power-one®
A MEMBER OF THE ABB GROUP

AURORA UNO

PVI-5000-TL
PVI-6000-TL

GENERAL SPECIFICATIONS

Designed for residential and small commercial PV installations, this inverter fills a specific niche in the Aurora product line to cater for those installations producing between 5kW and 20kW.

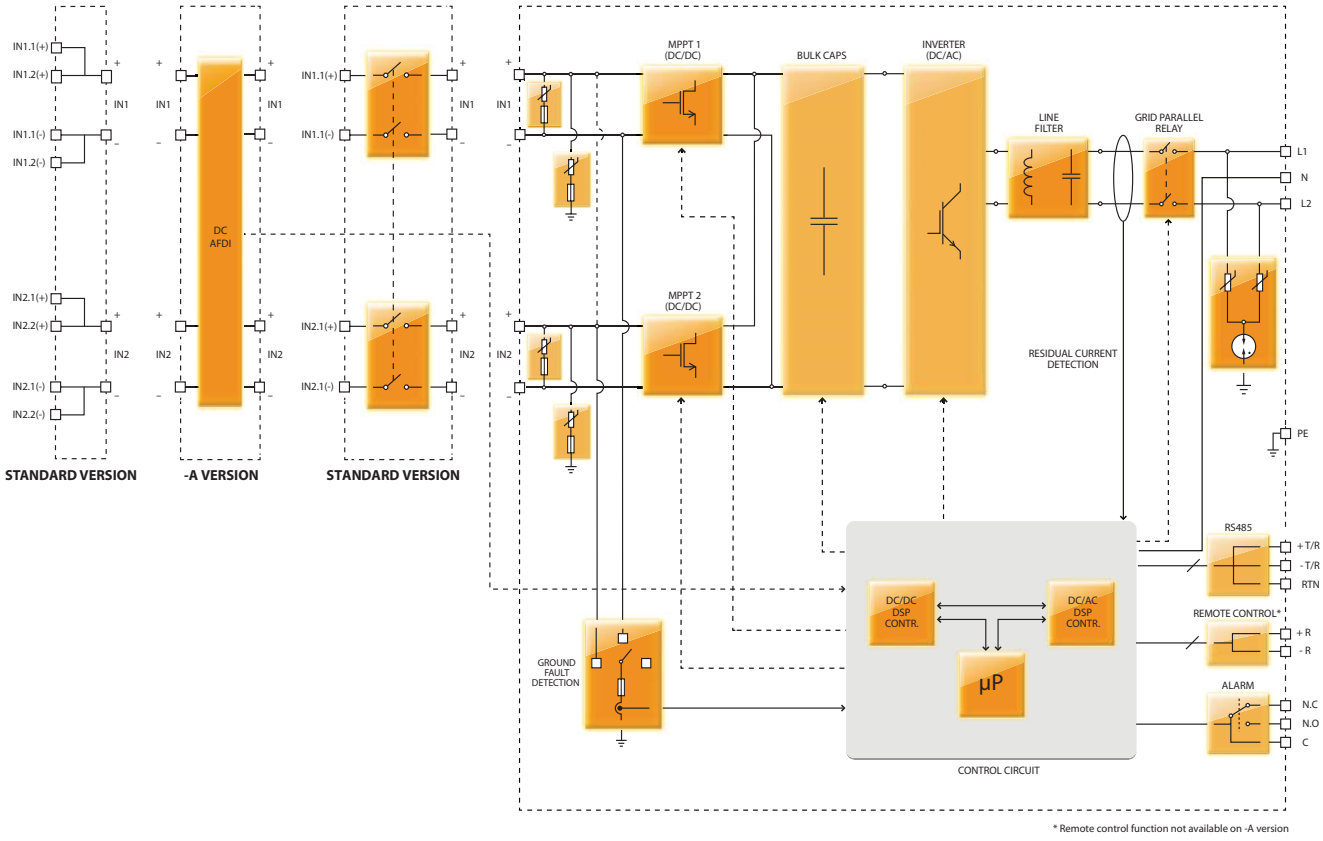
This inverter has all the usual Aurora benefits, including dual input section to process two strings with independent MPPT, high speed and precise MPPT algorithm for real-time power tracking and energy harvesting, as well as transformerless operation for high performance efficiencies of up to 97.1%.

