



# KSTAR PV Inverter Catalogue

Stock code 002518

**KSTAR**

# Company Profile



Founded in 1993, Shenzhen KSTAR Science & Technology Co., Ltd (Stock Code:002518) is a National Torch Plan Key High-tech Enterprise, and also a pioneer of UPS industrial and a total solution provider for Data Center Critical Infrastructure & Photovoltaic Inverter Systems in Mainland China. KSTAR is fully committed to the R&D and has been providing high-quality products with full service to over 90 countries and regions worldwide, leading the industrial development with innovation.



- ① KSTAR Industrial Park at Guangming Hi-Tech Zone, Shenzhen, China
- ② KSTAR Industrial Park at Zhongkai Hi-Tech Zone, Huizhou, China
- ③ KSTAR Industrial Park at Guanlan Fuyuan industrial Zone, Shenzhen, China

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# Overview for Grid-tied Photovoltaic Power Station

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## Basic Principle

Photovoltaic inverter convert DC power generated by solar photovoltaic array into AC power with the same frequency and phase as the public grid.

## Classification of Photovoltaic Grid-tied Power Station

According to the voltage level of the grid, it is divided into three levels:

- Small Grid-tied Photovoltaic Power Station——tie to the grid of 380V, 400V
- Medium Grid-tied Photovoltaic Power Station——tie to the grid of 10KV~35KV
- Large Grid-tied Photovoltaic Power Station——tie to the grid of 35KV

## Grid-tied Mode

The connection mode of photovoltaic power station tie to the grid can be divided into four ways——Dedicated Access, T Access, Dedicated Access or T Access to user's Internal power grid.

## Requirements of Grid-tied Capacity

Small photovoltaic power station should not be more than 25% of the maximum load of the main transformer.

The capacity that T access to the medium photovoltaic power station of the grid should be limited in 30% of the maximum transmission capacity in grid lines. And the entire installed capacity of single grid connection point should be less than 6 MW.



## How to make the photovoltaic power system more stable and efficient?

KSTAR, expert in integrated solutions for photovoltaic inverter system construction for highly efficient photovoltaic power station



# KSTAR, an integrated solutions provider for photovoltaic inverter systems

KSTAR provides clients with integrated solutions for photovoltaic inverter, PV array combiner, DC power distribution cabinet, isolation transformer, turnkey station, and monitoring system.

## Integrated solutions

- Reduce the cost ·Fast installation, convenient maintenance
- System with strong compatibility, easy to extend ·Perfect hardware functions
- Avoid system function overlap, reduce the system cost

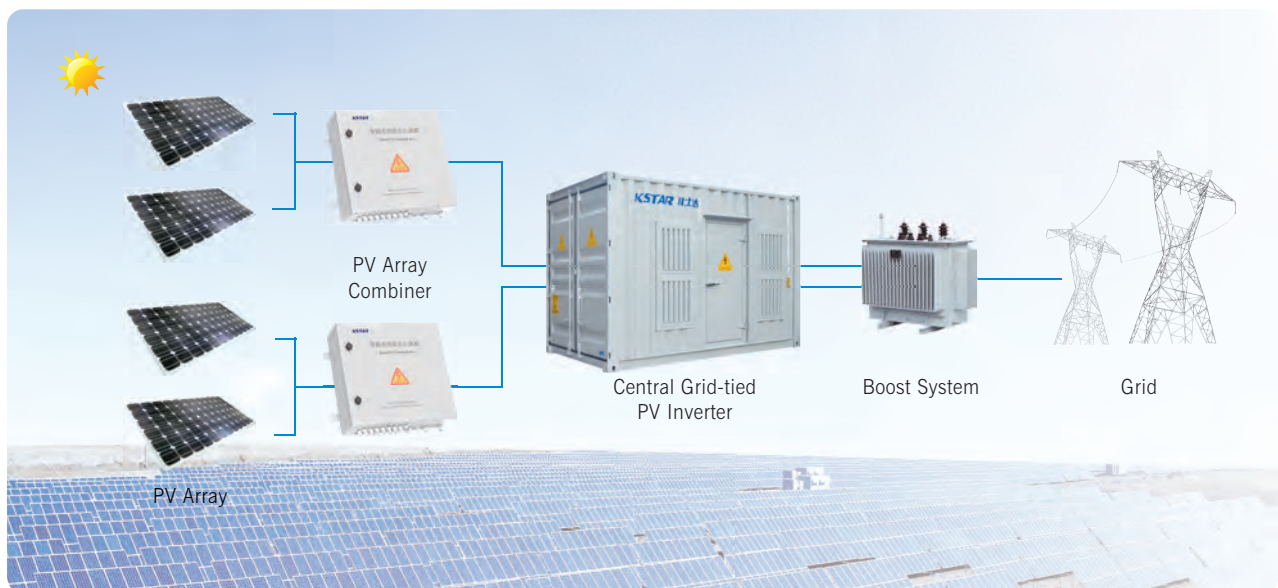


# Solutions for Large Grid-tied Photovoltaic Power Station

System can be connected to the grid of high voltage, for example, 22KV, 35KV or above. The power of solar array is feeded into the grid via PV array combiner, DC distribution, AC distribution solar inverter, and boost transformer.

Central Grid-tied PV Inverter recommended:

GSL Seires、GSH Seires

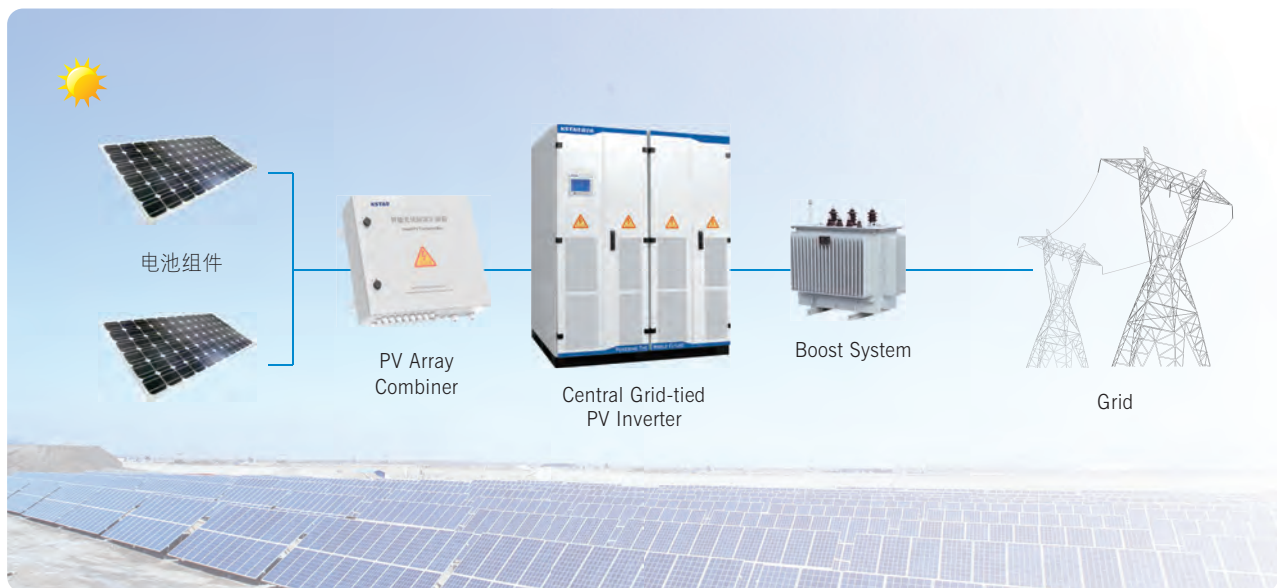


# Solutions for Medium Grid-tied Photovoltaic Power Station

System can be connected to the grid of 10KV or 35KV, The power of solar array is feeded into the grid via PV array combiner, DC distribution, AC distribution solar inverter, and boost transformer.

Central Grid-tied PV Inverter recommended:

KSG Seires    GSM Seires

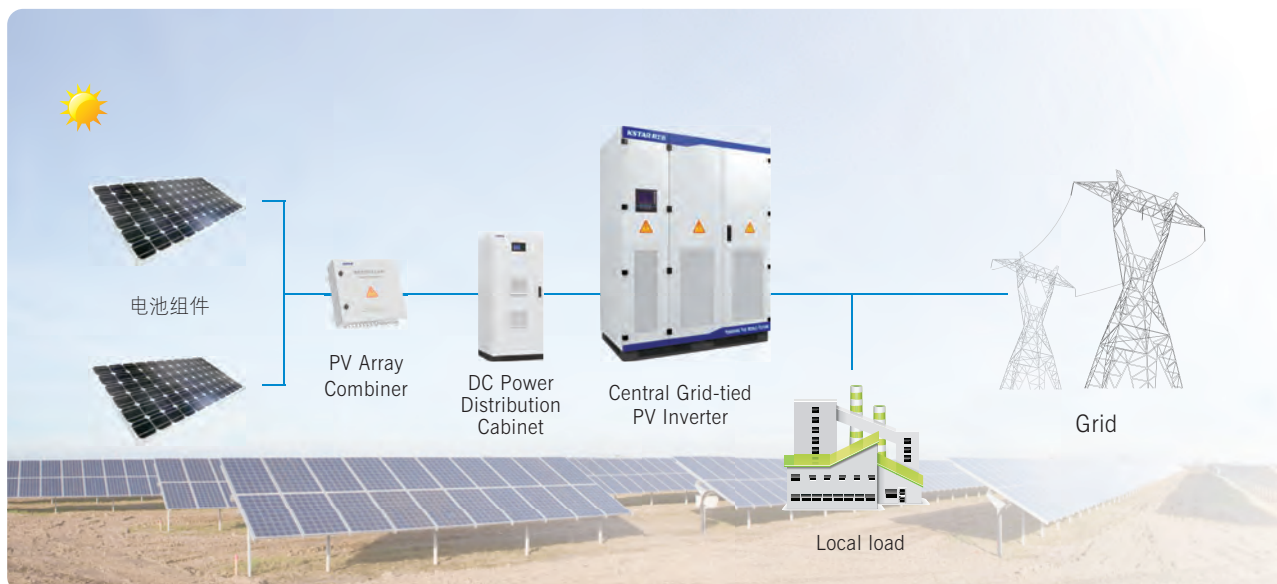
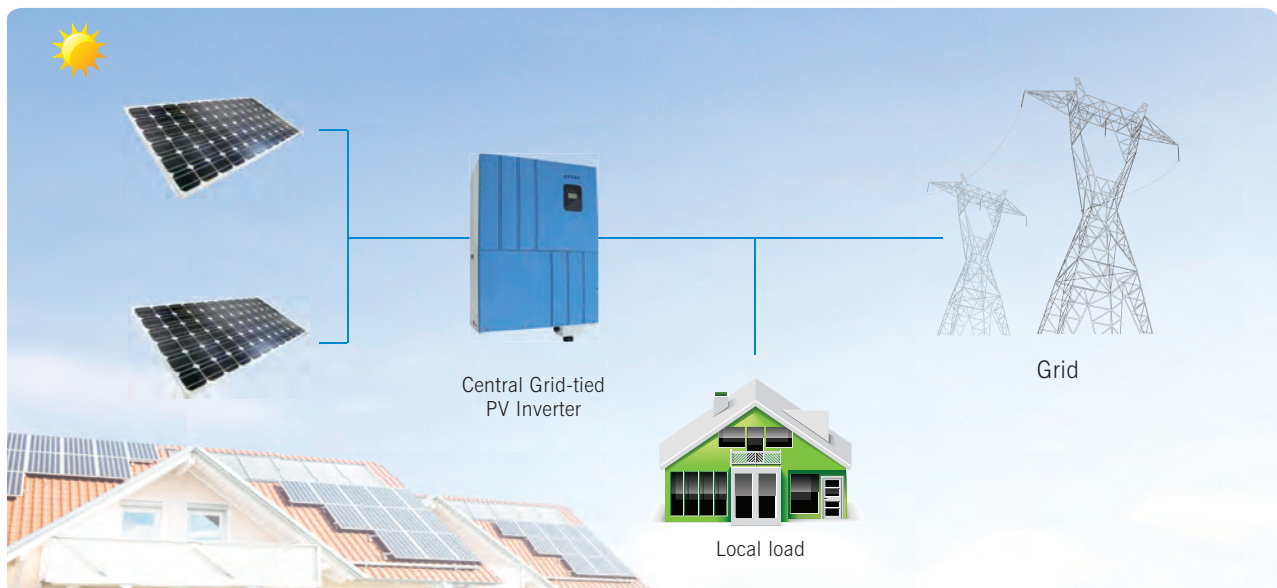


