power-one® Renewable Energy Solutions

AURORA®

AURORA WIND

SSWI-10.0-I

GENERAL SPECIFICATONS

SSWI-10.0-I-OUTD
SSWI-10.0-I-OUTD-US-208
SSWI-10.0-I-OUTD-US-480

This Aurora grid-tie wind inverter offers a unique combination of high efficiencies, installer-friendly designs and long service life. A major selling point of the Aurora Wind inverter is its very wide input voltage range ensuring power is continuously harvested from the lightest breeze to the strongest wind. This high-frequency isolated three-phase unit allows for a direct parallel connection of multiple units, allowing for small wind applications for up to 50kW.

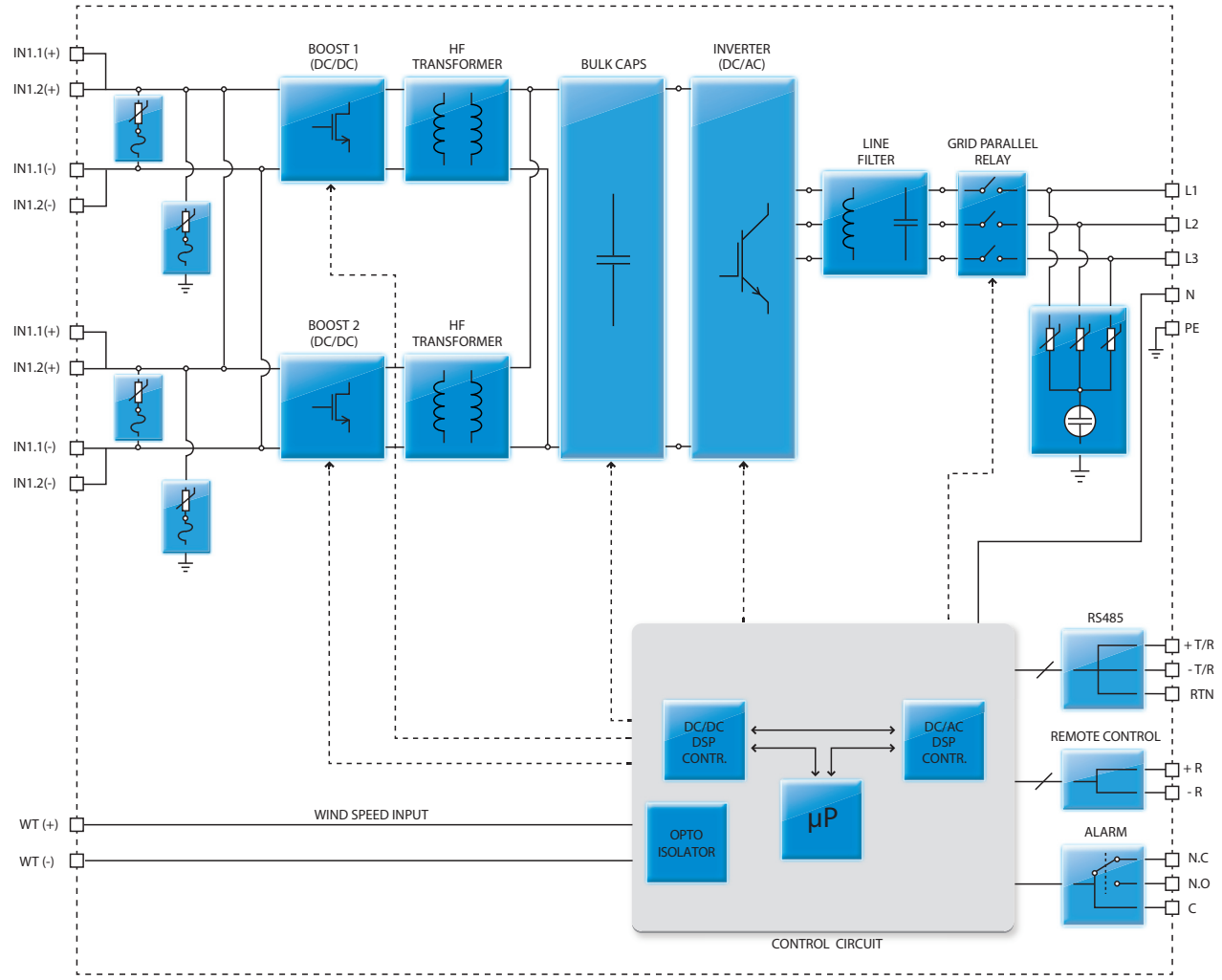
The competitive initial acquisition costs matched with the high efficiencies of up to 97.1% wide input range significantly increase return on investment on wind-power installations.

