LAYER ELECTRONICS®

Since 1967
Quality and Reliability
made in Italy

Member of CISQ Federation
RINA IQNET
CERTIFIED MANAGEMENT SYSTEM
ISO 9001

Windsun: the Future is in your own hands

- *Compliance with the standards CEI 0-21, CEI 0-16, EN 50549-1, EN 50549-2, IEC 62116*
- *High reliability*
- *Insulation transformer in low frequency for all the range from 2 to 500 kW*
- *Only produces a small amount of harmonic distortion for mains (THD < 2% in accordance with the standard IEEE 929)*
- *Compatibility with each thin film module without any external grounding kit*
- *Wide MPPT input voltage range, even modifiable on request*
- *IGBT Technology with a high commutation frequency*
- *Upon request a wide range of input voltage for fuel cells*

The **WINDSUN** solar inverters are **the latest generation** of grid connected **inverters**, fed by **solar modules** or **fuel cells**. Thanks to its wide MPP operation voltage range, it starts supplying power from the first lights of the dawning up to late sunset, guaranteeing a **higher power generation** to your photovoltaic plant.

The concept behind the **WINDSUN** solar inverters series is based on Layer's considerable experience in power electronics, which dates back more than 50 years. This encompasses the design and manufacture of U.P.S.s, inverters and converters, including custom-made versions. The philosophy with which we realize all our products is based on guaranteeing **absolute reliability** for the client - reliability ensured through the **high technology** and **quality** of the components used. With the **WINDSUN** solar inverters this comprises modular IGBT, long life low ESR electrolytic capacitors (for 1-Ph models) and film capacitors (for 3-Ph models).

Solar inverters with transformer **avoid** the **PID** (Potential Induced Degradation) phenomenon, consisting in **performances** even **lower** than **20-30%** of the solar power plant due to leakage currents.

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Technical Data WINDSUN series 1-Ph

MODEL	GC-200	GC-202	GC-204	GC-206	GC-208	GC-210	GC-212
Power - kW	2	3	4	6	8	10	12
Input							
MPPT voltage range	200 ÷ 400 V				290 ÷ 600 V		
Max voltage in no-load operation	430 V				650 V		
Max input current	11 A	17 A	22 A	33 A	30 A	38 A	45 A
Number of MPPT	1						
Output							
Wave-form	SINE WAVE						
Harmonic distortion	< 2%						
Phases	1-Ph						
Voltage	220 / 230 / 240 V (100 / 110 / 115 / 120 / 127 V on request)						
Frequency	50 / 60 Hz						
Current	8.7 A	13 A	17.4 A	26 A	35 A	43 A	52 A
Short-circuit current	13 A	20 A	26 A	39 A	52 A	65 A	78 A
Stand-by consumption	< 10 W		< 20 W		< 40 W		
Power factor	0.7 ind ÷ 0.7 cap						
European efficiency	94-95%						
CEC weighted efficiency	97-98%						
Earth fault detection	Yes						
Protections							
DC side	< 100 V; > 430 V				< 150 V; > 650 V		
Earth fault detection	> 30 mA						
Mains voltage	220 / 230 / 240 V ± 15% (100 / 110 / 115 / 120 / 127 V on request)						
Mains frequency	50 / 60 Hz -5% +3%						
Against input overvoltages	Yes						
Signals							
Led	Input, Inverter, Grid						
Display	Standard						
External communication	RS232 - RS485 - SNMP - CAN (Optional)						
DC Connection	MC4					Terminal block	
Environmental							
Temperature	-10°C ÷ 55°C						
Non-condensing humidity	0% ÷ 95%						
Noise (at 1 m)	< 50 dBA						
Cooling	Forced						
Protection rating	IP20						
Dimensions							
W x D x H - mm	480 x 270 x 580		480 x 320 x 650		800 x 600 x 1300		
Weight - kg	43	46	57	68	100	110	120
CE Marking	2014/30/EU; 2014/35/EU						
Compliance with the standards	EN 61000-6-2: 2019-06; EN 61000-6-3: 2023-06; EN 61000-6-4: 2022-12; EN 62109-1: 2010-12; EN 62109-2: 2012-11; EN 62477-1: 2013-09; EN 62477-1/A1: 2017-08; EN 62477-1/A11: 2015-11; EN 62477-1/A12: 2021-10; CEI 0-21: 2022-03; CEI 0-21;V1: 2022-11; EN 50549-1: 2019-07; IEC 62116: 2014-02						

