

# ON GRID SOLAR INVERTER

GRID-TIE



**1KW-6KW Single Phase**  
**5KW-100KW Three Phase**

## CORE FEATURES

- DC Overloading upto 30%
- AC Overloading upto 10%
- Wide Input Range
- Dual/Multi MPPT Design with Accurate MPPT Algorithm
- Natural Cooling
- Compact and Light Design for an Easy Installation
- Transformerless GT Topology
- R5485, Remote Monitoring (Wi-Fi/GPRS)
- Numerous Protection Functions
- Mobile App Monitoring
- Export Power Block Function
- Weather Monitoring
- String Level Monitoring
- Fuse, SPD for AC & DC Protection



### Technical Specifications

MODEL	SP-1K-SM	SP-1.5K-SM	SP-2K-SM	SP-3K-SM
<b>Input</b>				
Max. DC voltage / Rated DC voltage	500Vdc / 380Vdc			
MPPT voltage range	90~490Vdc		100~490Vdc	
Full load MPPT voltage range	105~400Vdc	145~400Vdc	190~400Vdc	240~400Vdc
Min. / start DC voltage	90 / 100Vdc		120 / 150Vdc	
Number of MPPT	1			
Strings per MPPT	1			
Max. input current per MPPT	11A			13A
<b>Output</b>				
Max. AC output power	1000W	1500W	2000W	3000W
Rated AC voltage	230Vac			
AC voltage range	230Vac±20%			
Rated AC grid frequency	50 / 60Hz			
AC grid frequency range	50 / 60Hz(±5Hz)			
Max. output current	4.5A	7A	9A	14A
Power factor (cosΦ)	0.9 leading ~0.9 lagging			
THDi	<3%			
AC connection	LN+PE			
Topology	Transformer-less			
<b>Efficiency</b>				
Max. efficiency	96.5%		97.6%	
Euro efficiency	96%		97%	
Standby consumption	<5W			
<b>Protection devices</b>				
AC leakage current fault protection	Yes			
Ground fault protection	Yes			
Anti-islanding protection	Yes			
DC overvoltage protection	Yes			
DC surge protection	Yes			
AC surge protection	Yes			
DC reverse-polarity protection	Yes			
<b>Physical</b>				
Dimensions W x H x D (mm)	264 / 326 / 127			
Weight(kg)	7.6	8.1	8.6	
<b>Environment</b>				
Operating temperature range	-25°C~+60°C			
Noise emission (typical)	<25dB			
Cooling type	Natural cooling			
Protection rating	IP65			
<b>Features</b>				
LCD display	Yes			
Interfaces	RS485			
Optional	DC Switch / WiFi Plug / GPRS Plug			

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### Technical Specifications

MODEL	SP-G3000S	SP-G3000D	SP-G4000D	SP-G5000D	SP-G5000D-AU	SP-G6000D
<b>Input(DC)</b>						
Max. recommended PV power	4050W	4050W	5400W	6750W	6750W	8100W
Max. DC voltage	600V	600V	600V	600V	600V	600V
Nominal voltage	380V	380V	380V	380V	380V	380V
Start voltage	100V	100V	100V	100V	90V / 100V	100V
MPPT voltage range	80V-550V	80V-550V	80V-550V	80V-550V	80V-550V	80V-550V
MPPT voltage range at full load	280V-480V	160V-480V	210V-480V	230V-480V	210V-480V	280V-480V
No. of MPPT	1	2	2	2	2	2
No. of Strings per MPPT	1	1	1	1	1	1
Number of strings input	1	2	2	2	2	2
Max. input current per MPPT	12.5A	11A / 11A	11A / 11A	12.5A / 12.5A	12.5A / 12.5A	12.5A / 12.5A
Max. short-circuit current per MPPT	15.6A	13.2A	13.2A	15.6A	15.6A	15.6A

### Output(AC)

Nominal AC output power	3000W	3000W	4000W	5000W	4999W	6000W
Max. AC apparent power	3300VA	3300VA	4400VA	5500VA	4999VA	6000VA
Max. AC output power	3300W	3300W	4400W	5500W	4999W	6000W
Nominal AC voltage	230V	230V	230V	230V	230V	230V
AC grid frequency range	50Hz / 60Hz±5Hz	50Hz / 60Hz±5Hz	50Hz / 60Hz±5Hz	50Hz / 60Hz±5Hz	50Hz / 60Hz±5Hz	50Hz / 60Hz±5Hz
Rated output current	13A	13A	17.4A	21.7A	21.7A	26A
Max. output current	14.5A	14.5A	19A	24A	21.7A	26A
Power factor (cosΦ)	0.8 leading ~ 0.8 lagging					
THDi	<3%					