# Solutions for Small Grid-tied Photovoltaic Power Station > choose Central Grid-tied PV Inverter

System can be connected to the grid of 380V, 400V. Once the local load requirements meet, the power of solar arrays is feeded into the grid via PV array combiner, DC distribution, AC distribution solar inverter, and boost transformer.

Grid-tied PV Inverter recommended:

GSL Seires、KSG Seires







# KSG-SM SERIES

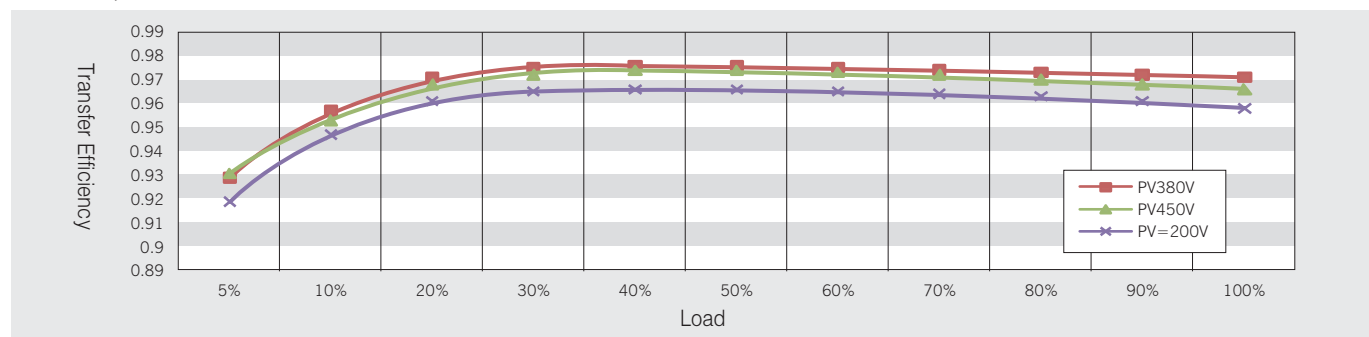
1KW/1.5KW/2KW/3KW

- Max PV Voltage up to 500V
- Single MPPT
- High efficiency up to 97.5%
- Smaller and Lighter
- IP65 protection
- Easy installation

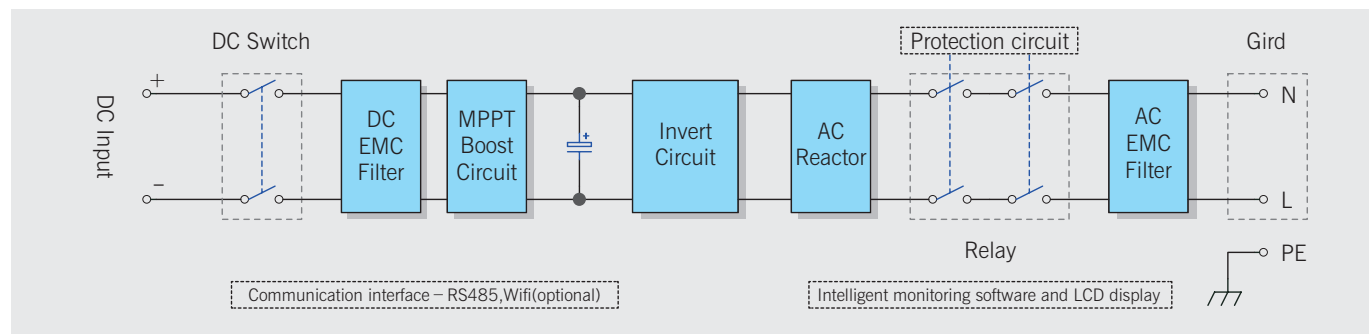


CE, TUV ( VDE 4105/VDE 0126 ) , SAA, G83, C10/11

## Efficiency curve



## Circuit diagram



## KSG-SM Series Technical Specifications

Model	KSG-1K-SM	KSG-1.5K-SM	KSG-2K-SM	KSG-3K-SM
Input (DC)				
Max. DC power	1150W	1600W	2100W	3100W
Max. DC voltage / Norminal DC voltage	500Vdc / 380Vdc			
MPPT voltage range	100~490Vdc			
Full load MPPT voltage range	105~400Vdc	145~400Vdc	190~400Vdc	240~400Vdc
Min. / start DC voltage	120 / 130Vdc			
Number of MPP trackers	1			
Strings per MPP tracker	1			
Max. input current per MPP tracker	11A			13A
Output (AC)				
Max. AC output Power	1000W	1500W	2000W	3000W
Norminal AC voltage	230Vac			
AC voltage range	230Vac±20%			
Norminal AC grid frequency	50 / 60Hz			
AC grid frequency range	50 / 60Hz(±5Hz)			
Max. output current	4.5A	7A	9A	14A
Power factor (cos φ)	1			
THDI	<3%			
AC connection	LN+PE			
Topology	Transformerless			
Efficiency				
Max. efficiency	96.5%		97.6%	
Euro efficiency	96%		97%	
MPPT efficiency	99.90%			
Consumption: standby / night	<5W / <0.2W			
Protection devices				
PV input insulation protection	Yes			
AC short-circuit protection	Yes			
Ground fault monitoring	Yes			
Mechanism Data				
Dimensions (W / L / D) in mm	264 / 326 / 127			
Weight	7.6Kg	8.1Kg		8.6Kg
Environment Data				
Operating temperature range	-25℃ ~ +60℃			
Noise emission (typical)	≤ 25dB			
Cooling concept	Natural cooling			
Protection rating	IP65			
Features				
LCD display	Yes			
Interfaces	RS485 / WIFI ( External )			
Optional	DC Switch / WIFI			

Specifications subject to change without prior notice.



# KSG-DM SERIES

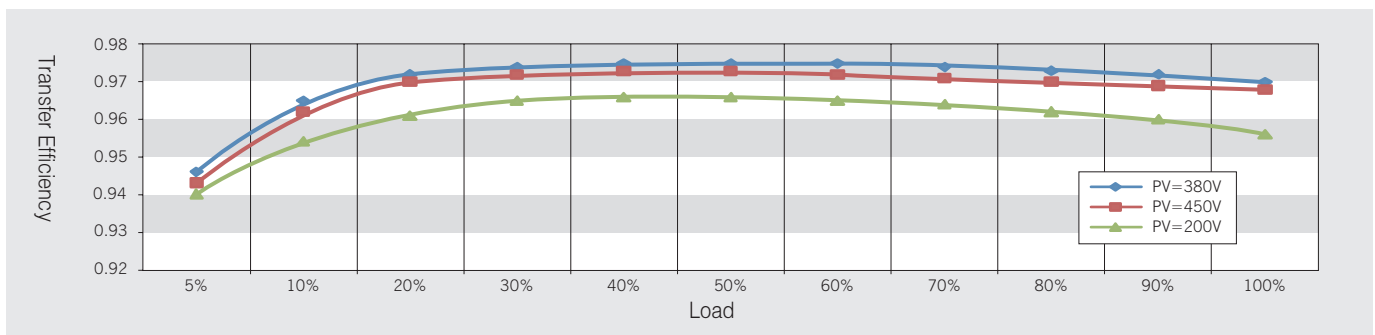
3.2KW/3.6KW/4KW/4.6KW/5KW

- Max PV Voltage up to 500V
- Double MPPT
- High efficiency up to 97.5%
- Smaller and Lighter
- IP65 protection
- Easy installation
- Reactive power controller
- Digital controller

