ABB PVI-2000/3600 string inverters datasheet

http://www.manuallib.com/abb/pvi-2000-3600-string-inverters-datasheet.html

This small residential string inverter will work most effectively with small photovoltaic residential installations. This very compact, slim, lightweight and easy-to-install inverter offers a very cost effective entry point for users new to photovoltaics or in need of a simple power inverter solution.

Solar inverters

ABB string inverters
PVI-2000/3600
2 to 3.6 kW

The smallest of ABB's PV string inverters, this unit is designed to be housed indoors as opposed to many of its outdoor counterparts.

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The inverter offers a range of benefits, including maximum energy harvesting, through both its high-speed Maximum Power Point Tracker (MPPT) and transformerless technology.

The important parameter is the wide input voltage range making the inverter suitable to low power installations with reduced string size. The graphical display allows users to check real-time performance through its integrated data logger.

Highlights

- Wide input range
- High speed and precise MPPT algorithm for real time power tracking and improved energy harvesting
- Flat efficiency curves ensure high efficiency at all output levels ensuring consistent and stable
- performance across the entire input voltage and output power range

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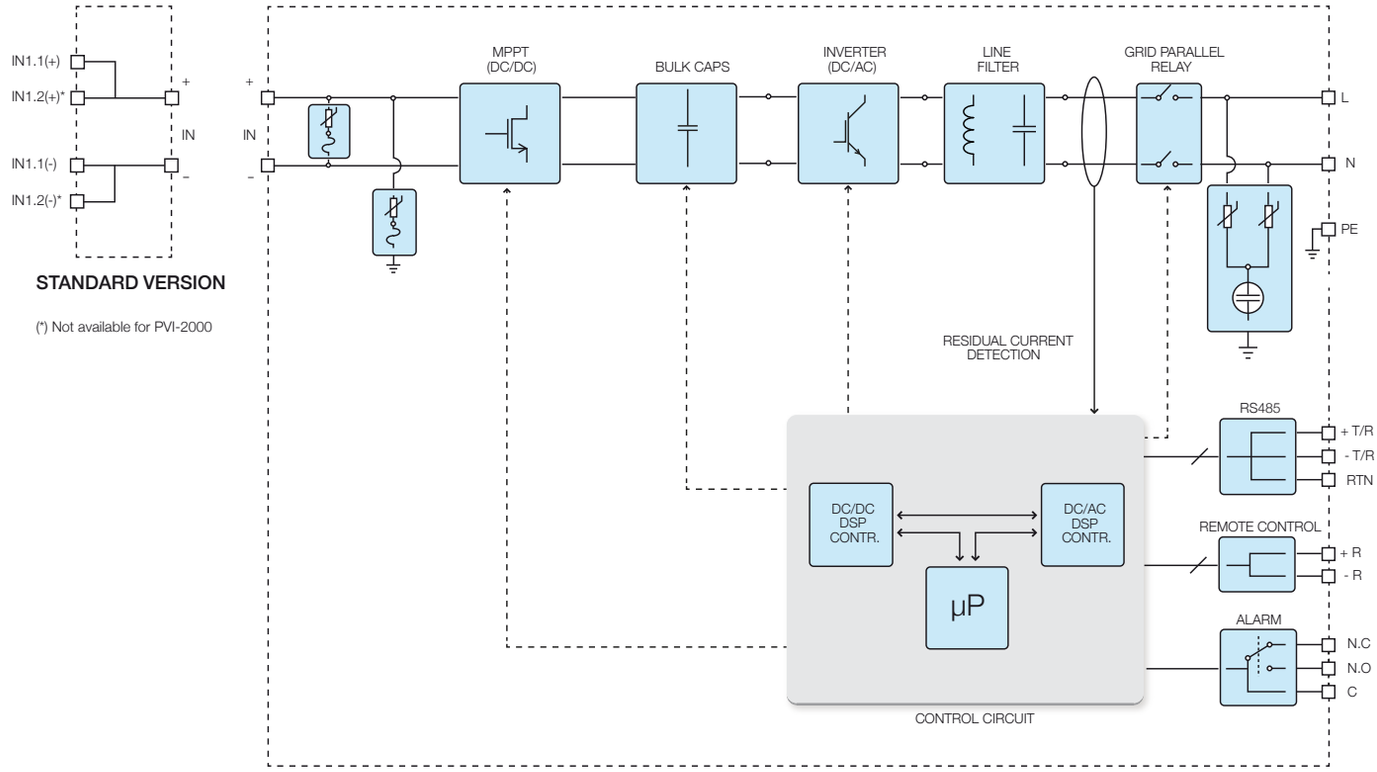
Additional highlights