This compact, weather-sealed inverter has a 16-point profile to best match the power curve of each wind urbine. Wind Interface box is an optional accessory.

Features

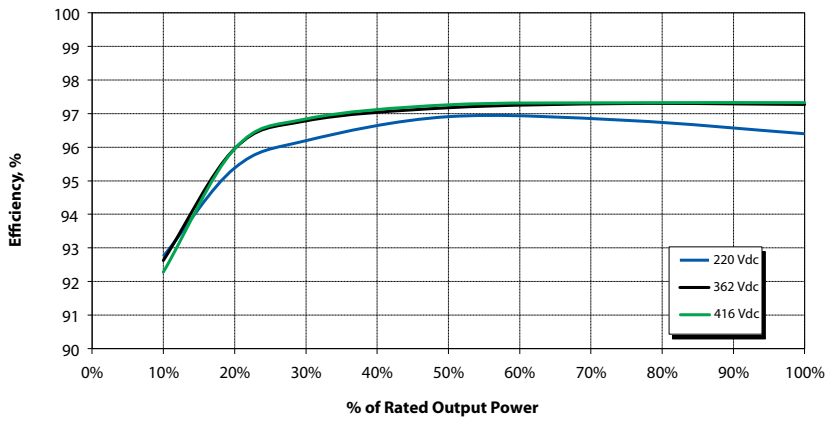
- 'Electrolyte-free' power converter to further increase the life expectancy and long term reliability
- True Three-Phase bridge topology for DC/AC output converter
- Galvanic isolation by high frequency transformer
- Power curve customization with high granularity to reach high level of power production yield
- Outdoor enclosure for unrestricted use under any environmental conditions
- Compact size and high power density
- Optimized real time power curve tracking algorithm and improved energy harvesting
- High overload capability: works up the power max limits under most ambient conditions
- Compatible with 25kW Wind Interface
- Each inverter is set on specific grid codes which can be selected in the field