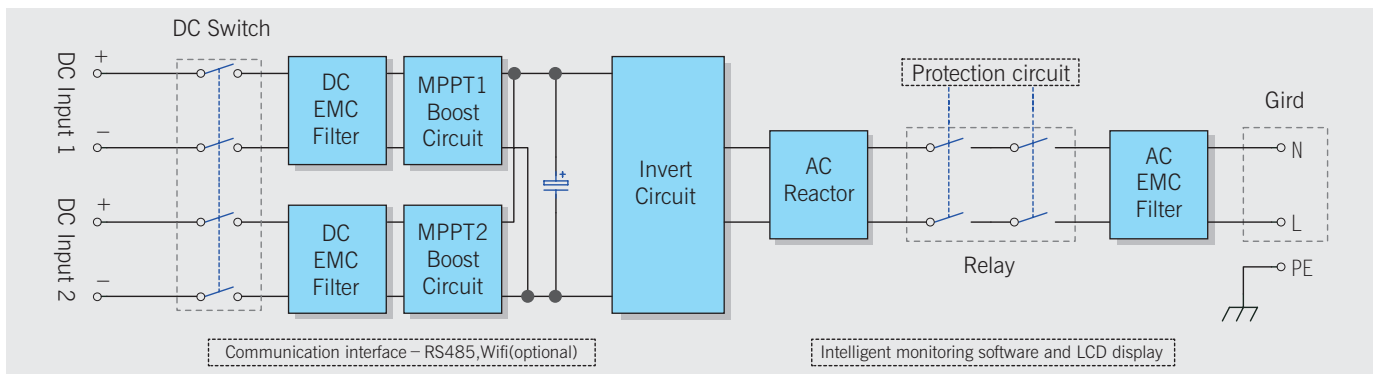


CE、TUV ( VDE 4105/VDE 0126 )、SAA、G59、C10/11

## Efficiency curve



## Circuit diagram

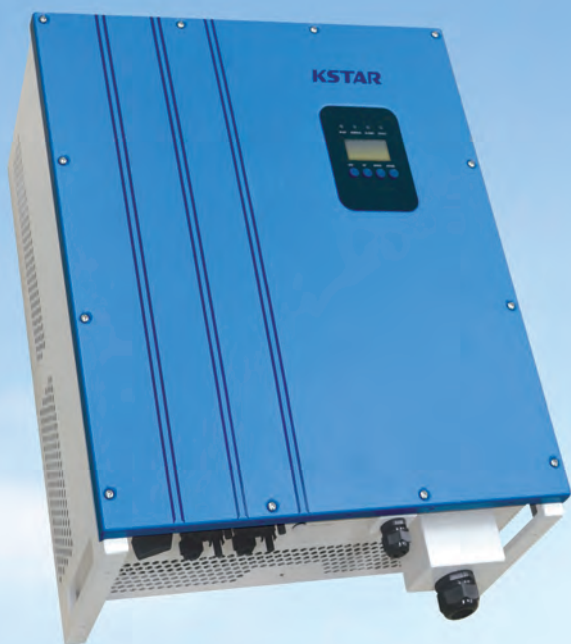


## KSG-DM Series Technical Specifications

Model	KSG-3.2K-DM	KSG-3.6K-DM	KSG-4K-DM	KSG-4.6K-DM	KSG-5.0K-DM
Input(DC)					
Max. DC power	3300W	3800W	4200W	4600W	5200W
Max. DC voltage / Norminal DC voltage	500Vdc / 380Vdc				
MPPT voltage range	100~490Vdc				
Min. / start DC voltage	120 / 150Vdc				
Full load MPPT voltage range	150~400Vdc	145~400Vdc	165~400Vdc	200~400Vdc	
Number of MPP trackers	2				
Strings per MPP tracker	1				
Max. DC power per MPP tracker	1800W	2200W	2500W	3000W	
Max. input current per MPP tracker	11A / 11A	13A / 13A			
Output (AC)					
Max. AC output Power	3000W	3680W	4000W	4600W	5000W
Norminal AC voltage	230Vac				
AC voltage range	230Vac±20%				
Norminal AC grid frequency	50 / 60Hz				
AC grid frequency range	50 / 60Hz(±5Hz)				
Max. output current	14A	16A	17.5A	20A	22A
Power factor (cos φ)	Lagging0.9 – leading 0.9				
THDI	<3%				
AC connection	LN+PE				
Topology	Transformerless				
Efficiency					
Max. efficiency	97.5%				
Euro efficiency	97%				
MPPT efficiency	99.90%				
Consumption: standby / night	<5W / <0.2W				
Protection devices					
PV input insulation protection	Yes				
AC short-circuit protection	Yes				
Ground fault monitoring	Yes				
Mechanism Data					
Dimensions (W / L / D) in mm	329 / 466 / 149				
Weight	14.5Kg	14.9Kg		15.5Kg	
Environment Data					
Operating temperature range	-25℃~+60℃				
Noise emission (typical)	≤ 25dB				
Cooling concept	Natural cooling				
Protection rating	IP65				
Features					
LCD display	Yes				
Interfaces	RS485 / WIFI （Internal）				
Optional	DC Switch / WIFI				

Specifications subject to change without prior notice.





# KSG-DM SERIES

10KW/12KW/15KW/17KW/20KW

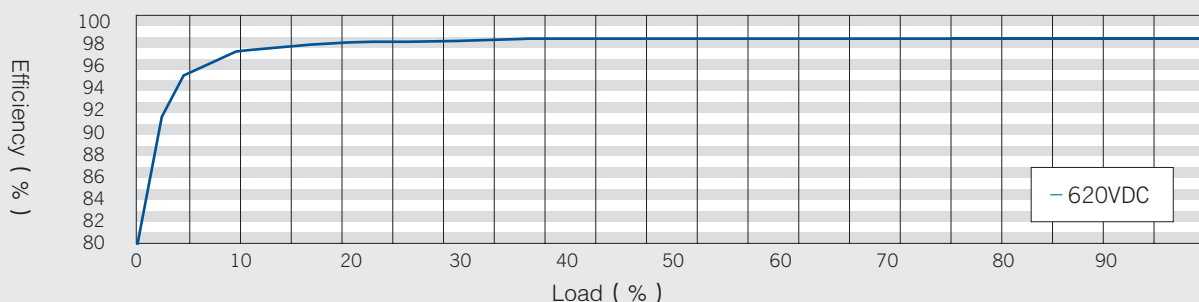
- Max PV Voltage up to 1000V
- Double MPPT
- High efficiency up to 98.0%
- Smaller and Lighter
- IP65 protection
- Easy installation
- Reactive power controller
- Digital controller



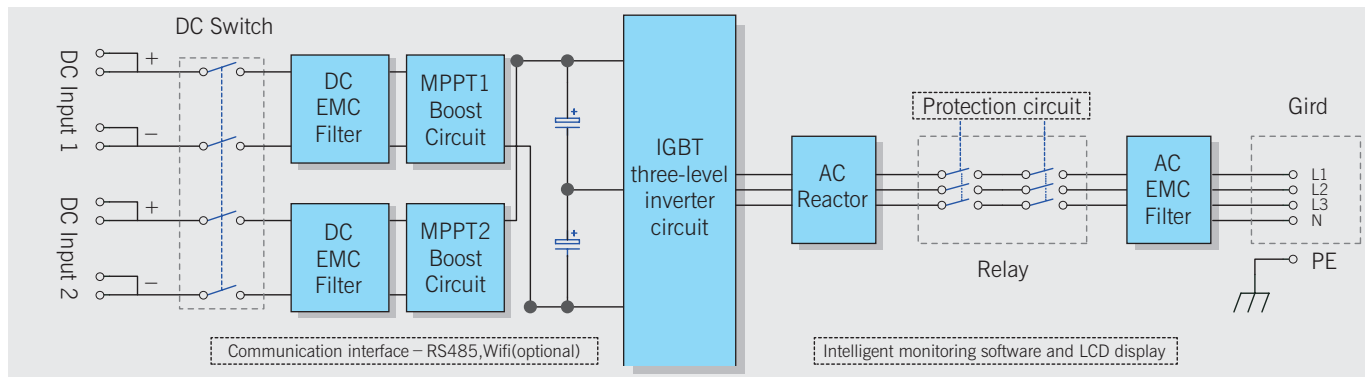
VDE 4105 / VDE 0126

CE、SAA、BV ( VDE 4105/VDE 0126 ) 、C10/11

## Efficiency curve



## Circuit diagram



## KSG-DM Series Technical Specifications

Model Specifications	KSG-10K	KSG-12K	KSG-15K	KSG-17K	KSG-20K
Input(DC)					
Max. DC power	11.5KW	13.5KW	16.5KW	18.5KW	22.5KW
Max. DC voltage	1000Vdc				
MPPT voltage range	250~950Vdc				
Full load voltage range	480~800Vdc				
Norminal DC voltage	620Vdc				
Min. / start DC voltage	200 / 250Vdc				
Number of MPP trackers	2				
Strings per MPP tracker	1		2		
Max. input current per MPP tracker	13A / 13A		21A / 21A		
Output (AC)					
Norminal AC output Power	10KW	12KW	15KW	17KW	20KW
Max. AC output Power	11KW	13KW	16KW	18KW	22KW
Norminal AC voltage	400Vac				
AC voltage range	400Vac ±20%				
Norminal AC grid frequency	50 / 60Hz				
AC grid frequency range	50 / 60Hz(±5Hz)				
Max. output current	17A	20A	24A	27A	32A
Power factor (cos φ)	0.8leading-0.8lagging				
THDI	<3%				
AC connection	3W+N+PE/3W+PE				
Topology	Transformer less				
Efficiency					
Max. efficiency	98.0%				
Euro efficiency	97.5%		97.5%		
Protection devices					
AC leakage current fault monitoring	Yes				
Ground fault monitoring	Yes				
Mechanism Data					
Dimensions (W / L / D) in mm	553 / 715 / 228				
Weight	35Kg		39Kg		
Environment Data					
Operating temperature range	-25℃~+60℃				
Noise emission (typical)	≤40dB				
Cooling concept	Natural cooling				
Protection rating	IP65				
Features					
LCD display	Yes				
Interfaces	RS485				

Specifications subject to change without prior notice.