### Efficiency

Max. efficiency	98.1%		98.3%			
Euro efficiency	97.7%		97.9%			

### Protection devices

DC switch	Yes	Yes	Yes	Yes	No	Yes
Anti-islanding protection	Yes	Yes	Yes	Yes	Yes	Yes
Output over current	Yes	Yes	Yes	Yes	Yes	Yes
DC reverse polarity protection	Yes	Yes	Yes	Yes	Yes	Yes
String fault Detection	Yes	Yes	Yes	Yes	Yes	Yes
AC/DC surge protection	DC Type II; AC Type III					
Insulation detection	Yes	Yes	Yes	Yes	Yes	Yes
AC short circuit protection	Yes	Yes	Yes	Yes	Yes	Yes
AFCL protection	Option					

### General Specifications

Dimensions W x H x D (mm)	380X380X150					
Weight(kg)	10	10	11	11	11	11
Operating temperature range	-25°C~+60°C					
Cooling type	Natural cooling					
Max. operation altitude	≤ 4000m					
Max. operation humidity	0-100%					
DC Input terminal type	Vacom					
AC Output terminal type	Quick connector					
IP class	IP65					
Topology	Transformer less					
Communication	RS485/WIFI/GPRS/4G					
Display	LCD					
Certification & Standard	EN/IEC62109-1; EN/IEC62109-2; IEC/EN61000-6-2; IEC/EN61000-6-4; IEC61683; IEC60068; IEC60529; IEC62116; IEC61727; EN50549-1; AS 4777.2; NB/T32004-2018; GB/T19964-2012					

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### Technical Specifications

MODEL	SP-3K	SP-3.6K	SP-4K	SP-5K	SP-6K	SP-8K	SP-10K	SP-12K	SP-15K	SP-17K	SP-20K	
<b>Input(DC)</b>												
Max. DC voltage	1100Vdc											
Start voltage	180V											
MPPT voltage range	140 V~1000 V											
No. of MPPT	2							2	2	2		
Number of strings input	2							2	4	4		
Max. input current per MPPT	13A							26A/13A	26A	26A		
Max. short-circuit current per MPPT	20A							40A/20A	40A	40A		
<b>Output(AC)</b>												
Nominal AC output power	3000W	3600W	4000W	5000W	6000W	8000W	10000W	12000W	15000W	17000W	20000W	
Maximum AC output power	3300W	4000W	4400W	5500W	6600W	8800W	11000W	13200W	16500W	18700W	22000W	
Nominal AC voltage	400V											
AC grid frequency range	50 / 60Hz(±5Hz)											
Maximum output current	4.8A	6.1A	6.8A	8.5A	10.1A	13.5A	16.9A	20A	25A	27.1A	31.9A	
Power factor(Φ)	0.8leading-0.8lagging											
THDi	3%											
<b>Efficiency</b>												
Max. efficiency	98.4%	98.4%	98.5%	98.5%	98.6%	98.6%	98.7%	98.7%	98.7%	98.7%	98.7%	
Euro efficiency	98.7%	98.7%	98%	98%	98%	98%	98.1%	98.2%	98.3%	98.3%	98.3%	
<b>Protection devices</b>												
DC switch	Yes											
Output over current	Yes											
Anti-islanding protection	Yes											
DC reverse polarity protection	Yes											
String fault Detection	Yes											
AC/DC surge protection	Type II											
Insulation detection	Yes											
AC short circuit protection	Yes											
<b>General Specifications</b>												
Dimensions W x H x D (mm)	310x563x219											
Weight(kg)	18									19		
Operating temperature range	-25°C~+60°C											
Cooling type	Natural cooling								Fan cooling			
Max. operation altitude	4000m											
Max. operation humidity	0-100%(No condensation)											
IP class	IP65											
Topology	Transformerless											
Communication	RS485/Wifi/4G											
Display	LCD											
Certification & Standard	EN/IEC62109-1 ; EN/IEC62109-2 ; IEC/EN61000-6-2;IEC/EN61000-6-4;IEC61683;IEC60068; IEC60529;IEC62116;IEC61727;EN50549-1;NB/T32004-2018 ; GB/T19964-2012											

