

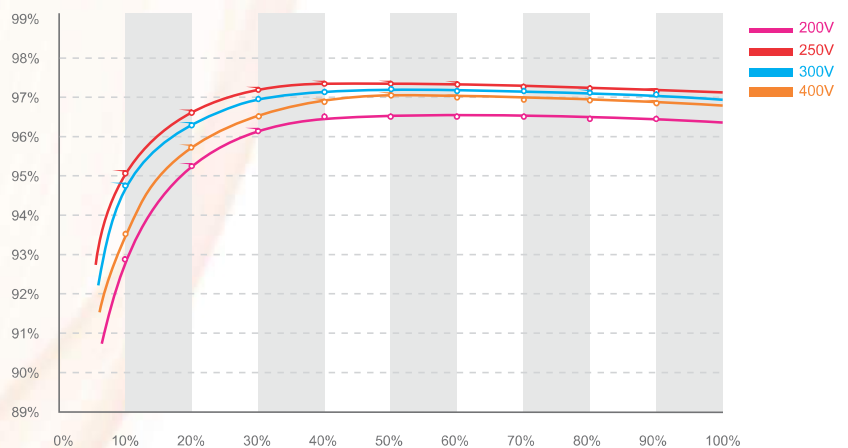
ON-GRID STRING INVERTER : 1kW to 80kW

FEATURES

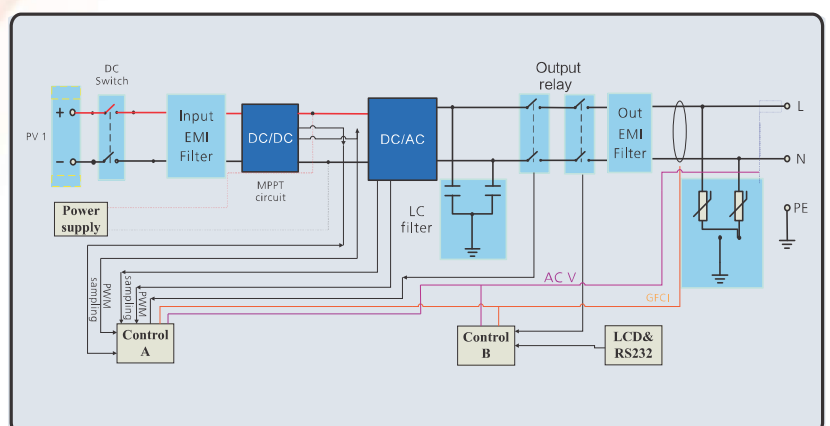
- ➔ Wide input voltage, DC input voltage up to 1000V
- ➔ Transformerless & Low noise technique
- ➔ Compact Design & Easy Installation
- ➔ IP65 compatible
- ➔ RS232/485 communication interface(Wi-Fi adapter Optional)
- ➔ Maximum efficiency of 99.0% and wide input voltage range
- ➔ Latest Dual MPPT Technology Which Guarantees 99.5% Efficiency
- ➔ Internal DC Switch
- ➔ LCD Screen to Monitor Performance
- ➔ Comprehensive Warranty Program
- ➔ IEC Compliant



KSG-III-5K EFFICIENCY



KSG-I-3K TOPOLOGY



ON GRID INVERTERS: SINGLE PHASE

INPUT PARAMETERS

Max. DC I/P Power	1300 W	2300 W	3400 W	5750 W
Max. I/P Current	10A	11A	13 A	15A
Max. DC I/P Voltage	450 V	450 V	550 V	550V
Start Voltage	80 V	80 V	80 V	100V
PV Voltage Range	70 V - 450 V	70 V - 450 V	70 V - 550 V	175V-500V
MPPT Operating Voltage Range / Nominal Voltage	70 V - 450 V / 180 V	70 V - 450 V / 360 V	70 V - 550 V / 360 V	80V-500V/360V
Max. I/P Current per string	10A	11A	13 A	15A
Number of MPPT	1	1	1	2
Inputs per MPPT	1	1	1	1

OUTPUT PARAMETERS

Max. AC O/P Power	1000 W	2000 W	3000 W	5000 W
AC Nominal Voltage ; Range	220 V - 240 V ; 180 - 240 VAC			
Max. AC O/P Current	4.7 A	9.5 A	14.3 A	22.7 A
AC Grid Frequency / Range	50 - 60 Hz \pm 5 Hz			
Power Factor	1			

PROTECTION

DC Reverse Polarity Protection	Yes
O/P AC overcurrent protection	Yes
O/P AC overvoltage protection-varistor	Yes
Ground Fault Monitoring	Yes
Grid Monitoring	Yes
Integrated all-pole sensitive leakage current monitoring unit	Yes