# KSG-TM SERIES

30KW / 50KW / 60KW

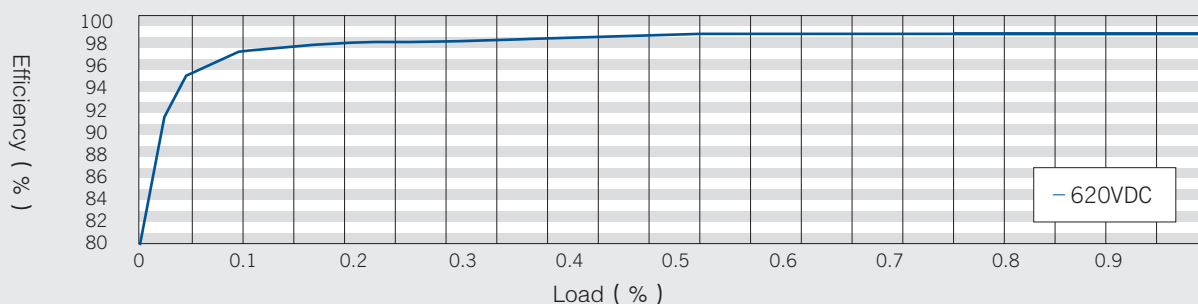
- Max PV Voltage up to 1000V
- Three MPPT
- High efficiency up to 98.6%
- IP65 protection
- Easy installation
- Reactive power controller
- Digital controller



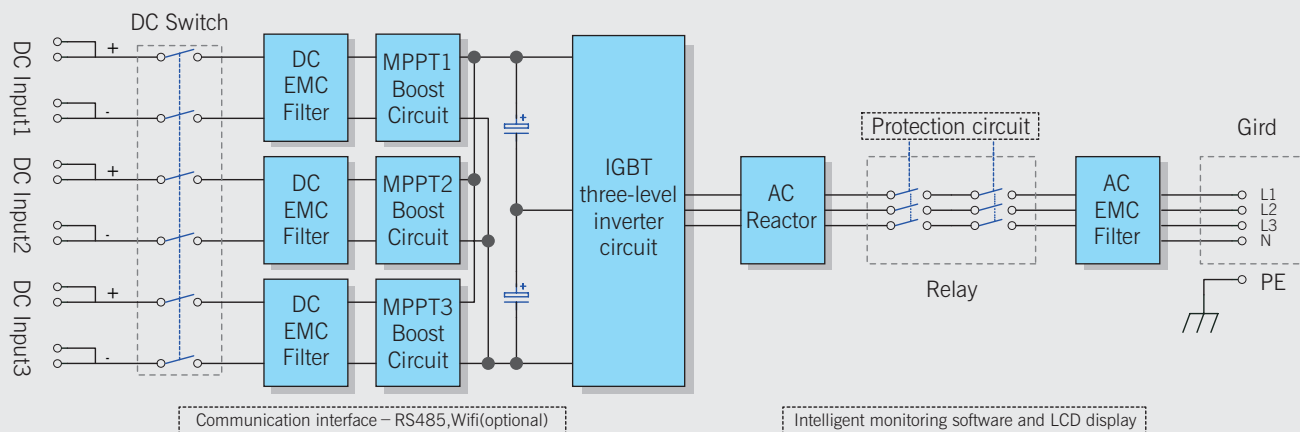
VDE 4105 / VDE 0126

CE、SAA、BV ( VDE 4105/VDE 0126 ) 、C10/11

## Efficiency curve



## Circuit diagram

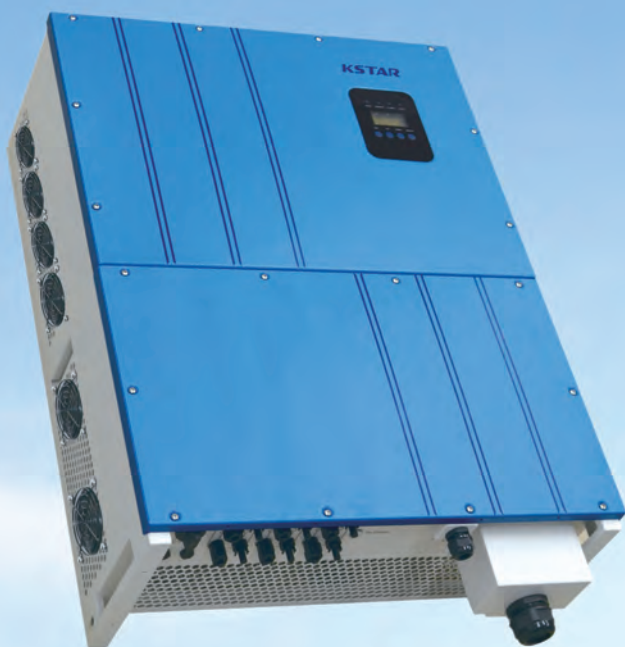


## KSG-TM Series Technical Specifications

Model	Specifications	KSG-30K	KSG-50K	KSG-60K
Input(DC)				
Max. DC power		35KW	56KW	67KW
Max. DC voltage		1000Vdc		
MPPT voltage range		250~950Vdc		
Full load MPPT voltage range		400~800Vdc	480~800Vdc	500~800Vdc
Norminal DC voltage		620Vdc		
Min. / start DC voltage		200 / 250Vdc		
Number of MPP trackers		3		
Strings per MPP tracker		2	4	
Max. input current per MPP tracker		26A / 26A / 26A	36A / 36A / 36A	40A / 40A / 40A
Output (AC)				
Norminal AC output Power		30KW	50KW	60KW
Max. AC output Power		33KW	55KW	66KW
Norminal AC voltage		400Vac		
AC voltage range		400Vac±20%		
Norminal AC grid frequency		50 / 60Hz		
AC grid frequency range		50 / 60Hz(±5Hz)		
Rated. output current		44A	72A	87A
Max. output current		48A	80A	95A
Power factor (cos ϕ)		0.8leading-0.8lagging		
THDI		<3%		
AC connection		3W+N+PE/3W+PE		
Topology		Transformer less		
Efficiency				
Max. efficiency		98.3%	98.6%	
Euro efficiency		98.0%	98.2%	
Protection devices				
AC leakage current fault monitoring		Yes		
Ground fault monitoring		Yes		
Mechanism Data				
Dimensions (W / L / D) in mm		636 / 958 / 260		
Weight		61Kg	68Kg	70Kg
Environment Data				
Operating temperature range		-25℃ ~ +60℃		
Noise emission (typical)		≤40dB	≤60dB	
Cooling concept		Natural cooling	fans	
Protection rating		IP65		
Features				
LCD display		Yes		
Interfaces		RS485		

Specifications subject to change without prior notice.





# KSG-HV SERIES

36KW/60KW/80KW

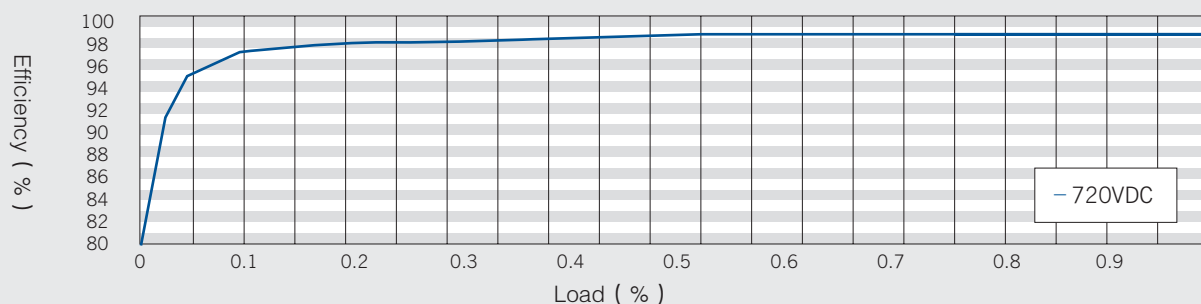
- Max PV Voltage up to 1000V
- Multi-channel MPPT
- High efficiency up to 98.6%
- IP65 protection
- Easy installation
- Reactive power controller
- Digital controller



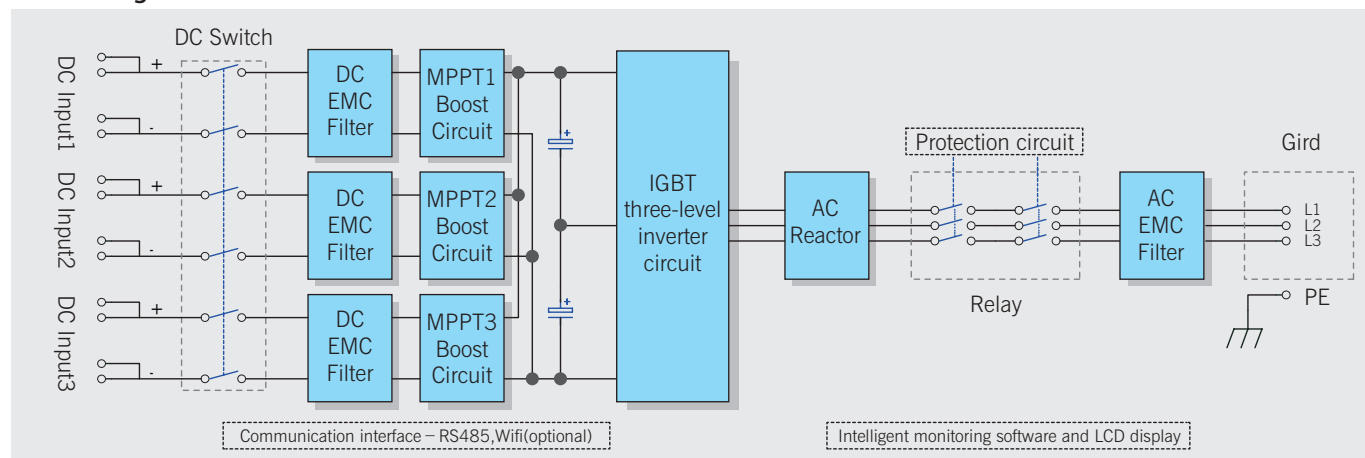
VDE 4105 / VDE 0126

CE, SAA, BV ( VDE 4105/VDE 0126 ) 、C10/11

## Efficiency curve



## Circuit diagram



## KSG-HV Series Technical Specifications

Model Specifications	KSG-36K-HV	KSG-60K-HV	KSG-80K-HV
Input(DC)			
Max. DC power	41KW	67KW	80KW
Max. DC voltage	1000Vdc		
MPPT voltage range	250~950Vdc		
Full load MPPT voltage range	550~800Vdc		
Norminal DC voltage	720Vdc		
Min. / start DC voltage	200 / 250Vdc		
Number of MPP trackers	3		6
Strings per MPP tracker	2	4	2
Max. input current per MPP tracker	26A / 26A / 26A	36A / 36A / 36A	22A×6
Output (AC)			
Norminal AC output Power	36KW	60KW	72KW
Max. AC output Power	40KW	66KW	80KW
Norminal AC voltage	480Vac		
AC voltage range	480Vac±10%		
Norminal AC grid frequency	50 / 60Hz		
AC grid frequency range	50 / 60Hz(±5Hz)		
Rated. output current	44A	72A	87A
Max. output current	48A	80A	97A
Power factor (cos φ)	0.8leading- 0.8lagging		
THDI	<3%		
AC connection	3W+PE		
Topology	Transformer less		
Efficiency			
Max. efficiency	98.5%	98.6%	
Euro efficiency	98.2%		
MPPT efficiency	99.9%		
Consumption: standby / night	<15W / <0.2W		
Protection devices			
AC leakage current fault monitoring	Yes		
AC short-circuit protection	Yes		
Ground fault monitoring	Yes		
Mechanism Data			
Dimensions (W / L / D) in mm	636 / 958 / 260		
Weight	61Kg	68Kg	70Kg
Environment Data			
Operating temperature range	-25℃~-+60℃		
Noise emission (typical)	≤40dB	≤60dB	
Cooling concept	Natural cooling	fans	
Protection rating	IP65		
Features			
LCD display	Yes		
Interfaces	RS485		

Specifications subject to change without prior notice.