The wide input voltage range makes the inverter suitable to low power installations with reduced string size. This outdoor inverter has been designed as a completely sealed unit to withstand the harshest environmental conditions.

Features

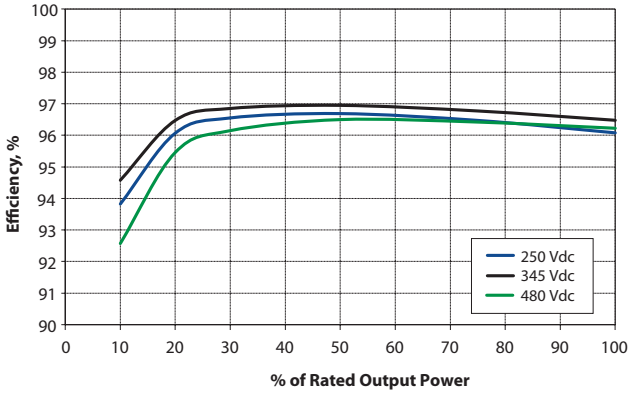
- Each inverter is set on specific grid codes which can be selected in the field
- Single phase output
- Dual input sections with independent MPPT, allows optimal energy harvesting from two sub-arrays oriented in different directions
- Wide input range
- High speed and precise MPPT algorithm for real 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
- Outdoor NEMA 4X rated enclosure for unrestricted use under any environmental conditions
- RS-485 communication interface (for connection to laptop or datalogger)
- Compatible with PVI-RADIOMODULE for wireless communication with Aurora PVI-DESKTOP
- Integrated Arc Fault Detection and Interruption (-A Version)