GENERAL PARAMETERS

Dimensions (WxHxD) in mm	271x267x142	271x267x142	271x320x142	355x419x158
Weight	6.1 KG	6.1 KG	8.8 KG	14.5 KG
Max. Efficiency	97.40%	97.40%	97.40%	97.90%
Topology	Transformerless			
Cooling	Natural			
Environment Protection Rating	IP65			
Operating Temperature Range	(-)25°C to +60°C (with derating above 45°C)			
Altitude	2000m without derating			
Self-Consumption (night)	< 0.5 W			
Noise Emission (Typical)	\leq 25 dB (A)			
AC Connection	Connector			Screw Terminal
DC Connection	H4 / MC4 (opt)			
Display	LCD			
Interfaces: RS232/RS485/Bluetooth/RF/Wifi	Yes/Yes/Opt/Opt/Opt			
Warranty	5 years			
Certificates & Approvals	CE, IEC 62109, IEC 61727, IEC 62116, IEC 60068			

STRING INVERTERS (3 PHASE) : 5KW, 10KW, 15KW, 20KW

Kirloskar Model No.	KSG-III-5K	KSG-III-10K	KSG-III-15K	KSG-III-20K
INPUT PARAMETERS				
Max. DC I/P Power	5.2 kW	12 kW	18 kW	22 kW
Max. I/P Current	9A	13 A	20A	26 A
Max. DC I/P Voltage	800 V	1000 V	1000 V	1000 V
Start Voltage	150 V	200 V	160V	350 V
PV Voltage Range	140 V - 800 V	160 V - 1000 V	160 V - 1000 V	180 V - 1000 V
MPPT Operating Voltage Range / Nominal Voltage	200 V - 800 V / 580 V	450 V - 850 V / 600 V	520V-850V/600V	300 V - 1000 V / 600 V
Max. I/P Current per string	9A	13A	10A	20A
Number of MPPT	2	2	2	2
Inputs per MPPT	1	1	1	3
OUTPUT PARAMETERS				
Rated AC Power	5 kW	1 kW	15 kW	20 kW
Max. O/P Current	7.9A	16.7 A	16,5A	32 A
AC Nominal Voltage	230 V / 400V			
AC Grid Frequency / Range	50 - 60 Hz \pm 5 Hz			
Power Factor	0.8leading - 0.8lagging			
THDi	<3%			
AC Connection	3/N/PE, 3W+PE(opt)			
PROTECTION				
DC Reverse Polarity Protection	YES			
DC Switch for each MPPT	YES			
O/P AC overcurrent protection	YES			
O/P AC overvoltage protection-varistor	YES			
AC Surge Protection	YES			
DC Surge Protection	NO			YES
Ground Fault Monitoring	YES			
Grid Monitoring	YES			
Integrated all-pole sensitive leakage current monitoring unit	YES			
Output Short Circuit Protection	YES			
String Fuse Protection	NO			YES
String Fault Monitoring	NO			YES
Anti-PID Protection	NO			YES
GENERAL PARAMETERS				
Dimensions (WxHxD) in mm	433x566x195	480x448x200	480x448x200	570 x 740 x 235
Weight in KG	31.1	21.6	23.5	60
Max. Efficiency	97.40%	98.40%	98.40%	98.00%
Topology	Transformerless			
Cooling	Natural			
Environmental Protection Rating	IP65			
Operating Temperature Range	(-)25°C to +60°C			
Relative Humidity	0 ~ 100%			
Self-Consumption (night)	< 0.5 W			
Noise Emission (Typical) in dB (A)	\leq 35	\leq 55	\leq 35	\leq 45
Display	LCD			
Interfaces: RS232/RS485/Ethernet/RF/Wi-Fi	YES/YES/Opt/Opt/Opt			
Warranty: 5 years / 10 years	YES / Opt			
Certificates & Approvals	IEC 62109-1/2, IEC61727, IEC 62116, IEC 60529, IEC 60068, IEC 61683			

