



# AURORA<sup>®</sup>

Photovoltaic Inverter  
& Wind Inverter

**Power solutions  
for renewable energy sources  
and energy saving**



***power-one***<sup>TM</sup>

worldwide leader for power supplier  
and renewable energy products



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## General Specifications

### Indoor models

### PVI-2000

### PVI-3600

### AURORA® BENEFITS

- Dual input section to process two strings with independent MPPT (3600W models)
- Robust IP21 (NEMA 2) indoor enclosure and conformal coating of the boards to stand harsh environmental conditions
- High speed, advanced MPPT controls for maximum energy harvesting
- Very compact and light design for ease of installation: 3600W of output power in a box just 440mm x 465mm x 57mm weighting less than 7.5kg (16,5 lbs)
- Graphical LCD Display on the front panel with integrated data logger
- Transformerless operation for highest efficiency: up to 96%
- Reverse polarity protection minimizes chance of damage due to mis-wiring
- True Sine Wave Output
- Anti-islanding protection
- Certified grid connected operation according international standards



### SMART CONTROLS

Aurora controls are DSP (Digital Signal Processor) based with sophisticated control and self-diagnostic algorithms.

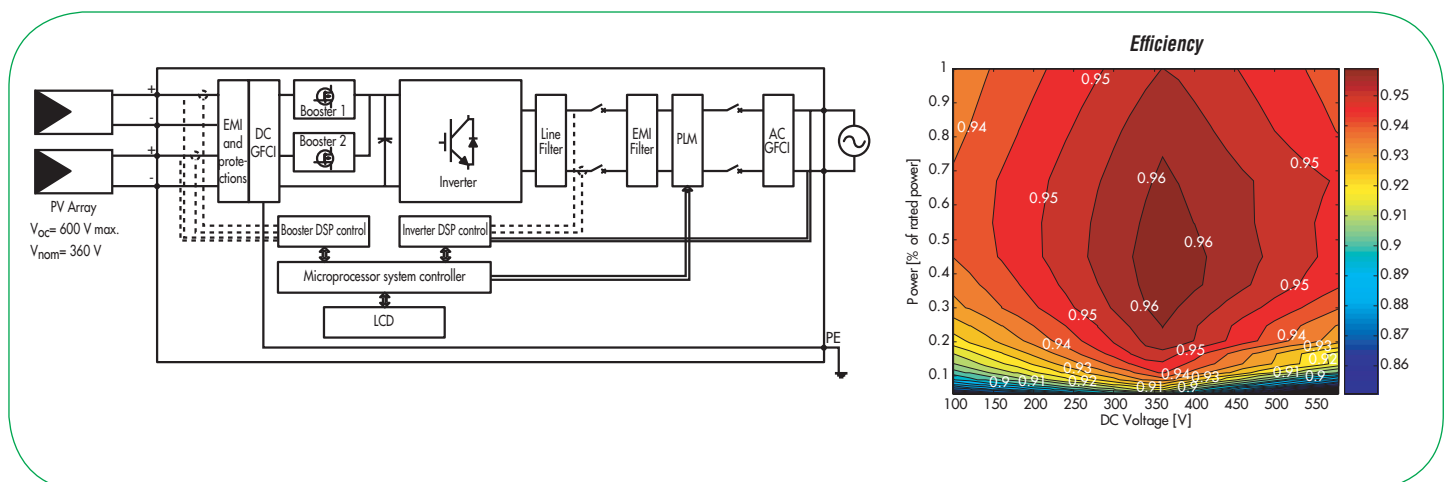
A 128 x 128 graphical LCD display shows the unit's operating status, its performance and diagnostic messages.

Four scrolling keys on the front panel of the unit are used to navigate menus for data display and parameter settings.

### STANDARDS AND CODES

Aurora inverters comply with standards set for grid-tied operation, safety and electromagnetic compatibility including: VDE0126, CEI 11-20 IV ed, DK5940, IEC 61683, IEC 61727, EN50081, EN50082, EN61000, CE certification, El Real Decreto RD1663/2000 de España.

