power-one®
Renewable Energy Solutions

PVI-12.5-TL-OUTD-W

GENERAL SPECIFICATIONS

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 for small wind applications for up to 50kW.

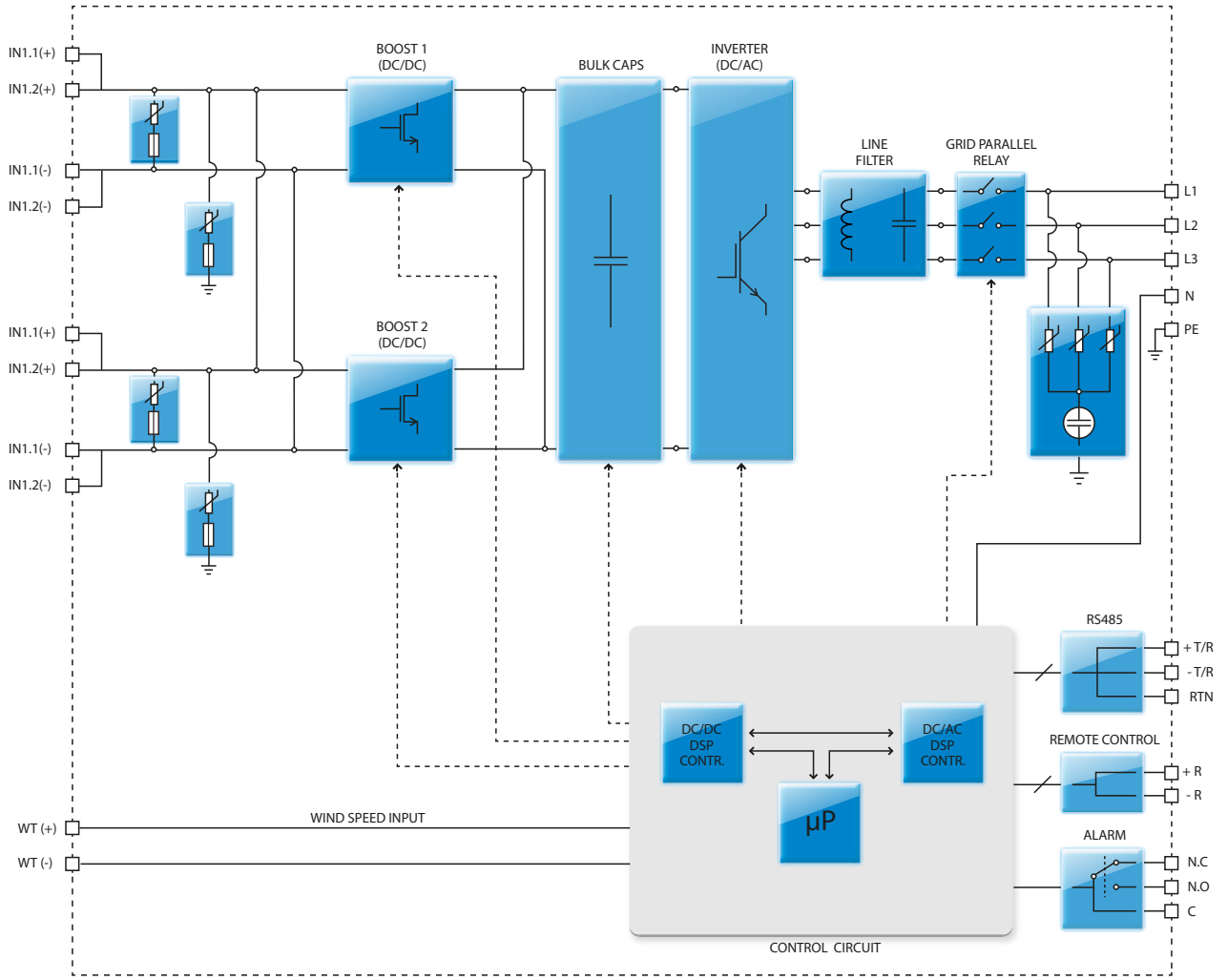
The competitive initial acquisition costs matched with the high efficiencies of up to 97.7% wide input range significantly increase return on investment on wind-power installations.

This compact, weather-sealed inverter has, together with the 25kW Wind Interface, a 16-point profile to best match the power curve of each wind turbine. Wind Interface box is not an optional accessory.