STRING INVERTERS (3 PHASE) : 30KW, 40KW, 60KW, 80KW

Kirloskar Model No.	KSG-III-30K	KSG-III-40K	KSG-III-60K	KSG-III-80K
INPUT PARAMETERS				
Max. DC I/P Power	37.5 KW	50 kW	72 kW	1000 kW
Max. I/P Current	34 A	38 A	150A	150 A
Max. DC I/P Voltage	1000 V	1000 V	1100 V	1100 V
Start Voltage	250 V	250 V	250 V	250V
PV Voltage Range	200 V - 1000 V	200 V - 1000 V	580 V - 1000 V	685 - 850 V
MPPT Operating Voltage Range / Nominal Voltage	450 V - 800 V / 580 V	540 V - 800 V / 580 V	580 V - 850V/600V	200 - 1000 V / 685 V
Max. I/P Current per string	12A	12A	12.5A	12.5A
Number of MPPT	2	2	6	6
Inputs per MPPT	4	4	2	2
OUTPUT PARAMETERS				
Rated AC Power	30 KW	40 kW	60 kW	80 kW
Max. O/P Current	48.3 A	64.5 A	96.6 A	129 A
AC Nominal Voltage	230 V / 400V			
AC Grid Frequency / Range	50 - 60 Hz \pm 5 Hz			
Power Factor	0.8leading - 0.8lagging			
THDi	<3%			
AC Connection	3/N/PE, 3W+PE(opt)			
PROTECTION				
DC Reverse Polarity Protection	YES			
DC Switch for each MPPT	YES			
O/P AC overcurrent protection	YES			
O/P AC overvoltage protection-varistor	YES			
AC Surge Protection	YES			
DC Surge Protection	YES			
Ground Fault Monitoring	YES			
Grid Monitoring	YES			
Integrated all-pole sensitive leakage current monitoring unit	YES			
Output Short Circuit Protection	YES			
String Fuse Protection	YES			
String Fault Monitoring	YES			
Anti-PID Protection	YES			
GENERAL PARAMETERS				
Dimensions (WxHxD) in mm	470 x 754 x 270	470 x 754 x 270	870 x 580 x 290	870 x 580 x 290
Weight in KG	48	48	78	78
Max. Efficiency	98.90%	99.00%	99.00%	99.00%
Topology	Transformerless			
Cooling	Smart Fan Cooling			
Environmental Protection Rating	IP65			
Operating Temperature Range	(-)25°C to +60°C			
Relative Humidity	0 ~ 100%			
Self-Consumption (night)	<1 W			
Noise Emission (Typical) in dB (A)	\leq 40	\leq 50	\leq 55	\leq 55
Display	Graphic LCD		LED Information Disk/WiFi+APP	
Interfaces: RS232/RS485/Ethernet/RF/Wi-Fi	YES/YES/Opt/Opt/Opt			
Warranty: 5 years / 10 years	YES / Opt			
Certificates & Approvals	IEC 62109-1/2, IEC61727, IEC 62116, IEC 60529, IEC 60068, IEC 61683			

KIRLOSKAR SOLAR TECHNOLOGIES PRIVATE LIMITED

A Kirloskar Group Company

Regd. Office: 13/A, KARVE ROAD, KOTHRUD, PUNE – 411 038, INDIA. Phone: 020 2545 7940.

Website : www.kirloskarsolar.com



FEATURES

- High Efficiency & Reliability
- Micro-controller Based Design
- Pure Sine Wave Output
- Noiseless Operation
- Light Weight & Compact Design
- 5 years of warranty

KIRLOSKAR SOLAR OFF GRID INVERTERS

Model No.:	KSOG-I-950P12V	KSOG-I-1400P24V	KSOG-I-2500M48V	KSOG-I-4000M48V
Capacity	950VA 750W	1400VA 1000W	2500VA 2000W	4000VA 3000W
Battery VDC	12V	24V	48V	48V
Solar Charge Controller Type/Capacity	PWM Charger / 30A		MPPT Charger / 30A	
Max. Solar Power Input	450Wp	800Wp	2000Wp	3000Wp
Solar Input Vmax Range	18-23V	36-46V	70-125V	70-125V
Solar Voc Max.	23 V	45 V	150 V	150 V
Battery Configuration (C10 Rated - Lead Acid Tubular)	12V x 1 no.	12V x 2 no.	12V x 4 no.	12V x 4 no.
Switching By	MOSFET			
Nominal Output Voltage	220 - 240 VAC			
INPUT				
User Selection Mode	UPS Mode		Inverter Mode	
Voltage Range	180 - 256V AC		110-290 V AC	
Voltage Cutoff Range	180 - 265 + 5 V AC		110 - 290 V +/- 10 V AC	
Voltage Recovery Range	190 - 255 + 5 V AC		120 - 275 +/- 10 V AC	
Frequency Range	47 - 53 Hz			
OUTPUT				
Voltage Regulation on Mains	Same as Mains Input			
Voltage Regulation in Battery Mode	220V AC Nominal +/- 2% (Range 210V-240V)			
Frequency Regulation on Mains Mode	Same as Mains Input			
Frequency Regulation in Battery Mode	50Hz + 0.1Hz			
Waveform	Pure Sine Wave			
Powerfactor	0.8			
Efficiency	≥ 82% (12VDC); >85% (24V/48VDC)			
PROTECTIONS				
Over Load	For 100% Load - Buzzer Indication, 101% above load trips & retry for 4times then inverters shuts down			
Output Short Circuit	Circuit breaker on mains, Shuts down on inverter			
Battery Reverse Protection	Fuse			
Low Battery	Load Disconnection			
Thermal Shutdown	Below 0°C and above 90°C			
Lightening/Surge	Protected upto 4KV surge			
Solar Reverse	Blocking diode is provided to prevent reverse flow of current			
Change Over Time	< 20ms			
ENVIRONMENT OPERATING CONDITIONS				
Operating Ambient Temp.	0 - 45°C			
Relative Humidity	0 - 95%			
PHYSICAL PARAMETERS				
Dimension (LxWxH) in mm	340 x 310 x 160	340 x 310 x 160	450 x 210 x 320	550 x 290 x 480
Weight	13 kg	13 kg	19kg	52 kg
Communication	Optional			
DISPLAY				
LED Display	Mains ON(Red), Charging On Mains(RED), Charging On Solar(Green), Duo(Yellow), Inverter(Green), Battery Low(Yellow), Overload/Short Circuit(Yellow)			
LCD Display	N.A	Battery Vtg., I/P Vtg., O/P Vtg., Grid Charging C/N, Solar Vtg., Solar Charging C/N, Solar Units Saved kWh, Over Load, Battery Low etc.		