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Technical Data WINDSUN series 3-Ph

MODEL	GC-234	GC-236	GC-237	GC-238	GC-240	GC-242
Power - kW	12.5	20	25	33	40	50
Input						
MPPT voltage range	350 ÷ 850 V					
Max voltage in no-load operation	1000 V					
Max input current	40 A	63 A	80 A	105 A	125 A	157 A
Number of MPPT	1					
Output						
Wave-form	SINE WAVE					
Harmonic distortion	< 2%					
Phases	3-Ph + N					
Voltage	380 / 400 / 415 V (200 / 208 / 220 / 440 / 480 V on request)					
Frequency	50 / 60 Hz					
Current	18 A	30 A	36 A	48 A	58 A	72 A
Short-circuit current	27 A	43 A	54 A	72 A	87 A	108 A
Stand-by consumption	< 40 W					
Power factor	0.7 ind ÷ 0.7 cap					
European efficiency	94-95%					
CEC weighted efficiency	97-98%					
Earth fault detection	Yes					
Protections						
DC side	< 175 V; > 1000 V					
Earth fault detection	> 30 mA					
Mains voltage	380 / 400 / 415 V ± 15% (200 / 208 / 220 / 440 / 480 V on request)					
Mains frequency	50 / 60 Hz -5% +3%					
Against input overvoltages	Yes					
Signals						
Led	Input, Inverter, Grid					
Display	Standard					
External communication	RS232 - RS485 - SNMP - CAN (Optional)					
DC Connection	Terminal block					
Environmental						
Temperature	-10°C ÷ 55°C					
Non-condensing humidity	0% ÷ 95%					
Noise (at 1 m)	< 50 dBA					
Cooling	Forced					
Protection rating	IP20					
Dimensions						
W x D x H - mm	800 x 600 x 1300			800 x 800 x 1300		
Weight - kg	150	170	180	200	220	250
CE Marking	2014/30/EU; 2014/35/EU					
Compliance with the standards	EN 61000-6-2: 2019-06; EN 61000-6-3: 2023-06; EN 61000-6-4: 2022-12; EN 62109-1: 2010-12; EN 62109-2: 2012-11; EN 62477-1: 2013-09; EN 62477-1/A1: 2017-08; EN 62477-1/A11: 2015-11; EN 62477-1/A12: 2021-10; CEI 0-21:2022-03; CEI 0-21;V1: 2022-11; CEI 0-16: 2022-03; CEI 0-16;V1: 2022-11; EN 50549-1: 2019-07; EN 50549-2: 2019-06; IEC 62116: 2014-02					

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Technical Data WINDSUN series 3-Ph