BLOCK DIAGRAM OF PVI-5000-OUTD AND PVI-6000-OUTD FOR NORTH AMERICA

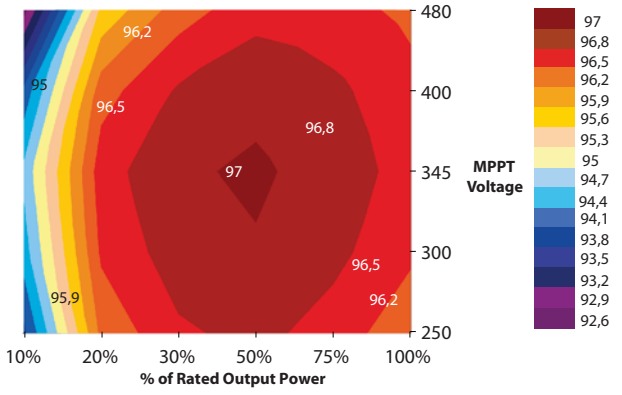


Block Diagram and Efficiency Curves

PVI-5000/6000-OUTD-US



PVI-5000/6000-OUTD-US



TECHNICAL DATA	VALUES	PVI-5000-OUTD-US			PVI-6000-OUTD-US		
Nominal Output Power	W	5000			6000		
Maximum Output Power	W	5000			6000		
Rated Grid AC Voltage	V	208	240	277	208	240	277
Input Side (DC)							
Number of Independent MPPT Channels		2			2		
Maximum Usable Power for Each Channel	W	4000			4000		
Absolute Maximum Voltage (Vmax)	V	600			600		
Start- Up Voltage (Vstart)	V	200 (adj. 120-350)			200 (adj. 120-350)		
Full Power MPPT Voltage Range	V	200-530			200-530		
Operating MPPT Voltage Range	V	0.7xVstart-580			0.7xVstart-580		
Maximum Current (Idcmax) for both MPPT in Parallel	A	36			36		
Maximum Usable Current per Channel	A	18			18		
Maximum Short Circuit Current Limit per Channel	A	22			22		
Number of Wire Landing Terminals Per Channel		2 Pairs			2 Pairs		
Array Wiring Termination		Terminal block, Pressure Clamp, AWG8-AWG4					
Output Side (AC)							
Grid Connection Type		1Ø/2W	Split-Ø/3W	1Ø/2W	1Ø/2W	Split-Ø/3W	1Ø/2W
AdjustableVoltage Range (Vmin-Vmax)	V	183-228	211-264	244-304	183-228	211-264	244-304
Grid Frequency	Hz	60			60		
Adjustable Grid Frequency Range	Hz	57-60.5			57-60.5		
Maximum Current (Iacmax)	A_{RMS}	27	23	20	30	28	24
Power Factor		> 0.995			> 0.995		
Total Harmonic Distortion At Rated Power	%	< 2			< 2		
Contributory Fault Current**	A_{pk}/A_{RMS}	36.25/25.63	36.5/25.81	31.75/22.45	36.25/25.63	36.5/25.81	31.75/22.45
Grid Wiring Termination Type		Terminal block, Pressure Clamp, AWG8 - AWG4					
Protection Devices							
Input							
Reverse Polarity Protection		Yes			Yes		
Over-Voltage Protection Type		Varistor, 2 for each channel			Varistor, 2 for each channel		
PV Array Ground Fault Detection		Pre start-up Riso and dynamic GFDI (Requires Floating Arrays)			Pre start-up Riso and dynamic GFDI (Requires Floating Arrays)		
Output							
Anti-Islanding Protection		Meets UL 1741/IEE1547 requirements			Meets UL 1741/IEE1547 requirements		
Over-Voltage Protection Type		Varistor, 2 (L_1 - L_2 / L_1 - G)			Varistor, 2 (L_1 - L_2 / L_1 - G)		
Maximum AC OCPD Rating	A	35	30	25	40	35	30
Efficiency							
Maximum Efficiency	%	97.1			97.1		
CEC Efficiency	%	96	96.5	96.5	96	96.5	96.5
Operating Performance							
Stand-by Consumption	W_{RMS}	< 8			< 8		
Night time consumption	W_{RMS}	< 0.6			< 0.6		
Communication							
User-Interface		16 characters x 2 lines LCD display					
Remote Monitoring (1xRS485 incl.)		AURORA-UNIVERSAL (opt.)					
Wired Local Monitoring (1xRS485 incl.)		PVI-USB-RS485_232 (opt.), PVI-DESKTOP (opt.)					
Wireless Local Monitoring		PVI-DESKTOP (opt.) with PVI-RADIOMODULE (opt.)					
Environmental							
Ambient Air Operating Temperature Range	°F (°C)	-13 to +140 (-25 to +60)			-13 to +140 (-25 to +60) with derating above 122 (50)		
Ambient Air Storage Temperature Range	°F (°C)	-40 to 176 (-40 to +80)			-40 to 176 (-40 to +80)		
Relative Humidity	% RH	0-100 condensing			0-100 condensing		
Acoustic Noise Emission Level	db (A) @1m	< 50			< 50		
Maximum Operating Altitude without Derating	ft(m)	6560 (2000)			6560 (2000)		
Mechanical Specifications							
Enclosure rating		NEMA 4X			NEMA 4X		
Cooling		Natural Convection			Natural Convection		
Dimensions (H x W x D)	in (mm)	41.4 x 12.8 x 8.6 (1052 x 325 x 218)					
Weight	lb (kg)	< 59.5 (27.0)			< 59.5 (27.0)		
Shipping Weight	lb (kg)	< 78 (35.4)			< 78 (35.4)		
Mounting System		Wall bracket			Wall bracket		
Conduit Connections		Trade Size Kos: (2ea x 1/2") and (2ea x 1-1/4", 3 places side, front, rear)			Trade Size Kos: (2ea x 1/2") and (2ea x 1-1/4", 3 places side, front, rear)		
DC Switch Rating (Per Contact)	A/V	25 / 600			25 / 600		
Safety							
Isolation Level		Transformerless (Floating Array)			Transformerless (Floating Array)		
Safety and EMC Standard		UL 1741, IEE1547, IEE1547.1, CSA - C22.2 N. 107.1-01 , UL1998 UL1699B, FCC Part 15 Class B					
Safety Approval		$_{c}CSA_{us}$			$_{c}CSA_{us}$		
Warranty							
Standard Warranty	years	10			10		
Extended Warranty	years	15 & 20			15 & 20		
Available Models							
Standard - With DC Switch - Floating Array		PVI-5000-OUTD-US			PVI-6000-OUTD-US		
With DC Switch, Wiring box and Arc Fault Detector and Interrupter		PVI-5000-OUTD-US-A			PVI-6000-OUTD-US-A		

*All data is subject to change without notice

** Inverter can apply that much current - Breaker will open

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