FEATURES

- High Efficiency & Reliability
- Pure Sine Wave Output
- Easy to Install & Low Running Cost
- Compact Design
- Multi Function LCD Display
- 5 years of warranty

KIRLOSKAR SOLAR OFF GRID INVERTERS					
Model No.:	KSOG-I-6000M96V	KSOG-I-7500M120V	KSOG-I-10000M120V	KSOG-III-15000M120V	KSOG-III-20000M240V
Capacity	6 KVA 5 kW	7.5 KVA 6 kW	10 KVA 8 kW	15 KVA 12.5 kW	20 KVA 16 kW
Battery VDC	96 V	120 V	240 V	240 V	240 V
Solar Charge Controller Type/Capacity	MPPT Charger / 50A				
Max. Solar Power Input	5 kWp	6 kWp	8 kWp	12.5 kWp	15.5 kWp
Solar Input Vmax Range	150-250 V	160-250 V	300-400 V	300-400 V	280-400V
Solar Voc Max.	300 V	400 V	450 V	450 V	450 V
Battery Configuration (C10 Rated Lead Acid Tubular)	12V x 8 no.	12V x 10 no.	12V x 20 no.	12V x 10 no.	12V x 20 no.
Switching By	IGBT				
Nominal Output Voltage	220 - 240 V AC			L-L 400Vac + 2% / 230Vac L-N	
INPUT					
User Selection Mode	Inverter Mode				
Voltage Range	110 - 290V AC			170 - 280 Vac Per Phase L-N	
Voltage Cutoff Range	110 - 290 ± 10 V AC			171 - 280 Vac ± 10 V AC Per Phase L-N	
Voltage Recovery Range	120 - 275 ± 10 V AC			172 - 280 Vac ± 10 V AC Per Phase L-N	
Frequency Range	47 - 53 Hz				
OUTPUT					
Voltage Regulation on Mains	Same as Mains Input				
Voltage Regulation in Battery Mode	230V AC Nominal +/- 2% (Range 210V-240V)			230V AC Nominal +/- 2% (Range 210V-240V) Per	
Frequency Regulation on Mains Mode	Same as Mains Input				
Frequency Regulation in Battery Mode	50Hz ± 0.1Hz				
Waveform	Pure Sine Wave				
Power Factor	0.8				
Efficiency	≥85%				
PROTECTIONS					
Over Load	For 100% Load - Buzzer Indication, 101% above load trips & retry for 4times then inverters shutdown				
Output Short Circuit	Circuit breaker on mains, Shuts down on inverter				
Battery Reverse Protection	Fuse				
Low Battery	Load Disconnection				
Thermal Shutdown	Below 0°C and above 90°C				
Lightening/Surge	Protected upto 4KV surge				
Solar Reverse	Blocking diode is provided to prevent reverse flow of current				
Change Over Time	< 20ms				
ENVIRONMENT OPERATING CONDITIONS					
Operating Ambient Temp.	(-) 10°C to 50°C				
Relative Humidity	0 - 95%				
PHYSICAL PARAMETERS					
Dimension (LxWxH) in mm	800 x 330 x 670			900 x 400 x 830	
Weight	100 kg approx			120 kg	140 kg
Communication	Optional				
DISPLAY					
LED Display	Mains, Charger, Output, Fault				
LCD Display	Battery Vtg., I/P Vtg., O/P Vtg., Grid Charging C/N, Solar Vtg., Solar Charging C/N, Solar Units Saved kWh, Over Load, Battery Low etc.				

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