

Wind turbine converters

ABB small wind inverters

PVI-12.5-TL-OUTD-W

12.5 kW



The PVI-12.5-TL-OUTD-W wind turbine inverter is designed with ABB's proven high performance technology. This dual stage transformerless wind inverter offers a unique combination of high efficiency, installer-friendly design and very wide input voltage range ensuring high energy harvesting.

PVI-12.5-TL-W power exportation is controlled by an external signal. The inverter has high speed and precise algorithm for following the external signal variations to maximize the total energy harvested.

Efficiency at all output levels

PVI-12.5-TL-W requires an external control signal to work properly. This can be made using 15/25kW-WIND-INTERFACE.

It is a sealed unit to withstand harsh environmental conditions.

Highlights

- True tree-phase bridge topology for DC/AC output converter
- Wide input voltage range
- Transformerless technology
- Field-selectable grid standard settings

Additional highlights

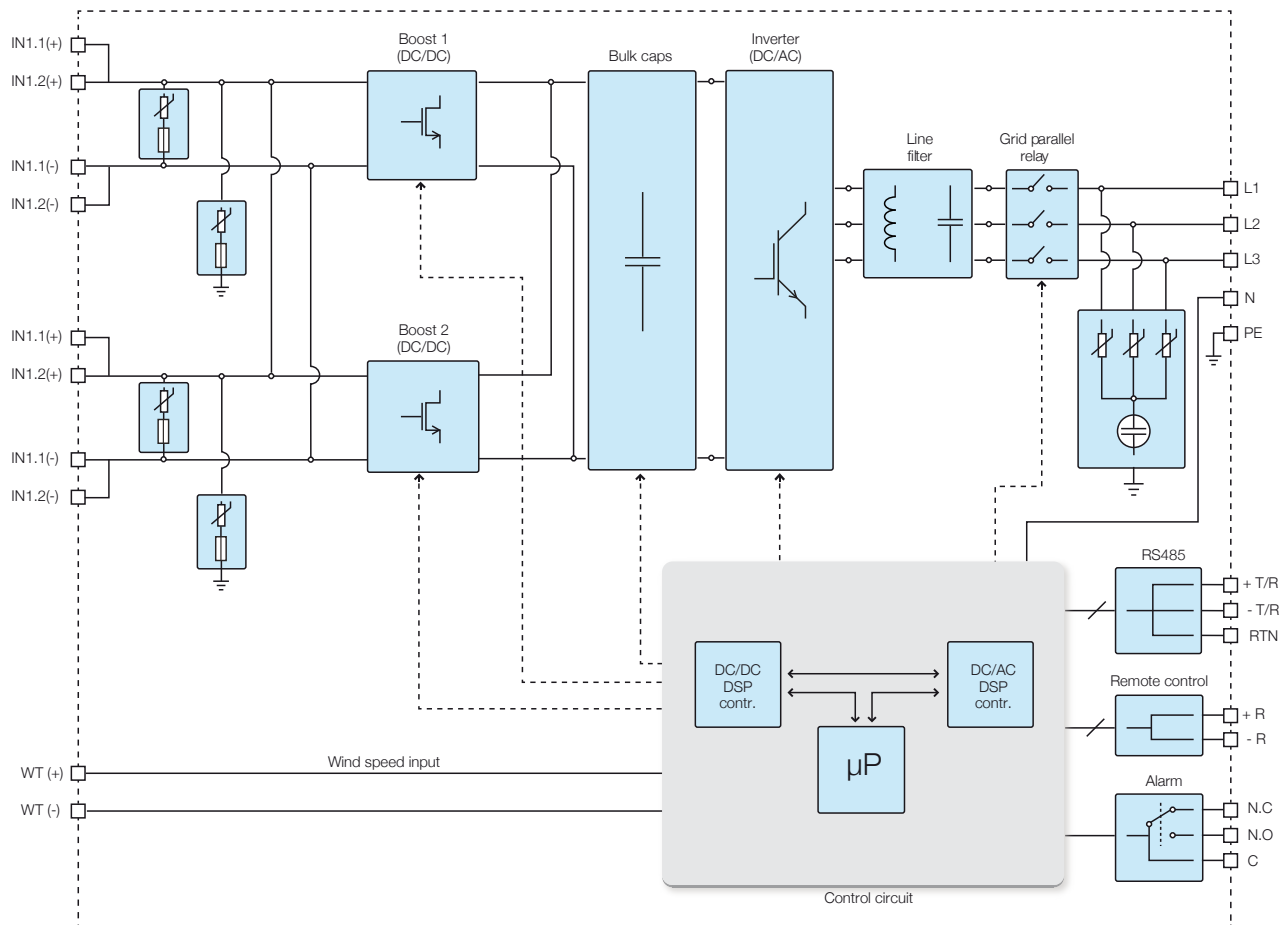
- Flexible data monitoring options to view inverter performance where and how you need it
- Natural convection cooling for maximum reliability
- Compatible with ABB 15/25kW-WIND-INTERFACE