## Block Diagram and typical efficiency



<b>CHARACTERISTICS</b>	<b>PVI-2000</b>	<b>PVI-3600</b>
<b>INPUT PARAMETERS</b>		
Nominal DC Power [kW]	2,1	3,8
Max. Recommended DC Power [kW]	2,3	4,2
Operating Input Voltage Range [V]	90 - 580 (360 nominal)	
Full Power MPPT input voltage range (symmetrical load) [V]	210-530	190-530
Full asymmetrical load input voltage range [V]	NA	200-530 (@ 2kW) / 180-530 (@ 1,8kW)
Absolute Max. Input Voltage [V]	600	
Activation voltage "Vstart" [V]	200 nominal (adjustable within the range 120Vdc-350Vdc, independently/each input)	
No of independent MPPT trackers	1	2
Max. Input Power, each MPPT [kW]	2	2
No. of DC Inputs	1	2 (1 each MPPT)
Max. DC Current, each MPPT [A]	10 (12 shortcircuit) 2 (1 positive, 1 negative)	10 (12 shortcircuit) 4 (2 positive, 2 negative)
DC Connection	MultiContact Ø 3mm (male - positive input + female - negative input) Mating cable connector included Conductor cross section: 4-6mmq/AWG12-10 - Cable Ø w/insulator: 3-6mm	
<b>INPUT PROTECTION</b>		
Reverse polarity protection	Yes	
Fuse rating, each input (-FS suffix versions only)	NA	NA
DC side varistors	2, thermally protected	4 (2 for each MPPT), thermally protected
PV array Insulation Control	according to VDE0126-1-1	
DC Switch (-S/-FS suffix versions only)	NA	
<b>OUTPUT PARAMETERS</b>		
Nominal AC Power [up to 40°C, kW]	2	3,6
Max. AC Power [kW]	2	3,6
AC Grid Connection	single phase 230Vac 50Hz + PE	
Nominal AC Voltage [V]	230	
Maximum AC Voltage Range [V]	180-264	
Nominal AC Frequency [Hz]	50	
Max. AC Line Current [A]	9	16
AC Connection	Circular Bayonet Connector Conductor Cross Section: Solid / Stranded: 0,5-2,5mmq / AWG 20-14 Outer Cable Ø: 10-12mm	
Line Power Factor	1	
AC Current Distortion [THD%]	<2,5% at rated power with sine wave voltage	
<b>OUTPUT PROTECTION</b>		
AC side varistors	2, plus gas arrester to ground	
Ground fault protection (AC + DC leakage current)	according to VDE0126-1-1	
<b>CONVERSION EFFICIENCY</b>		
Max. Efficiency	96%	
Euro Efficiency	95,00%	
<b>ENVIRONMENTAL PARAMETERS</b>		
Cooling	Forced cooling	
Ambient Temp. Range [°C]	-25 / +55 (output power derating above 40°C)	
Operating Altitude [m]	2000	
Acoustical Noise [dBA]	<30 @1mt (<50 @1mt with fan at full speed)	
Environmental IP Rating	IP21	
Relative Humidity	0-90% non condensing	
<b>MECHANICAL</b>		
Dimensions [H x W x D]	440 x 465 x 57	
Weight [kg]	6	7,5
<b>OTHER</b>		
Stand-By Consumption [W]	8	
Feed In Power Threshold [W]	10	
Night Time consumption [W]	0,3	
Isolation	No isolation, Transformer-less	
Display	YES (Grafico)	
Communication	RS485 (cage-clamp connector - Conductor cross section: 0,08-1,5mmq/AWG28-16); RS232 (DB9) Optional "Aurora Easy Control" remote monitoring system	
<b>AVAILABLE PRODUCT VARIANTS</b>		
Standard - no options	PVI-2000	PVI-3600
With DC switch	NA	NA
With DC switch and protection fuse/each input	NA	NA