Features

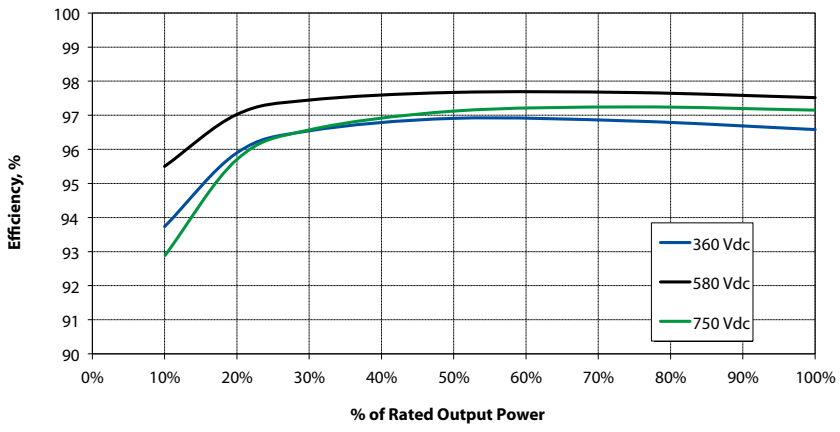
- 'Electrolyte-free' power converter to further increase the life expectancy and long term reliability
- True Three-Phase bridge topology for DC/AC output converter
- Transformerless operation for highest efficiency
- Power curve customization with high granularity to reach high level of power production 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 only with 15kW and 25kW Wind Interface

BLOCK DIAGRAM OF PVI-12.5-TL-OUTD-W



Block Diagram and Efficiency Curves

PVI-12.5-TL-OUTD-W



PARAMETER	PVI-12.5-TL-OUTD-W
Input Side	
Maximum Absolute DC Input Voltage $V_{(max,abs)}$	900 V
Operating DC Input Voltage Range (V_{dcmin}...V_{dcmax})	100...850 V
DC Input Voltage Range at Full Power ($V_{fp,min}$...$V_{fp,max}$)	360...750 V
Dc Power Limitation	Power Limit to 10Amax for 100 V≤Vdc≤200 V and 36Amax for 201 V≤Vdc≤360 V Linear Derating From MAX to Null [750V≤Vdc≤850V]
Maximum DC Input Current (I_{dcmax})	36 A
Maximum Input Short Circuit Current	44 A
DC Connection Type	Screw Terminal Block Cable Glands
Input Protection	
Reverse Polarity Protection	No
Input Over Voltage Protection - Varistor	4
Generator Isolation Control	According to local standard
Output Side	
AC Grid Connection	Three phase 3W or 4W+PE
Rated AC Power (P_{acr}@cosφ=1)	12500 W
Maximum AC Output Power (P_{acmax} @cosφ=1)	13800 W [3]
Maximum Apparent Power (S_{max})	13800 VA
Rated Grid AC Voltage ($V_{ac,r}$)	400 V
AC Voltage Range	320...480 V [1]
Maximum Output AC Current ($I_{ac,max}$)	20 A
Contributory fault current	22.0 A
Rated Frequency (f_r)	50 Hz / 60 Hz
Frequency Range (f_{min}...f_{max})	47...53 Hz / 57…63 Hz[2]
Nominal Power Factor and adjustable range	> 0.995, adj. ± 0.9 with P_{acr}=12.5 kW, ± 0.8 with max 13.8 kVA
Total Harmonic Distortion	< 2%
AC Connection Type	Screw Terminal Block Cable Glands
Output Protection	
Anti-islanding protection	According to local standard
Maximum AC Overcurrent Protection	22 A
Output Over Voltage Protection - Varistor	3 plus gas arrester
Operating Performance	
Maximum Efficiency (η_{max})	97.7%
Stand-by Consumption	< 10 W
Feed In Power Threshold	30 W
Communication	
Wired Local Monitoring	Via Wind Interface Box
Remote Monitoring	
Wireless Local Monitoring	
User Interface	16 characters x 2 lines LCD display
Environmental	
Ambient Temperature Range	-20...+60°C /-4...140°F with derating above 50°C/122°F
Noise Emission	< 50 dB(A)
Maximum Operating Altitude with Derating	2000 m / 6560 ft
Physical	
Environmental Protection Rating	IP 65
Cooling	Natural
Dimension (H x W x D)	716mm x 645mm x 222mm / 28.2" x 25.4" x 8.7"
Weight	38 kg / 83.8 lb
Safety	
Isolation Level	Transformerless
Marking	CE
Safety and EMC standard	EN62109-1, EN62109-2, AS/NZS3100, AS/NZS 60950, EN61000-6-2, EN61000-6-3, EN61000-3-11, EN61000-3-12
Grid Standard	CEI 0-21, CEI 0-16, VDE 0126-1-1, VDE-AR-N 4105, G59/2, C10/11, EN 50438 (not for all national appendices), RD1699, RD 1565, AS 4777, ABNT NBR 16149
Available Products Variants	
Standard	PVI-12.5-TL-OUTD-W

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. Limited to 12500 W for Germany

Remark. Features not specifically listed in the present data sheet are not included in the product

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