Technical data and types

Type code	PVI-12.5-TL-OUTD-W
Input side	
Maximum absolute DC input voltage ($V_{max,abs}$)	900 V
Operating DC Input voltage range ($V_{dcmin}...V_{dcmax}$)	130...850 V
DC input voltage range at P_{acr} ($V_{rp,min}...V_{rp,max}$)	360...750 V
Rated DC input voltage (V_{dcr})	580 V
Dc power limitation	Power limit to 10 A for $100 V \leq V_{dcs} \leq 200 V$ and 36 A for $201 V \leq V_{dcs} \leq 360 V$ Linear derating from Max to Null [$750V \leq V_{dcs} \leq 850V$]
Maximum DC input current (I_{dcmax})	36 A
Maximum input short circuit current	44 A
DC connection type	Screw terminal block
Input protection	
Reverse polarity protection	Yes, from limited current source
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 ($P_{acr} @ \cos\phi=1$)	12500 W
Maximum AC output power ($P_{acmax} @ \cos\phi=1$)	13800 W ⁽³⁾
Maximum apparent power (S_{max})	13800 VA
Rated grid AC voltage (V_{acr})	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_i)	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
Output protection	
Anti-islanding protection	According to local standard
Maximum AC overcurrent protection	22.0 A
Output over voltage protection - varistor	3 plus gas arrester

Block diagram of PVI-12.5-TL-OUTD-W



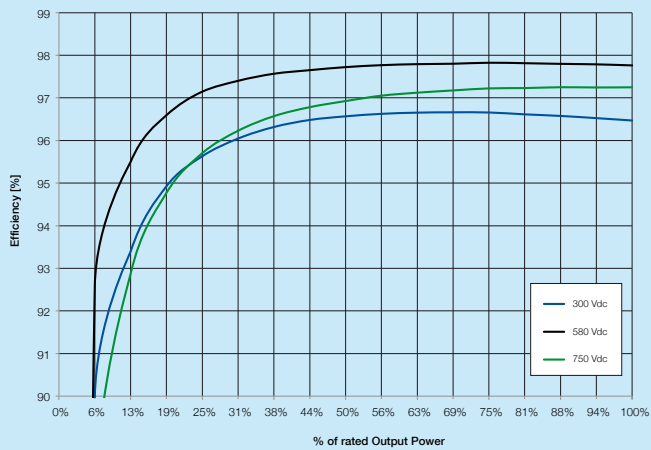
Technical data and types

Type code	PVI-12.5-TL-OUTD-W
Operating performance	
Maximum efficiency (η_{max})	97.8%
Stand-by consumption	< 10 W
Feed in power threshold	30.0 W
Communication	
Wired local monitoring	PVI-USB-RS232_485 (opt.)
Remote monitoring	VSN300 Wifi Logger Card ⁽⁴⁾ (opt.)
Wireless local monitoring	VSN300 Wifi Logger Card ⁽⁴⁾ (opt.)
User interface	16 characters x 2 lines LCD display
Environmental	
Ambient temperature range	-25...+ 60°C (-13...140°F) with derating above 50°C (122°F)
Noise emission	< 50 dB(A)
Maximum operating altitude without derating	2000 m (6560 ft)
Physical	
Environmental protection rating	IP 65
Cooling	Natural
Dimension (H x W x D)	716 mm x 645 mm x 222 mm (28.2 in x 25.4 in x 8.7 in)
Weight	< 41.0 kg (90.4 lb)
Safety	
Isolation level	Transformerless
Marking	CE (50 Hz only)
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, G59/3, C10/11, EN 50438 (not for all national appendices), RD1699, RD 1565, AS 4777, BDEW, ABNT NBR 16149, CLC/FprTS 50549
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
4. Check availability before to order

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

Efficiency curves of PVI-12.5-TL-OUTD-W



Support and service

ABB supports its customers with a dedicated, global service organization in more than 60 countries and strong regional and national technical partner networks providing the complete range of life cycle services.

For more information please contact your local ABB representative or visit:

www.abb.com/converters-inverters

www.abb.com/windpower

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