# GSL SERIES

## Central Grid-tied PV Inverter

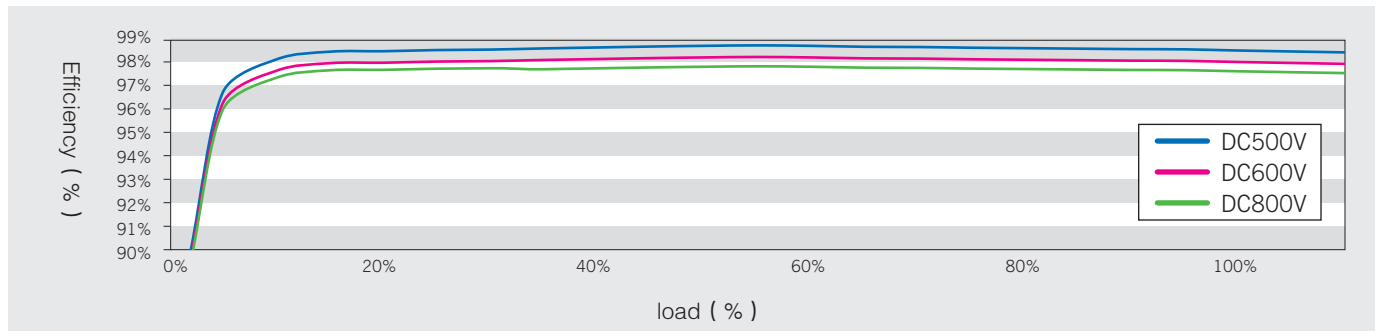
500KW-750KW

- More than 25 years of life span
- Transformer-less design and compact in size
- System with strong compatibility, easy to extend
- Good cooling system and safety design
- MPPT efficiency > 99.9%
- Maximum efficiency > 98.7%
- Euro. efficiency > 98.5%
- Standby(night time) losses < 10W
- Redundancy control circuits designed-in and over-size metalized film capacitors are used to guarantee its safe operation and system reliability
- Reactive power adjustable
- Unique Zero Voltage Ride Through (ZVRT) function, anti-islanding and output abnormal voltage protection secures its safe
- Advanced DSP Control makes data more accurate
- Active power adjustable continuous full range (0~100%)
- Support a variety of communication interfaces
- Perfect protection functions
- Support SVG function, the realization of power reactive compensation at night

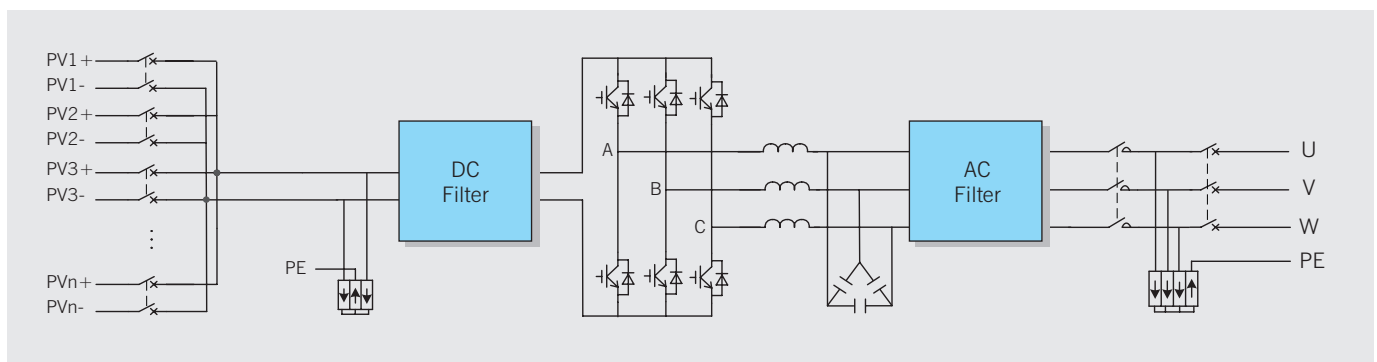


CE、TUV、ZVRT

GSL0500 Efficiency curve



GSL0500 / GSL0630 / GSL0750 Circuit diagram



## GSL Series Technical Specifications

MODEL	GSL0500	GSL0630	GSL0750
INPUT			
Max. DC input power	550KW	690KW	825KW
Max.DC input voltage	1000Vdc		
MPPT voltage range	450 ~ 850Vdc		500 ~ 850Vdc
Max. DC input number	8	10	
Max. input current	1200A	1440A	1500A
OUTPUT			
Rated output power	500KW	630KW	750KW
Rated output voltage	315Vac	315Vac	350Vac
Output voltage range	(1±15%)×Normal AC Voltage (adjustable ±5%,±10%,±15%,±20%)		
Gird frequency range	50 / 60Hz(±4.5Hz), (adjustable)		
Rated AC output current	916A	1155A	1237A
Max. AC output current	1007A	1264A	1360A
Power factor (cosΦ)	1 ( 0.9 leading – 0.9 lagging) (adjustable)		
Total harmonic current distortion (THDi)	<3%		
SYSTEM FEATURES			
Max. efficiency	98.7%		
Euro efficiency	98.5%		
MPPT efficiency	>99%		
Standby (night time) losses	<10W		
Cooling	Forced air cooling		
Communication interface	RS485, external Ethernet (optional)		
ENVIRONMENTAL			
Operating temperature	–40℃ ~ + 60℃ ( More than 55℃ derating )		
Humidity range	0 ~ 95% (non-condensing)		
Altitude	3000m		
Noise level	<60dB		
Protection rating	IP21		
PHYSICAL			
Dimension W×D×H (mm)	1600×850×2000		
Net Weight (kg)	1200	1300	1450
STANDARDS			
IEC	IEC60068-2, IEC61683:1999, IEC62109-1,2 , IEC61727:2004, IEC62116:2008, IEC61000-6,3		

Specifications subject to change without prior notice.



# GSM SERIES

## Three level PV inverter

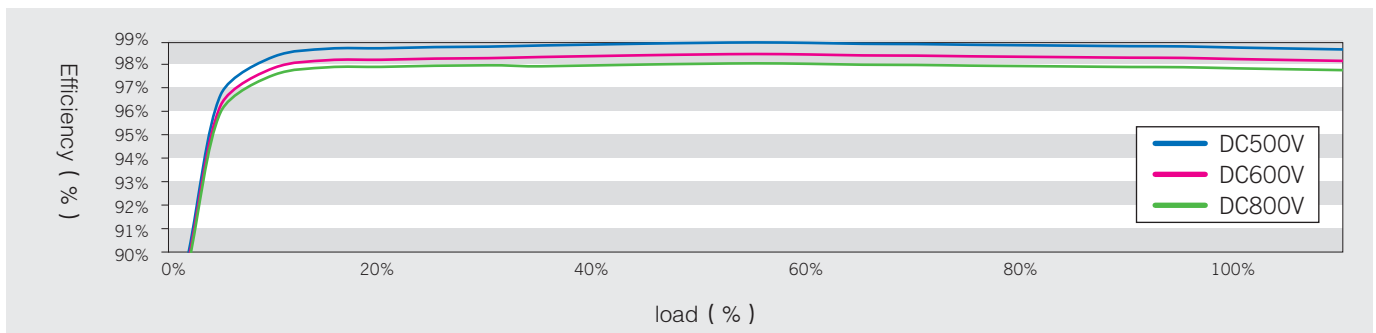
500~630KW

- More than 25 years of life span
- Transformer-less design and compact in size
- System with strong compatibility, easy to extend
- Good cooling system and safety design
- MPPT efficiency > 99.9%
- Maximum efficiency > 99%
- Euro. efficiency > 98.7%
- Standby(night time) losses<10W
- Redundancy control circuits designed-in and over-size metalized film capacitors are used to guarantee its safe operation and system reliability
- Reactive power adjustable
- Unique Zero Voltage Ride Through (ZVRT) function, anti-islanding and output abnormal voltage protection secures its safe
- Advanced DSP Control makes data more accurate
- Active power adjustable continuous full range (0~100%)
- Support a variety of communication interfaces
- Perfect protection functions
- Support SVG function, the realization of power reactive compensation at night
- 4 MPPT 4 Modul