- RS-485 communication interface (for connection to laptop or datalogger)
- Compatible with PVI-RADIOMODULE for wireless communication with PVI-DESKTOP

Technical data and types

Type code	PVI-2000	PVI-3600
Input Side		
Absolute Maximum DC Input Voltage ($V_{max,abs}$)	600 V	
Start-up DC Input Voltage (V_{start})	200 V (adj. 120...350 V)	
Operating DC Input Voltage Range (V_{dcmin}...V_{dcmax})	0.7 x V_{start}...580 V	
Rated DC Input Power (P_{dcr})	2100 W	3800 W
Number of Independent MPPT	1	2
Maximum DC Input Power for each MPPT ($P_{MPPTmax}$)	2100 W Linear Derating From MAX to Null [530V≤V_{MPPT}≤580V]	2000 W
MPPT Input DC Voltage Range ($V_{MPPTmin,f}$ ... $V_{MPPTmax,f}$) at P_{acr}	210...530 V	200...530 V
DC Input Voltage Range with Parallel Configuration of MPPT at P_{acr}	Not applicable	200...530 V
DC Power Limitation with Parallel Configuration of MPPT	Not applicable	Linear Derating From MAX to Null [530V≤V_{MPPT}≤580V]
DC Power Limitation for each MPPT with Independent Configuration of MPPT at P_{acr}, max unbalance example	Not applicable	2000 W [200V≤V_{MPPT}≤530V] the other channel: P_{dcr}-2000W [180V≤V_{MPPT}≤530V]
Maximum DC Input Current (I_{dcmax}) / for each MPPT ($I_{MPPTmax}$)	10.0 A / 10.0 A	20.0 A / 10.0 A
Maximum Input Short Circuit Current for each MPPT	12.0 A	
Number of DC Inputs Pairs for each MPPT	1	2
DC Connection Type	Tool Free PV Connector WM / MC 3 / MC 4 (1)	
Input Protection		
Reverse Polarity protection	Yes, from limited current source	
Input Over Voltage Protection for each MPPT - Varistor	2	2 for each MPPT
Photovoltaic Array Isolation Control	According to local standard	
Output Side		
AC Grid Connection Type	Single phase	
Rated AC Power (P_{acr})	2000 W	3600 W
Maximum AC Output Power (P_{acmax})	2000 W	3600 W
Rated AC Grid Voltage ($V_{ac,r}$)	230 V	
AC Voltage Range	180...264 V (2)	
Maximum AC Output Current ($I_{ac,max}$)	10.0 A	16.0 A
Rated Output Frequency (f_r)	50 Hz	
Output Frequency Range (f_{min}...f_{max})	47...53 Hz (3)	
Nominal Power Factor (Cosphi$_{ac,r}$)	> 0.995	
Total Current Harmonic Distortion	< 2.5 %	
AC Connection Type	Circular connector	

