

PVI-5000-OUTD-US PVI-6000-OUTD-US

GENERAL SPECIFICATIONS OUTDOOR MODELS

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.

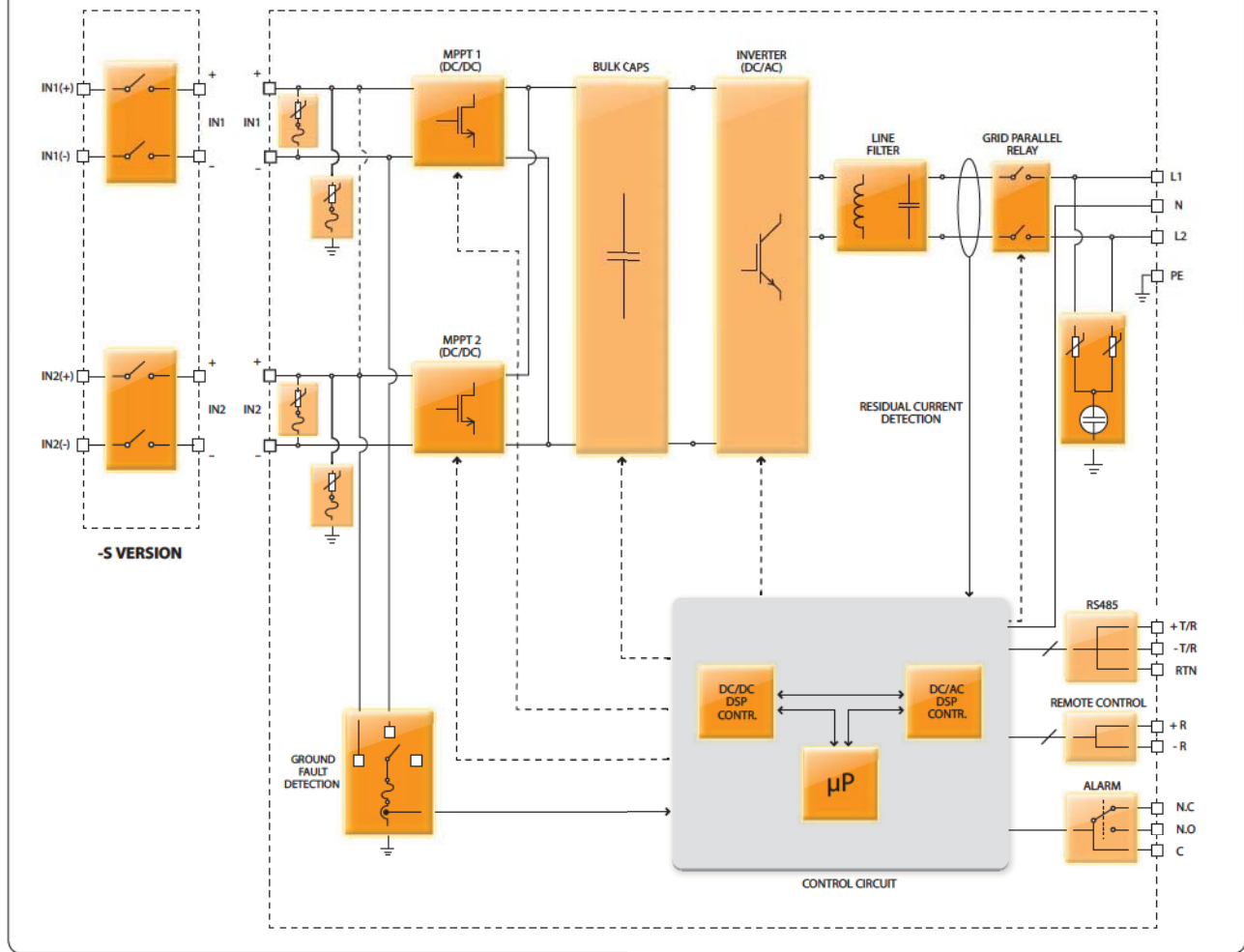


AURORA® UNO

Features

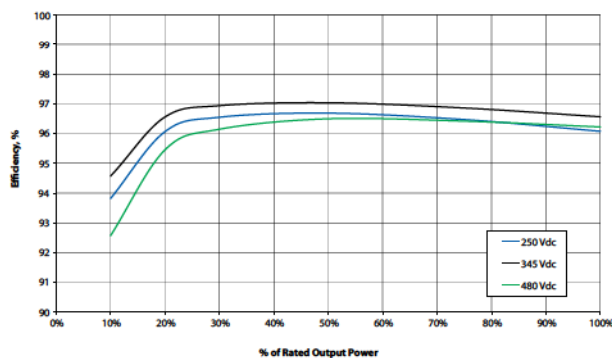
- Each inverter is set on specific grid codes which can be selected in the field
- Single phase output
- Dual input sections with independent MPP tracking, allows optimal energy harvesting from two sub-arrays oriented in different directions
- Wide input range
- High speed and precise MPPT algorithm 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 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