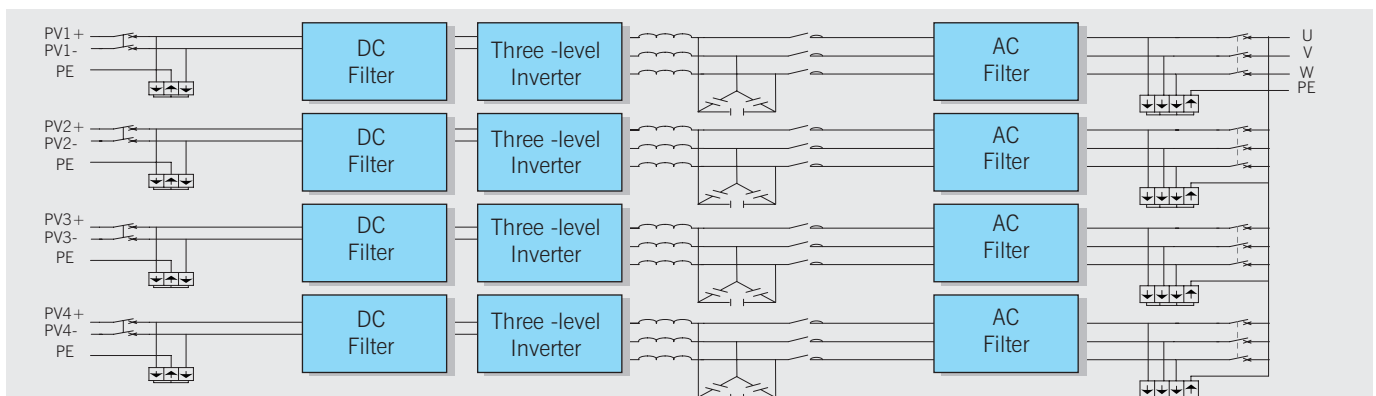


CE、TUV、ZVRT

GSM0500 Efficiency curve



GSM0500 Circuit diagram



## GSM Series Technical Specifications

MODEL	GSM0500	GSM0630
INPUT		
Max. DC input power	550KW	690KW
Max.DC input voltage	1000Vdc	
MPPT voltage range	460 ~ 850Vdc	
Number of MPP trackers	4	
DC input number	8	
Max. input current	1200A	1400A
OUTPUT		
Rated output power	500KW	630KW
Rated output voltage	315Vac	
Output voltage range	(1±15%)×Normal AC Voltage (adjustable ±5%,±10%,±15%,±20%)	
Gird frequency range	50 / 60Hz(±4.5Hz), (adjustable)	
Rated AC output current	916A	1155A
Max. AC output current	1007A	1264A
Power factor (cosΦ)	1 ( 0.9 leading – 0.9 lagging) (adjustable)	
Total harmonic current distortion (THDi)	<3%	
SYSTEM FEATURES		
Max. efficiency	99%	
Euro efficiency	98.7%	
MPPT efficiency	>99%	
Standby (night time) losses	<10W	
Cooling	Forced air cooling	
Communication interface	RS485, External Ethernet (optional)	
ENVIRONMENTAL		
Operating temperature	-40~ + 60℃ ( More than 55℃ derating )	
Humidity range	0 ~ 95% (non-condensing)	
Altitude	3000m	
Noise level	<60dB	
Protection rating	IP21	
PHYSICAL		
Dimension W×D×H (mm)	1600×850×2000	
Net Weight (kg)	1400	

Specifications subject to change without prior notice.

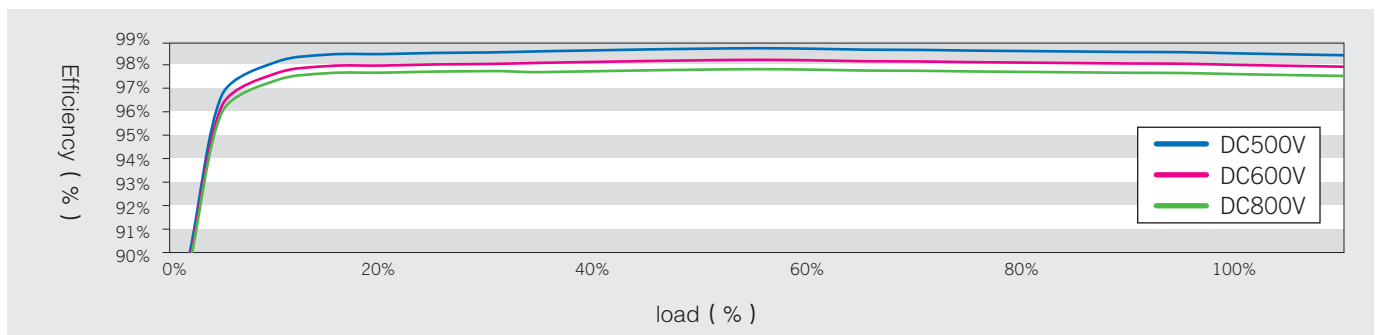
# GSH SERIES

## Central Grid high efficiency PV inverter

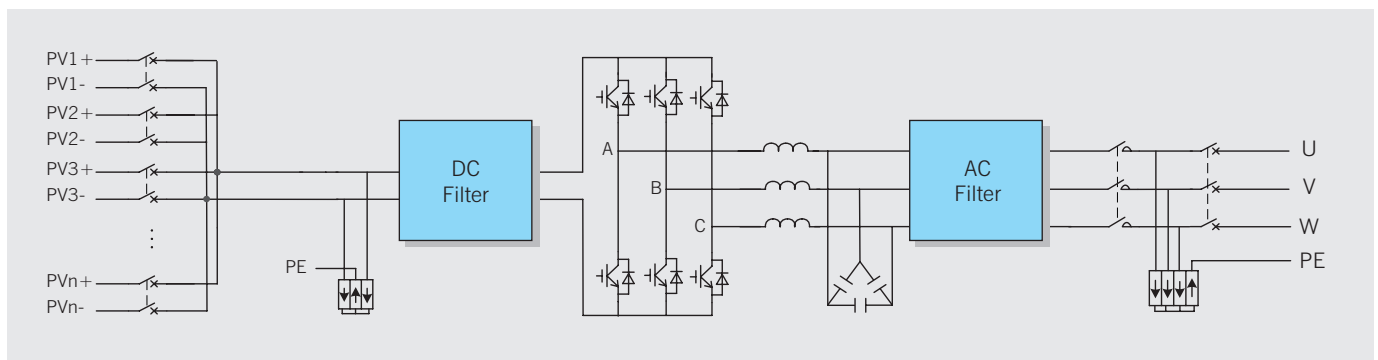
1 MW

- DC1500V system
- More than 25 years of life span
- Transformer-less design and compact in size
- System with strong compatibility, easy to extend
- Good cooling system and safety design
- MPPT efficiency > 99.9%
- Maximum efficiency > 98.7%
- Euro. efficiency > 98.5%
- Standby(night time) losses<10W
- Redundancy control circuits designed-in and over-size metalized film capacitors are used to guarantee its safe operation and system reliability
- Reactive power adjustable
- Unique Zero Voltage Ride Through (ZVRT) function, anti-islanding and output abnormal voltage protection secures its safe
- Advanced DSP Control makes data more accurate
- Active power adjustable continuous full range (0~100%)
- Support a variety of communication interfaces
- Perfect protection functions
- Support SVG function, the realization of power reactive compensation at night

GSH1000 Efficiency curve



GSH1000 Circuit diagram



## GSH Series Technical Specifications

MODEL		GSH1000
INPUT		
Max. DC input power		1100KW
Max.DC input voltage		1500Vdc
MPPT voltage range		820 ~ 1300Vdc
DC input number		8
Max. input current		1400A
OUTPUT		
Rated output power		1000KW
Rated output voltage		540Vac
Output voltage range		$(1 \pm 15\%) \times \text{Normal AC Voltage}$ (adjustable $\pm 5\%, \pm 10\%, \pm 15\%, \pm 20\%$ )
Gird frequency range		50/60Hz( $\pm 4.5\text{Hz}$ ), (adjustable)
Rated AC output current		1070A
Max. AC output current		1180A
Power factor (cosΦ)		1 ( 0.9 leading – 0.9 lagging) (adjustable)
Total harmonic current distortion (THDi)		<3%
SYSTEM FEATURES		
Max. efficiency		98.8%
Euro efficiency		98.6%
MPPT efficiency		>99%
Standby (night time) losses		<10W
Cooling		Forced air cooling
Communication interface		RS485, external Ethernet (optional)
ENVIRONMENTAL		
Operating temperature		-40°C ~ + 60°C ( More than 55°C derating )
Humidity range		0~95% (non-condensing)
Altitude		3000m
Noise level		<60dB
Protection rating		IP21
PHYSICAL		
Dimension W×D×H (mm)		1600×850×2100
Net Weight (kg)		1500

Specifications subject to change without prior notice.



# GSL SERIES with transformer Central Grid-tied PV Inverter

100KW-500KW

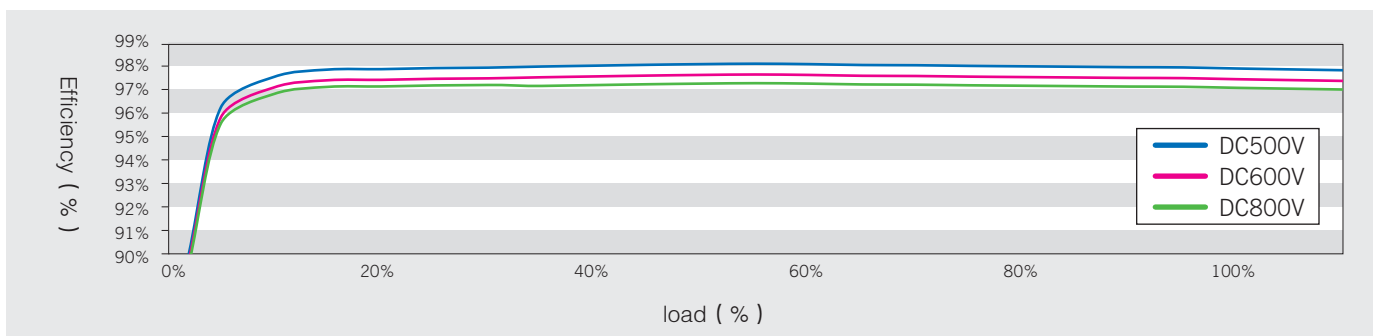


- More than 25 years of life span
- System with strong compatibility, easy to extend
- Good cooling system and safety design
- MPPT efficiency > 99.9%
- Maximum efficiency > 98.1%
- Euro. efficiency > 97.9%
- Standby(night time) losses<10W
- Redundancy control circuits designed-in and over-size metalized film capacitors are used to guarantee its safe operation and system reliability
- Reactive power adjustable
- Unique Zero Voltage Ride Through (ZVRT) function, anti-islanding and output abnormal voltage protection secures its safe
- Advanced DSP Control makes data more accurate
- Active power adjustable continuous full range (0~100%)
- Support a variety of communication interfaces
- Perfect protection functions
- Support SVG function,the realization of power reactive compensation at night