Block diagram of PVI-2000/3600

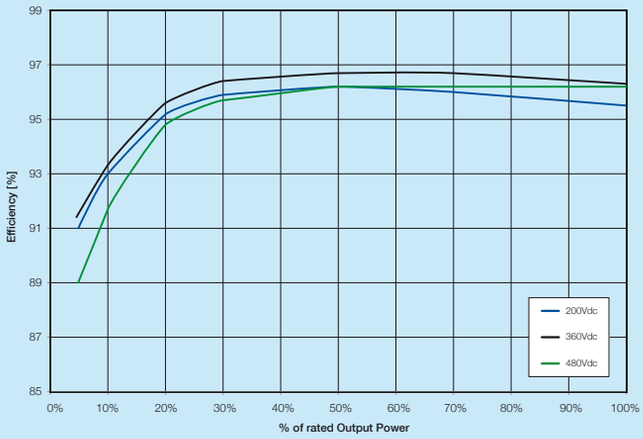


Technical data and types

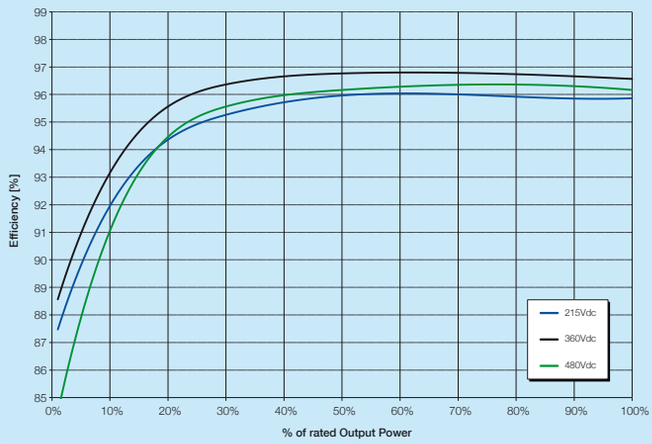
Type code	PVI-2000	PVI-3600
Output Protection		
Anti-Islanding Protection	According to local standard	
Maximum AC Overcurrent Protection	16.0 A	20.0 A
Output Overvoltage Protection - Varistor	2 (L - N / L - PE)	
Operating Performance		
Maximum Efficiency (η_{max})	95.5%	96.0%
Weighted Efficiency (EURO/CEC)	94.4% / -	95.0% / -
Feed In Power Threshold	10.0 W	
Stand-by Consumption	< 8.0 W	
Communication		
Wired Local Monitoring	PVI-USB-RS485_232 (opt.), PVI-DESKTOP (opt.)	
Remote Monitoring	PVI-AEC-EVO (opt.), AURORA-UNIVERSAL (opt.)	
Wireless Local Monitoring	PVI-DESKTOP (opt.) with PVI-RADIOMODULE (opt.)	
User Interface	Graphic display	
Environmental		
Ambient Temperature Range	-20...+55°C /-4...131°F with derating above 40°C/104°F	
Relative Humidity	0...95 %	
Noise Emission	< 30 db(A) @ 1 m	
Maximum Operating Altitude without Derating	2000 m / 6560 ft	
Physical		
Environmental Protection Rating	IP 21	
Cooling	Air Forced	
Dimension (H x W x D)	440mm x 465mm x 57mm / 17.3" x 18.3" x 2.2"	
Weight	< 7.5 kg / 16.5 lb	< 8.5 kg / 18.7 lb
Mounting System	Wall bracket	
Safety		
Isolation Level	Transformerless	
Marking	CE	
Safety and EMC Standard	EN 50178, EN61000-6-1, EN61000-6-3, EN61000-3-2, EN61000-3-3, AS/NZS 3100	
Grid Standard	DK 5940, VDE 0126-1-1, G83/1, AS 4777	
Available Products Variants		
Standard	PVI-2000	PVI-3600

1. Different DC connection type for specific country model
2. The AC voltage range may vary depending on specific country grid standard
3. The Frequency range may vary depending on specific country grid standard

Efficiency curves of PVI-2000



Efficiency curves of PVI-3600



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Support and service

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

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

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