BLOCK DIAGRAM OF SSWI-10.0-I-OUTD



Block Diagram and Efficiency Curves

SSWI-10.0-I-OUTD



PARAMETER	SSWI-10.0-I-OUTD-400	SSWI-10.0-I-OUTD-US-208	SSWI-10.0-I-OUTD-US-480
Input Side			
Maximum Absolute DC Input Voltage $V_{(dc,abs)}$	520 V	520 V	
Operating DC Input Range (V_{dcmin}...V_{dcmax})	120...520 V	120...520 V	
DC Input range at full power ($V_{fp,min}$...$V_{fp,max}$)	220...470 V	220...470 V	
Dc Power Limitation	Linear Derating From MAX to Null [470V≤Vdc≤520V]	Linear Derating From MAX to Null [470V≤Vdc≤520V]	
Maximum DC Input Current (I_{dcmax})	48 A	48 A	48 A [3]
Maximum Input Short Circuit Current	58 A	58 A	
DC Connection Type	Screw Terminal Block Cable Glands	Screw Terminal Block 3 Knock-Outs: ¾"	
Input Protection			
Reverse Polarity Protection	No	No	
Input Over Voltage Protection - Varistor	4	4	
Generator Isolation Control	Yes	Yes	
Output Side			
AC Grid Connection	Three Phase (Δ/Y)	Three Phase (Δ/Y)	
Rated AC Power (P_{acr})	10000 W	10000 W	
Maximum AC Output Power (P_{acmax})	11000 W	11000 W	11000 W
Rated Grid AC Voltage ($V_{ac,r}$)	400 V	208 V	480 V
AC Voltage Range	320...480 V [1]	183-228 V	422 - 528 V
Maximum Output AC Current ($I_{ac,max}$)	16 A	30 A	14 A
Rated Frequency (f_r)	50 Hz	60 Hz	
Frequency Range (f_{min}...f_{max})	47...53 Hz [2]	59.3...60.5 Hz	
Nominal Power Factor ($Cosphi_{ac,r}$)	> 0.995	> 0.995	
Total Harmonic Distortion	< 2%	< 2%	
AC Connection Type	Screw Terminal Block Cable glands	Screw Terminal Block 3 Knock-Outs: ¾" or 1" (w/ring reducer)	
Output Protection			
Anti-islanding protection	According to local standard	According to UL 1741/IEE1547	
Maximum AC Overcurrent Protection	20 A	35 A	20 A
Output Over Voltage Protection - Varistor	3, star connected to common point plus gas arrester to ground	3, star connected to common point plus gas arrester to ground	
Operating Performance			
Maximum Efficiency (η_{max})	97.1%	96.7%	97.1%
Stand-by Consumption	< 8W	< 8W	
Communication			
Wired Local Monitoring	PVI-USB-RS485_223 (opt.), PVI-DESKTOP (opt.)	PVI-USB-RS485_223 (opt.), PVI-DESKTOP (opt.)	
Remote Monitoring	PVI-AEC-EVO (opt.), AURORA-UNIVERSAL (opt.)	PVI-AEC-EVO (opt.), AURORA-UNIVERSAL (opt.)	
Wireless Local Monitoring	PVI-DESKTOP (opt.) with PVI-RADIOMODULE (opt.)	PVI-DESKTOP (opt.) with PVI-RADIOMODULE (opt.)	
User Interface	16 characters x 2 lines LCD display	16 characters x 2 lines LCD display	
Environmental			
Ambient Temperature Range	-25...+60°C /-13...140°F with derating above 45°C/113°F	-25...+60°C /-13...140°F with derating above 45°C/113°F	
Noise Emission	< 50 dB(A)	< 50 dB(A)	
Maximum Operating Altitude with Derating	2000 m / 6560 ft	2000 m / 6560 ft	
Physical			
Environmental Protection Rating	IP 65	NEMA 4X	
Cooling	Natural	Natural	
Dimension (H x W x D)	716 mm x 645mm x 222 mm / 28.2" x 25.4" x 8.7"	716 mm x 645mm x 222 mm / 28.2" x 25.4" x 8.7"	
Weight	44.9 kg / 99 lb	44.9 kg / 99 lb	
Safety			
Isolation Level	HF Transformer	HF Transformer	
Marking	CE	cCSAus	
Safety and EMC standard	EN 50178, AS/NZS3100, AS/NZS 60950, EN61000-6-2, EN61000-6-4, EN61000-3-11, EN61000-3-12	UL 1741, CSA - C22.2 N. 107.1-01	
Grid Standard	Guideline ENEL, VDE 0126-1-1, AS4777, G59/2, EN 50438	IEEE 1547	
Available Products Variants			
Standard	SSWI-10.0-I-OUTD-400	SSWI-10.0-I-OUTD-US-208	SSWI-10.0-I-OUTD-US-480

1. The AC voltage range may vary depending on specific country grid standard
2. The Frequency range may vary depending on specific country grid standard
3. Just for -480 version, the inverter applies current limit derating below 220V down to 2A/1A at 90V

Ver. 2011-02.2-EN - All products are subject to technical improvements without notice

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