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

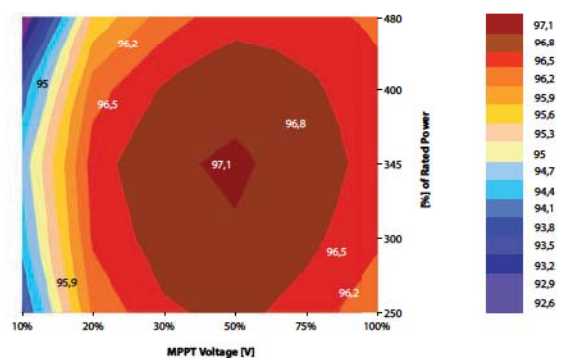


Block Diagram and Efficiency Curves

PVI-6000-OUTD-US



PVI-6000-OUTD-US



| PARAMETER | PVI-5000-OUTD-US | | | PVI-6000-OUTD-US | | |
|--|--|-------------|-------------|---|-------------|-------------|
| 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_{dc}) | 5150 W | | | 6180 W | | |
| Number of Independent MPPT | 2 | | | | | |
| Maximum DC Input Power for each MPPT ($P_{MPPTmax}$) | 4000 W | | | | | |
| DC Input Voltage Range with Parallel Configuration of MPPT at P_{ac} | 200...530 V | | | | | |
| DC Power Limitation with Parallel Configuration of MPPT | Linear Derating From MAX to Null [$530V \leq V_{MPPT} \leq 580V$] | | | | | |
| DC Power Limitation for each MPPT with Independent Configuration of MPPT at P_{ac} , max unbalance example | 4000 W [$225V \leq V_{MPPT} \leq 530V$] the other channel: $P_{dc} \leq 4000W$ [$90V \leq V_{MPPT} \leq 530V$] | | | 4000 W [$230V \leq V_{MPPT} \leq 530V$] the other channel: $P_{dc} \leq 4000W$ [$120V \leq V_{MPPT} \leq 530V$] | | |
| Maximum DC Input Current (I_{dcmax}) / for each MPPT ($I_{MPPTmax}$) | 36.0 A / 18.0 A | | | | | |
| Maximum Input Short Circuit Current for each MPPT | 22.0 A | | | | | |
| Number of DC Inputs Pairs for each MPPT | 1 | | | | | |
| DC Connection Type | Screw Terminal Block, 3 Knock-Outs: 1 ½" or 1" (w/ Ring Reducer) | | | | | |
| Input Protection | | | | | | |
| Reverse Polarity protection | Yes, from limited current source | | | | | |
| Input Over Voltage Protection for each MPPT - Varistor | 2 | | | | | |
| Photovoltaic Array Isolation Control | GFDI (for use with either Positive or Negative Grounded Arrays) | | | | | |
| DC Switch Rating for each MPPT (-S Version) | 25 A / 600 V | | | | | |
| Output Side | 208 V | 240 V | 277 V | 208 V | 240 V | 277 V |
| AC Grid Connection Type | Single phase / Split phase | | | | | |
| Rated AC Power (P_{ac}) | 5000 W | | | 6000 W | | |
| Maximum AC Output Power (P_{acmax}) | 5000 W | | | 6000 W | | |
| Rated AC Grid Voltage ($V_{ac,r}$) | 208 V | 240 V | 277 V | 208 V | 240 V | 277 V |
| AC Voltage Range | 183...228 V | 211...264 V | 244...304 V | 183...228 V | 211...264 V | 244...304 V |
| Maximum AC Output Current ($I_{ac,max}$) | 27.0 A | 23.0 A | 20.0 A | 30.0 A | 28.0 A | 24.0 A |
| Rated Output Frequency (f_o) | 60 Hz | | | | | |
| Output Frequency Range ($f_{min}...f_{max}$) | 59.3...60.5 Hz | | | | | |
| Nominal Power Factor ($\cos\phi_{ac,r}$) | > 0.995 | | | | | |
| Total Current Harmonic Distortion | < 2% | | | | | |
| AC Connection Type | Screw terminal block | | | | | |
| Output Protection | 208 V | 240 V | 277 V | 208 V | 240 V | 277 V |
| Anti-Islanding Protection | According to UL 1741/IEE1547 | | | | | |
| Maximum AC Overcurrent Protection | 35.0 A | 30.0 A | 25.0 A | 40.0 A | 35.0 A | 30.0 A |
| Output Overvoltage Protection - Varistor | 2 (L1 - L2 / L1 - PE) | | | | | |
| Operating Performance | 208 V | 240 V | 277 V | 208 V | 240 V | 277 V |
| Maximum Efficiency (η_{max}) | 97.1% | | | 97.1% | | |
| Weighted Efficiency (EURO/CEC) | 96.0% | 96.5% | 96.5% | 96.0% | 96.5% | 96.5% |
| Feed In Power Threshold | 20.0 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 | 16 characters x 2 lines LCD display | | | | | |
| Environmental | | | | | | |
| Ambient Temperature Range | -25...+60°C (-13...+ 140°F) with derating above 50°C (122°F) | | | | | |
| Relative Humidity | 0...100% condensing | | | | | |
| 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) | 1052mm x 325mm x 222mm / 41.4" x 12.8" x 8.7" | | | | | |
| Weight | < 27.0 kg / 59.5 lb | | | | | |
| Mounting System | Wall bracket | | | | | |
| Safety | | | | | | |
| Isolation Level | Transformerless | | | | | |
| Marking | cCSAus | | | | | |
| Safety and EMC Standard | UL 1741, CSA - C22.2 N. 107.1-01 | | | | | |
| Grid Standard | IEEE 1547 | | | | | |
| Available Products Variants | | | | | | |
| With DC Switch | PVI-5000-OUTD-US | | | PVI-6000-OUTD-US | | |



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