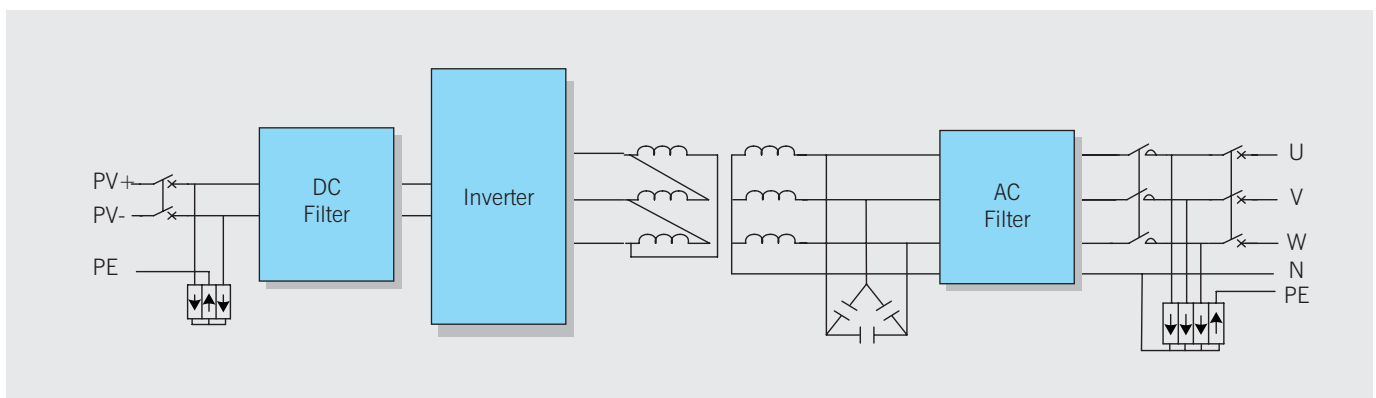


CE、TUV、ZVRT

GSL0500T Efficiency curve



GSL0100T / GSL0250T / GSL0500T Circuit diagram





## GSL Series With Transformer Technical Specifications

MODEL	GSL0100T		GSL0250T		GSL0500T	
INPUT						
Max. DC input power	110KW		275KW		550KW	
Max. DC input voltage	1000Vdc					
MPPT voltage range	450~850Vdc					
Number of MPP trackers	1					
Max. input current	240A		600A		1200A	
OUTPUT						
Rated output power	100KW		250KW		500KW	
Rated output voltage	400Vac					
AC output topology	3Ph+N+PE					
Output voltage range	(1±15%) x Normal AC Voltage (adjustable ±5%,±10%,±15%,±20%)					
Grid frequency range	50/ 60Hz (±4.5Hz), (adjustable)					
Rated AC output current	144A		361A		722A	
Max. AC output current	158A		397A		794A	
Power factor (cosΦ)	1 ( 0.9 leading – 0.9 lagging) (adjustable)					
Total harmonic current distortion (THDi)	<3%					
SYSTEM FEATURES						
Max. efficiency	97.7%		97.9%		98.1%	
Euro efficiency	97.4%		97.6%		97.9%	
MPPT efficiency	>99%					
Standby (night time) losses	<10W					
Cooling	Forced air cooling					
Communication interface	RS485 , external Ethernet (optional)					
ENVIRONMENTAL						
Operating temperature	-40℃~ + 60℃ ( More than 55℃ derating )					
Humidity range	0~95% (non-condensing)					
Altitude	3000m					
Noise level	<58db		<60dB			
Protection rating	IP21					
PHYSICAL						
Dimension W×D×H (mm)	835×935×2200		1200×935×2200		1600×935×2200	
Net weight (kg)	900		1470		2800	
STANDARDS						
CQC	CNCA/CTS0004-2009A, CNCA/CTS0006-2010, NB/T 32004-2013					
CE	IEC62109-1, IEC62109-2					
TUV	IEC62109-1, IEC62109-2, IEC/EN61000-6-2, IEC/EN61000-6-4, etc					

Specifications subject to change without prior notice.

# GSL Series Container

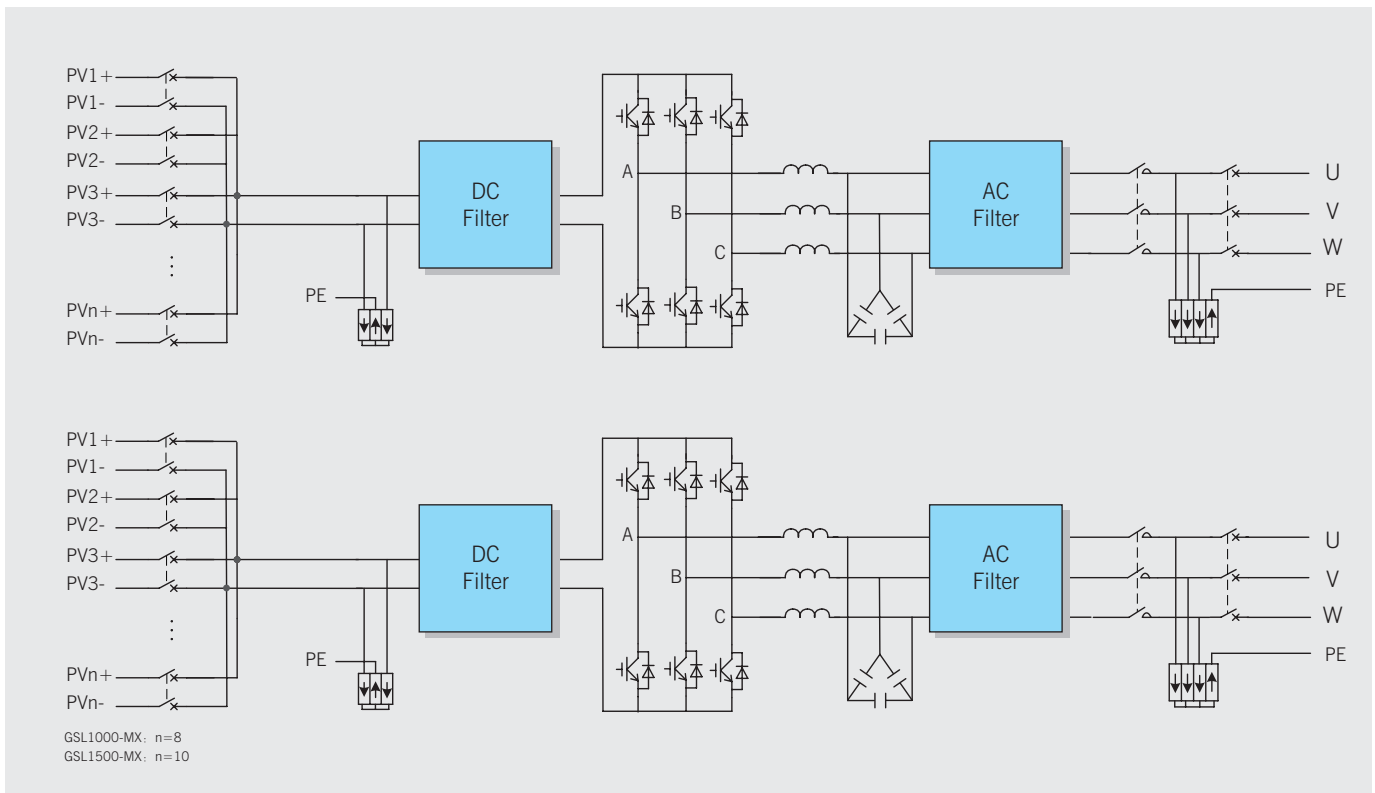
## Central Grid-tied PV Inverter with DC Power Distribution (outdoors)

1000KW-1500KW



- More than 25 years of life span
- IP54 protection class mechanism design
- System with strong compatibility, easy to extend
- Good Cooling system and safety design
- Fast installation, convenient to maintenance
- MPPT efficiency > 99.9%
- Maximum efficiency > 98.7%
- Euro. efficiency > 98.5%
- Standby(night time) losses<10W
- Adjustable power factor 0.9 leading~ 0.9 lagging
- Redundancy control circuits designed-in and over-size metalized film capacitors are used to guarantee its safe operation and system reliability
- Support SVG function, the realization of power reactive compensation at night
- Unique Low Voltage Ride Through(LVRT)function,anti-islanding and output abnormal voltage protection secures its safe
- Advanced DSP Control makes data more accurate
- Active power adjustable continuous full range (0~100%)
- Support a variety of communication interfaces
- Perfect protection functions
- Intelligent power distribution, to achieve an external auxiliary power and grid ac power backup, improve the system reliability

GSL1000 / GSL1260 / GSL1500 Circuit diagram



## GSL-MX Series Technical Specifications

MODEL	GSL1000		GSL1260		GSL1500	
INPUT						
Max. DC input power	1100KW		1386KW		1650KW	
Max.DC input voltage	1000Vdc					
MPPT voltage range	450～850Vdc					
Number of DC input	14(14～16 optional)		18(18～20 optional)		20(20～24 optional)	
Max. input current	2400A		2880A		3000A	
OUTPUT						
Rated output power	1000KW		1260KW		1500KW	
Rated output voltage	315Vac		315Vac		350Vac	
AC output topology	3Ph+PE					
Output voltage range	(1±15%) x Normal AC Voltage (adjustable ±5%,±10%,±15%,±20%)					
Gird frequency range	50/60Hz(±4.5Hz), (adjustable)					
Rated AC output current	1836A		2310A		2474A	
Max. AC output current	2014A		2424A		2720A	
Power factor (cosΦ)	1 ( 0.9 leading – 0.9 lagging) (adjustable)					
Total harmonic current distortion (THDi)	<3%					
SYSTEM FEATURES						
Max. efficiency	98.7%					
Euro efficiency	98.5%					
MPPT efficiency	>99%					
Standby(night time) losses	<10W					
Cooling	Forced air cooling					
Communication interface	RS485, external Ethernet (optional)					
ENVIRONMENTAL						
Operating temperature	-40℃ ~ + 60℃ ( More than 55℃ derating )					
Humidity range	0～95% (non-condensing)					
Altitude	3000m					
Noise level	<65dB				<70dB	
Protection rating	IP54					
PHYSICAL						
Dimension W×D×H (mm)	2991×2438×2591					
Net Weight (t)	5		5.2			

Specifications subject to change without prior notice.

