

ABB small wind inverters

PVI-3.0/3.6/4.2-TL-OUTD-W

3 to 4.2 kW



The PVI-3.0/3.6/4.2-TL-W wind turbine inverter is designed with ABB's proven high performance technology. This dual stage transformerless wind turbine inverter offers a unique combination of high efficiency, installer-friendly design and very wide input voltage range ensuring high energy harvesting.

The high speed and precise power curve tracking algorithm allows to best match the power curve of each turbine.

Efficiency of up to 96.8%

The PVI-3.0/3.6/4.2-TL-W features an efficiency up to 96.8 percent thanks to transformerless technology.

It has power curve customization with high granularity, up to 16-point, for high production yield.

It is a sealed unit to withstand harsh environmental conditions.

Highlights

- Single phase output
- Power curve customization
- Wide input voltage range
- Transformerless technology
- Field-selectable grid standard settings

Additional highlights

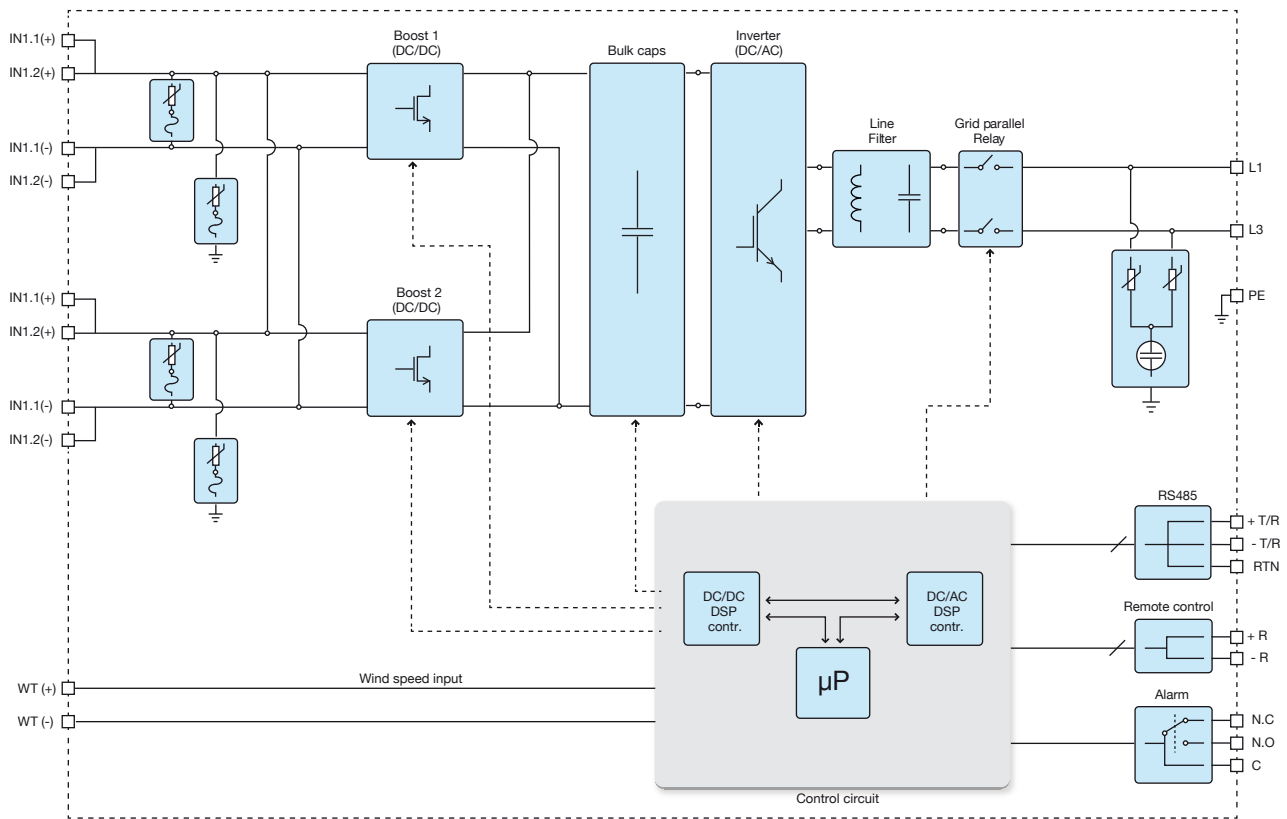
- Flexible data monitoring options to view inverter performance
- Compatible with ABB 7200-WIND-INTERFACE
- Compatible with ABB 15/25kW-WIND-INTERFACE



Technical data and types

Type code	PVI-3.0-TL-OUTD-W	PVI-3.6-TL-OUTD-W	PVI-4.2-TL-OUTD-W
Input side			
Maximum absolute DC input voltage ($V_{max,abs}$)		600 V	
Operating DC input voltage range ($V_{dcmin}...V_{dcmax}$)		50...580 V	
DC input voltage range at P_{acr} ($V_{rp,min}...V_{rp,max}$)	160...530 V	120...530 V	140...530 V
Rated DC input voltage (V_{dcr})		360 V	
Dc power limitation	Linear derating from MAX to Null [$530V \leq V_{dc} \leq 580V$]		
Maximum DC input current (I_{dcmax})	20 A	32 A	32 A
Maximum input short circuit current	25 A	40 A	40 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	Single phase		
Rated AC power ($P_{acr} @ \cos\phi=1$)	3000 W	3600 W	4200 W
Maximum AC output power ($P_{acmax} @ \cos\phi=1$)	3300 W ⁽⁴⁾	4000 W ⁽⁵⁾	4600 W ⁽⁶⁾
Maximum apparent power (S_{max})	3330 VA	4000 VA	4670 VA
Rated grid AC voltage (V_{acr})	230 V		
AC voltage range	180...264 V ⁽¹⁾		
Maximum output AC current ($I_{ac,max}$)	14.5 A	17.2 A(3)	20 A
Contributory fault current	16.0 A	19.0 A	22.0 A
Rated frequency (f)	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 $P_{acr}=3.0$ kW	> 0.995, adj. ± 0.9 with $P_{acr}=3.6$ kW	> 0.995, adj. ± 0.9 with $P_{acr}=4.2$ kW
Total harmonic distortion	< 3.5 %		
AC connection type	Screw terminal block		
Output protection			
Anti-islanding protection	According to local standard		
Maximum AC overcurrent protection	16.0 A	19.0 A	22.0 A
Output over voltage protection - varistor	2 (L - N / L - PE)		

