarity Protection	Yes
String Fault Detection	Yes
DC/AC Surge Protection	Type II
DC Insulation Resistance Detection	Yes
Residual Current Monitoring	Yes
AC Short-circuit Protection	Yes
<b>General Specifications</b>	
Dimensions W x H x D (mm)	1055*700*336
Weight(kg)	110
Operating Temperature Range	-25°C ~ +60°C
Cooling Type	Fan cooling
Max. Operating Altitude	4000m
Max. Operating Humidity	0~100%(No Condensation)
AC Output Terminal Type	OT Terminal
IP Class	IP66
Topology	Transformer-less
Communication	RS485/Wifi/4G/PLC
Display	LED/Bluetooth+APP
Certification & Standard	EN/IEC62109-1;EN/IEC62109-2;IEC/EN61000-6-2;IEC/EN61000-6-4;IEC/EN61000-3-11;IEC/EN61000-3-12; IEC61683;IEC60068;IEC60529;IEC62116;IEC61727;EN50549-1;EN50549-2

\*Specifications subject to change without prior notice.



# KSTAR PV Project Cases

## Large-scale Utility PV Plant

 Russian 500MW PV Plant







📍 Ukraine 240MW PV Plant



📍 Tibet 4747m Altitude PV Plant



📍 Pakistan 900MW PV Plant



📍 Zhejiang 300MW Watersurface PV Plant



📍 Ukraine 15MW PV Plant



📍 Russian 300MW PV Plant



📍 Ukraine 200MW PV Plant



📍 Spain 10MW PV Plant