MODEL	GC-244	GC-246	GC-248	GC-250	GC-252	GC-254
Power - kW	60	75	110	160	200	250
Input						
MPPT voltage range	450 ÷ 850 V					
Max voltage in no-load operation	1000 V					
Max input current	150 A	185 A	270 A	390 A	490 A	610 A
Number of MPPT	1					
Output						
Wave-form	SINE WAVE					
Harmonic distortion	< 2%					
Phases	3-Ph + N					
Voltage	380 / 400 / 415 V (200 / 208 / 220 / 440 / 480 V on request)					
Frequency	50 / 60 Hz					
Current	87 A	108 A	160 A	230 A	290 A	360 A
Short-circuit current	130 A	162 A	240 A	345 A	435 A	540 A
Stand-by consumption	< 40 W					
Power factor	0.7 ind ÷ 0.7 cap					
European efficiency	94-95%					
CEC weighted efficiency	97-98%					
Earth fault detection	Yes					
Protections						
DC side	< 250 V; > 1000 V					
Earth fault detection	> 30 mA					
Mains voltage	380 / 400 / 415 V ± 15% (200 / 208 / 220 / 440 / 480 V on request)					
Mains frequency	50 / 60 Hz -5% +3%					
Against input overvoltages	Yes					
Signals						
Led	Input, Inverter, Grid					
Display	Standard					
External communication	RS232 - RS485 - SNMP - CAN (Optional)					
DC Connection	Terminal block					
Environmental						
Temperature	-10°C ÷ 55°C					
Non-condensing humidity	0% ÷ 95%					
Noise (at 1 m)	< 50 dBA					
Cooling	Forced					
Protection rating	IP20					
Dimensions						
W x D x H - mm	800 x 800 x 1700		1200 x 1100 x 1900		1400 x 1100 x 1900	
Weight - kg	500	550	700	900	1500	1700
CE Marking	2014/30/EU; 2014/35/EU					
Compliance with the standards	EN 61000-6-2: 2019-06; EN 61000-6-3: 2023-06; EN 61000-6-4: 2022-12; EN 62109-1: 2010-12; EN 62109-2: 2012-11; EN 62477-1: 2013-09; EN 62477-1/A1: 2017-08; EN 62477-1/A11: 2015-11; EN 62477-1/A12: 2021-10; CEI 0-21:2022-03; CEI 0-21;V1: 2022-11; CEI 0-16: 2022-03; CEI 0-16;V1: 2022-11; EN 50549-1: 2019-07; EN 50549-2: 2019-06; IEC 62116: 2014-02					

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Technical Data WINDSUN series 3-Ph

MODEL	GC-256	GC-258	GC-260
Power - kW	300	400	500
Input			
MPPT voltage range	450 ÷ 850 V		
Max voltage in no-load operation	1000 V		
Max input current	730 A	980 A	1220 A
Number of MPPT	1		
Output			
Wave-form	SINE WAVE		
Harmonic distortion	< 2%		
Phases	3-Ph + N		
Voltage	380 / 400 / 415 V (200 / 208 / 220 / 440 / 480 V on request)		
Frequency	50 / 60 Hz		
Current	433 A	578 A	722 A
Short-circuit current	650 A	867 A	1083 A
Stand-by consumption	< 100 W		
Power factor	0.7 ind ÷ 0.7 cap		
European efficiency	94-95%		
CEC weighted efficiency	97-98%		
Earth fault detection	Yes		
Protections			
DC side	< 250 V; > 1000 V		
Earth fault detection	> 30 mA		
Mains voltage	380 / 400 / 415 V ± 15% (200 / 208 / 220 / 440 / 480 V on request)		
Mains frequency	50 / 60 Hz -5% +3%		
Against input overvoltages	Yes		
Signals			
Led	Input, Inverter, Grid		
Display	Standard		
External communication	RS232 - RS485 - SNMP - CAN (Optional)		
DC Connection	Terminal block		
Environmental			
Temperature	-10°C ÷ 55°C		
Non-condensing humidity	0% ÷ 95%		
Noise (at 1 m)	< 50 dBA		
Cooling	Forced		
Protection rating	IP20		
Dimensions			
W x D x H - mm	1700 x 1300 x 1900	2000 x 1500 x 2160	
Weight - kg	2200	2500	2900
CE Marking	2014/30/EU; 2014/35/EU		
Compliance with the standards	EN 61000-6-2: 2019-06; EN 61000-6-3: 2023-06; EN 61000-6-4: 2022-12; EN 62109-1: 2010-12; EN 62109-2: 2012-11; EN 62477-1: 2013-09; EN 62477-1/A1: 2017-08; EN 62477-1/A11: 2015-11; EN 62477-1/A12: 2021-10; CEI 0-21:2022-03; CEI 0-21;V1: 2022-11; CEI 0-16: 2022-03; CEI 0-16;V1: 2022-11; EN 50549-1: 2019-07; EN 50549-2: 2019-06; IEC 62116: 2014-02		

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