Block diagram of PVI-3.0/3.6/4.2-TL-OUTD-W



Technical data and types

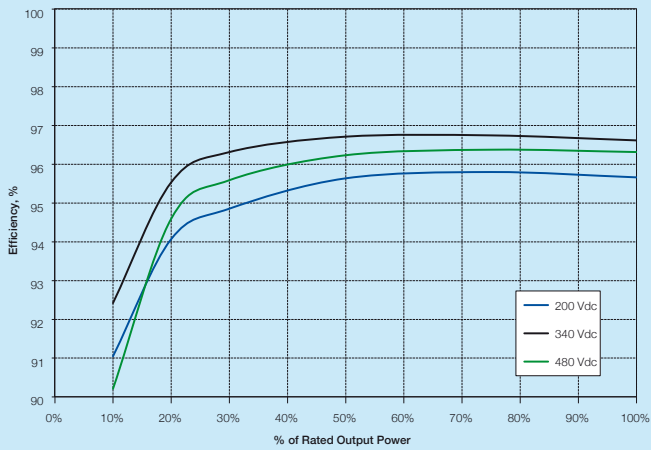
Type code	PVI-3.0-TL-OUTD-W	PVI-3.6-TL-OUTD-W	PVI-4.2-TL-OUTD-W
Operating performance			
Maximum efficiency (η_{max})		96.8%	
Stand-by consumption		< 8W	
Feed in power threshold		10.0 W	
Communication			
Wired local monitoring		PVI-USB-RS232_485 (opt.)	
Remote monitoring	VSN300 Wifi Logger Card ⁽⁷⁾ (opt.), PVI-AEC-EVO (opt.), VSN700 Data Logger (opt.)		
Wireless local monitoring		VSN300 Wifi Logger Card ⁽⁷⁾ (opt.)	
User interface		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 50°C (122°F)	-25...+ 60°C (-13...140°F) with derating above 45°C (113°F)
Noise emission		< 50 db(A) @ 1 m	
Maximum operating altitude without derating		2000 m (6560 ft)	
Physical			
Environmental protection rating		IP 65	
Cooling		Natural	
Dimension (H x W x D)		618 mm x 325 mm x 222 mm (24.3 in x 12.8 in x 8.7 in)	
Weight		17 kg (37.4 lb)	
Safety			
Isolation level		Transformerless	
Marking		CE (50 Hz only)	
Safety and EMC standard	EN62109-1, EN62109-2, AS/NZS3100, AS/NZS 60950, EN61000-6-1, EN61000-6-3, EN61000-3-2, EN61000-3-3		
Grid standard	CEI 0-21, VDE 0126-1-1, VDE-AR-N 4105, G83/2, EN 50438 (not for all national appendices), RD1699, AS 4777, C10/11, IEC 61727, ABNT NBR 16149, CLC/FprTS 50549	CEI 0-21, VDE 0126-1-1, VDE-AR-N 4105, G83/2, EN 50438 (not for all national appendices), RD1699, AS 4777, C10/11, IEC 61727, ABNT NBR 16149, CLC/FprTS 50549	CEI 0-21, VDE 0126-1-1, VDE-AR-N 4105, G83/2, G59/3, EN 50438 (not for all national appendices), RD1699, AS 4777, C10/11, IEC 61727, ABNT NBR 16149, CLC/FprTS 50549, PEA, MEA
Available products variants			
Standard	PVI-3.0-TL-OUTD-W	PVI-3.6-TL-OUTD-W	PVI-4.2-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. For UK G83/2 setting, maximum output current limited to 16A up to a maximum output power of 3.68kW
4. Limited to 3000 W for Germany

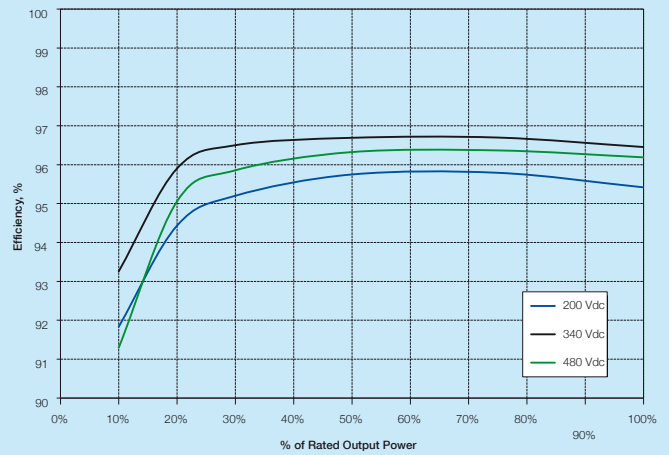
5. Limited to 3600 W for Germany
6. Limited to 4200 W for Germany
7. Check availability before to order

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

Efficiency curves of PVI-3.6-TL-OUTD-W



Efficiency curves of PVI-4.2-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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