# GSM Series Container

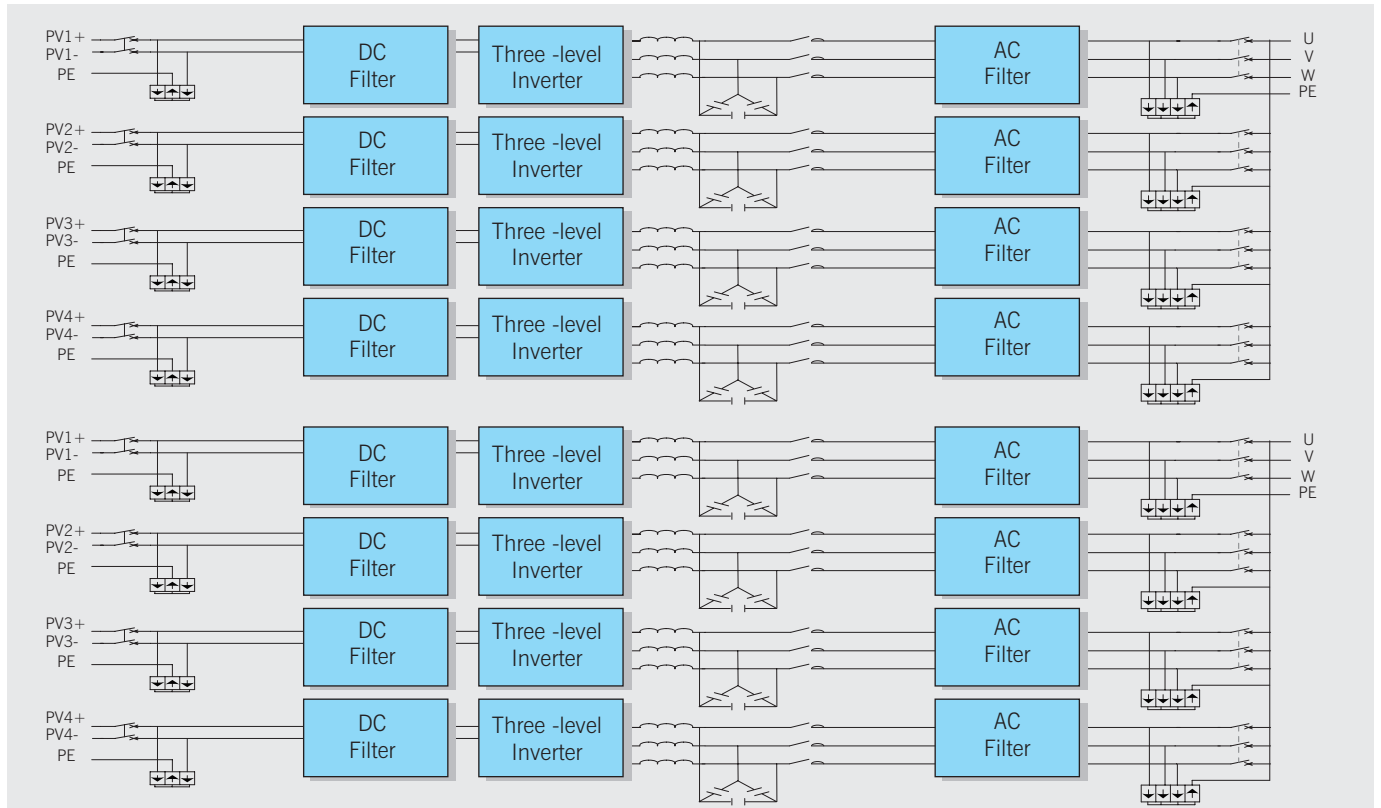
## Central Grid-tied PV Inverter with DC Power Distribution (outdoors)

1000KW-1260KW



- More than 25 years of life span
- IP54 protection class mechanism design
- System with strong compatibility, easy to extend
- Good Cooling system and safety design
- Fast installation, convenient to maintenance
- MPPT efficiency > 99.9%
- Maximum efficiency > 99%
- Euro. efficiency > 98.7%
- Standby(night time) losses<10W
- Adjustable power factor 0.9 leading~ 0.9 lagging
- Redundancy control circuits designed-in and over-size metalized film capacitors are used to guarantee its safe operation and system reliability
- Support SVG function, the realization of power reactive compensation at night
- Unique Low Voltage Ride Through(LVRT)function,anti-islanding and output abnormal voltage protection secures its safe
- Advanced DSP Control makes data more accurate
- Active power adjustable continuous full range (0~100%)
- Support a variety of communication interfaces
- Perfect protection functions
- Intelligent power distribution, to achieve an external auxiliary power and grid ac power backup, improve the system reliability

GSM1000 / GSM1260 Circuit diagram





## GSM Series Technical Specifications

MODEL	GSM1000	GSM1260
INPUT		
Max. DC input power	1100KW	1386KW
Max.DC input voltage	1000Vdc	
MPPT voltage range	460 ~ 850Vdc	
Number of MPP trackers	16	
Max. input current	2400A	2880A
OUTPUT		
Rated output power	1000KW	1260KW
Rated output voltage	315Vac	
Output voltage range	(1±15%)×Normal AC Voltage (adjustable ±5%,±10%,±15%,±20%)	
Gird frequency range	50 / 60Hz(±4.5Hz), (adjustable)	
Rated AC output current	1836A	2310A
Max. AC output current	2014A	2424A
Power factor (cosΦ)	1 ( 0.9 leading – 0.9 lagging) (adjustable)	
Total harmonic current distortion (THDi)	<3%	
SYSTEM FEATURES		
Max. efficiency	98.7%	
Euro efficiency	98.5%	
MPPT efficiency	>99%	
Standby (night time) losses	<10W	
Cooling	Forced air cooling	
Communication interface	RS485, External Ethernet (Optional)	
ENVIRONMENTAL		
Operating temperature	-40~ + 60℃ ( More than 55℃ derating )	
Humidity range	0~95% (non-condensing)	
Altitude	3000m	
Noise level	<65dB	<70dB
Protection rating	IP54	
PHYSICAL		
Dimension W×D×H (mm)	2991×2438×2591	
Net Weight (t)	5	5.2

Specifications subject to change without prior notice.

# GSH Series Container

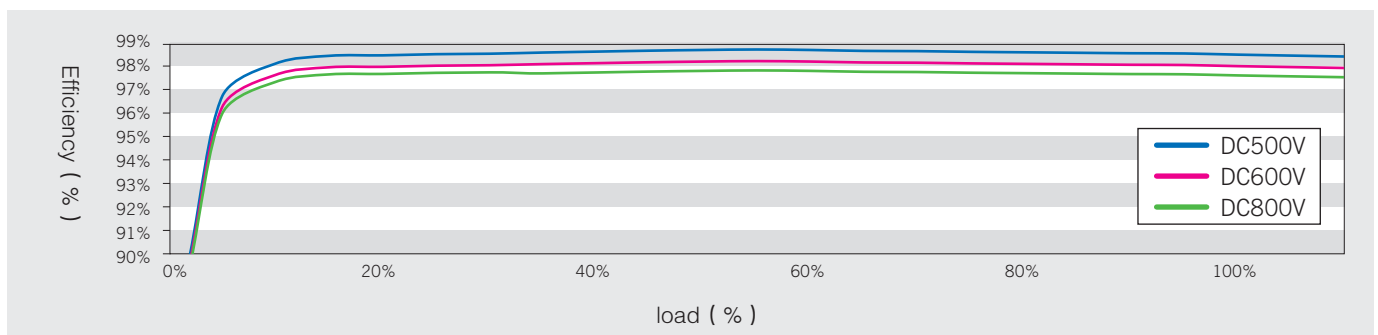
## Central Grid high efficiency PV inverter

2MW

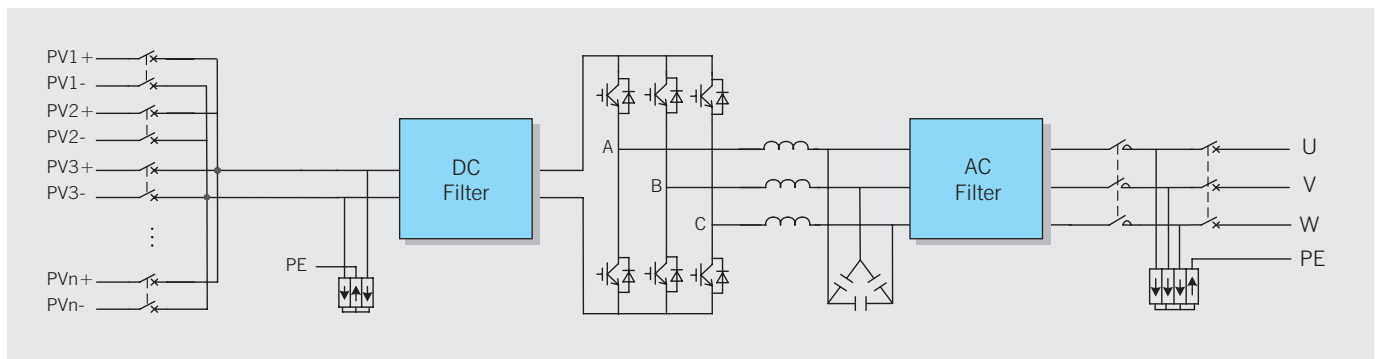


- DC1500V system
- More than 25 years of life span
- Transformer-less design and compact in size
- System with strong compatibility, easy to extend
- Good cooling system and safety design
- MPPT efficiency > 99.9%
- Maximum efficiency > 98.7%
- Euro. efficiency > 98.5%
- Standby(night time) losses<10W
- Redundancy control circuits designed-in and over-size metalized film capacitors are used to guarantee its safe operation and system reliability
- Reactive power adjustable
- Unique Zero Voltage Ride Through (ZVRT) function, anti-islanding and output abnormal voltage protection secures its safe
- Advanced DSP Control makes data more accurate
- Active power adjustable continuous full range (0~100%)
- Support a variety of communication interfaces
- Perfect protection functions
- Support SVG function, the realization of power reactive compensation at night

GSH2000 Efficiency curve



GSH2000 Circuit diagram



## GSH Series Technical Specifications

MODEL		GSH2000
<b>INPUT</b>		
Max. DC input power		2200KW
Max.DC input voltage		1500Vdc
MPPT voltage range		820 ~ 1250Vdc
DC input number		16
Max. input current		2800A
<b>OUTPUT</b>		
Rated output power		2000KW
Rated output voltage		540Vac
Output voltage range		(1±15%) x Normal AC Voltage (adjustable ±5%,±10%,±15%,±20%)
Gird frequency range		50/60Hz(±4.5Hz), (adjustable)
Rated AC output current		2140A
Max. AC output current		2360A
Power factor (cosΦ)		1 ( 0.9 leading – 0.9 lagging) (adjustable)
Total harmonic current distortion (THDi)		<3%
<b>SYSTEM FEATURES</b>		
Max. efficiency		98.8%
Euro efficiency		98.6%
MPPT efficiency		>99%
Standby (night time) losses		<10W
Cooling		Forced air cooling
Communication interface		RS485, external Ethernet (optional)
<b>ENVIRONMENTAL</b>		
Operating temperature		–40℃ ~ + 60℃ ( More than 55℃ derating )
Humidity range		0~95% (non-condensing)
Altitude		3000m
Noise level		<60dB
Protection rating		IP54
<b>PHYSICAL</b>		
Dimension W×D×H (mm)		4300×2438×2591
Net Weight (kg)		7000

Specifications subject to change without prior notice.