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## Technical Specifications

MODEL	SP-10K	SP-12K	SP-15K	SP-17K	SP-20K
<b>Input</b>					
Max. DC voltage	1000Vdc				
MPPT voltage range	250~950Vdc				
Full load voltage range	480~800Vdc				
Rated DC voltage	620Vdc				
Min. / start DC voltage	200 / 250Vdc				
Number of MPPT	2				
Strings per MPPT	1				2
Max. input current per MPPT	13A/13A				21A/21A
<b>Output</b>					
Rated AC output power	10kW	12kW	15kW	17kW	20kW
Max. AC output power	11kW	13kW	16kW	18kW	22kW
Rated AC voltage	400Vac				
AC voltage range	400Vac±20%				
Rated AC grid frequency	50 / 60Hz				
AC grid frequency range	50 / 60Hz(±5Hz)				
Max. output current	17A	20A	24A	27A	32A
Power factor (cosΦ)	0.8leading-0.8lagging				
THDi	<3%				
AC connection	3W+N+PE/3W+PE				
Topology	Transformer-less				
<b>Efficiency</b>					
Max. efficiency	98%				
Euro efficiency	97.5%				
<b>Protection devices</b>					
AC leakage current fault protection	Yes				
Ground fault protection	Yes				
Anti-islanding protection	Yes				
DC overvoltage protection	Yes				
DC surge protection	Yes				
AC surge protection	Yes				
DC reverse-polarity protection	Yes				
<b>Physical</b>					
Dimensions W x H x D (mm)	553×715×228				
Weight(kg)	35				39
<b>Environment</b>					
Operating temperature range	-25°C~+60°C				
Noise emission (typical)	<40dB				
Cooling type	Natural cooling				
Protection rating	IP65				
<b>Features</b>					
LCD display	Yes				
Interfaces	RS485 (WiFi Plug/GPRS Plug optional)				

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## Technical Specifications

MODEL	SP-30K	SP-50K	SP-60K
<b>Input</b>			
Max. DC voltage	1000Vdc		
MPPT voltage range	250~950Vdc		
Full load MPPT voltage range	400~800Vdc	480~800Vdc	500~800Vdc
Rated DC voltage	620Vdc		
Min. / start DC voltage	200 / 250Vdc		
Number of MPPT	3		
Strings per MPPT	2	4	
Max. input current per MPPT	26A	36A	40A
<b>Output</b>			
Rated AC output power	30kW	50kW	60kW
Max. AC output power	33kW	55kW	66kW
Rated AC voltage	400Vac		
AC voltage range	400Vac±20%		
Rated 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 (cosΦ)	0.8leading-0.8lagging		
THDi	<3%		
AC connection	3W+N+PE/3W+PE		
Topology	Transformer-less		
<b>Efficiency</b>			
Max. efficiency	98.3%	98.6%	
Euro efficiency	98.0%	98.2%	
<b>Protection devices</b>			
AC leakage current fault protection	Yes		
LVRT	Yes		
Ground fault protection	Yes		
Anti-islanding protection	Yes		
DC overvoltage protection	Yes		
DC surge protection	Yes		
AC surge protection	Yes		
DC reverse-polarity protection	Yes		
<b>Physical</b>			
Dimensions W x H x D (mm)	636×958×260		
Weight(kg)	61	68	70
<b>Environment</b>			
Operating temperature range	-25°C~+60°C		
Noise emission (typical)	<40dB	<60dB	
Cooling type	Natural cooling	Fans	
Protection rating	IP65		
<b>Features</b>			
LCD display	Yes		
Interfaces	RS485 (WiFi Plug/GPRS Plug optional)		

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## Technical Specifications

MODEL	SP-36K-HV	SP-50K-HV	SP-60K-HV
<b>Input</b>			
Max. DC voltage	1000Vdc		
MPPT voltage range	250~950Vdc		
Full load MPPT voltage range	550~800Vdc		
Rated DC voltage	720Vdc		
Min. / start DC voltage	200 / 250Vdc		
Number of MPPT	3		
Strings per MPPT	2	4	
Max. input current per MPPT	26A	36A	
<b>Output</b>			
Rated AC output power	36kW	50kW	60kW
Max. AC output power	40kW	55kW	66kW
Rated AC voltage	480Vac		
AC voltage range	480Vac±10%		
Rated AC grid frequency	50 / 60Hz		
AC grid frequency range	50 / 60Hz(±5Hz)		
Rated output current	44A	61A	72A
Max. output current	48A	67A	80A
Power factor (cosΦ)	0.8leading-0.8lagging		
THDi	<3%		
AC connection	3W+PE		
Topology	Transformer-less		
<b>Efficiency</b>			
Max. efficiency	98.5%	98.6%	
Euro efficiency	98.2%		
<b>Protection devices</b>			
AC leakage current fault protection	Yes		
LVRT	Yes		
Ground fault protection	Yes		
Anti-islanding protection	Yes		
DC overvoltage protection	Yes		
DC surge protection	Yes		
AC surge protection	Yes		
DC reverse-polarity protection	Yes		
<b>Physical</b>			
Dimensions W x H x D (mm)	636x958x260		
Weight(kg)	61	68	
<b>Environment</b>			
Operating temperature range	-25°C~+60°C		
Noise emission (typical)	<40dB	<60dB	
Cooling type	Natural cooling	Fans	
Protection rating	IP65		
<b>Features</b>			
LCD display	Yes		
Interfaces	RS485 (WiFi Plug/GPRS Plug optional)		

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