## MODEL SUMMARY

MODEL NUMBER	POWER
PVI-2000	2000W
PVI-3600	3600W

## General Specifications Outdoor models PVI-2000-OUTD

### AURORA® BENEFITS

- IP65 (NEMA 4) ruggedized, completely sealed unit to stand the harshest environmental conditions
- High speed MPPT for real time power tracking and improved energy harvesting
- Compact size and high power density: 2000W of output power in a box just 420mm x 326mm x 141mm
- Front heatsink keeps the unit cleaner and more efficient over time
- Transformerless operation for highest efficiency: up to 96%
- Reverse polarity protection minimizes chance of damage due to mis-wiring
- High overload capability: works up to 2000W under most ambient conditions
- True Sine Wave Output
- Anti-islanding Protection
- Certified grid connected operation according to the international standards
- LCD Display on the front to monitor the main parameters
- Standard DC Multi-Contact terminals, screw terminals option available



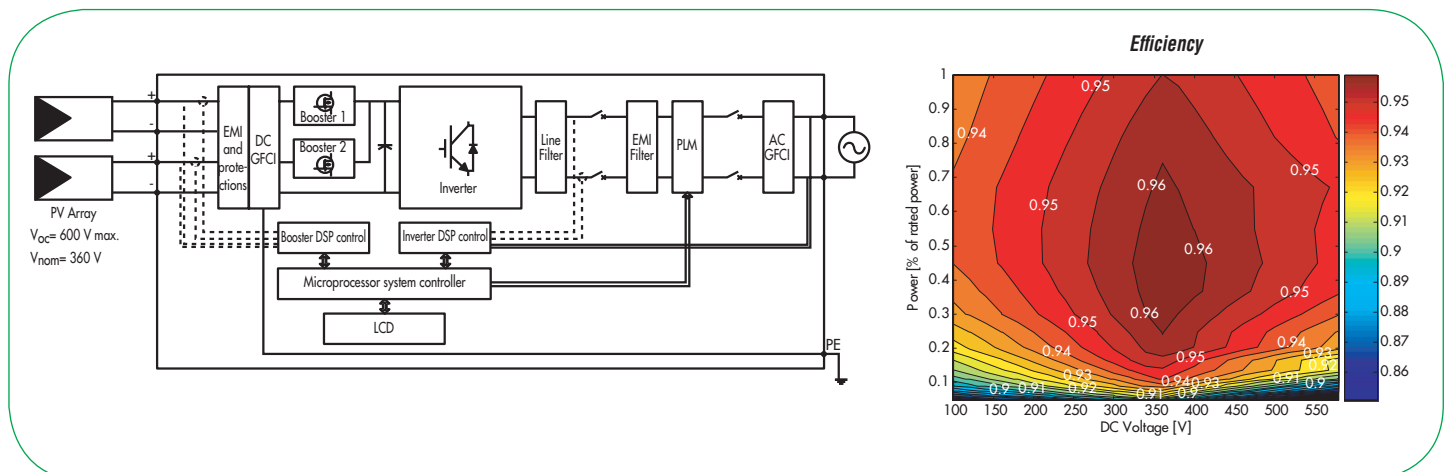
### SMART CONTROLS

Aurora controls are DSP (Digital Signal Processor) based with sophisticated control and self-diagnostic algorithms. A LCD display shows the main operational parameters. Three LED's indicate the operating status.

### STANDARDS AND CODES

Aurora inverters comply with standards set for grid-tied operation, safety and electromagnetic compatibility including: VDE0126, CEI 11-20 IV ed, DK5940, IEC 61683, IEC 61727, EN50081, EN50082, EN61000, CE certification, El Real Decreto RD1663/2000 de España.

### Block Diagram and typical efficiency



## CHARACTERISTICS

## PVI-2000-OUTD

CHARACTERISTICS	PVI-2000-OUTD
<b>INPUT PARAMETERS</b>	
Nominal DC Power [kW]	2,1
Max. Recommended DC Power [kW]	2,3
Operating Input Voltage Range [V]	90 - 580 (360 nominal)
Full Power MPPT input voltage range (symmetrical load) [V]	210-530
Full asymmetrical load input voltage range [V]	NA
Absolute Max. Input Voltage [V]	600
Activation voltage "Vstart" [V]	200 nominal (adjustable within the range 120Vdc-350Vdc)
No of independent MPPT trackers	1
Max. Input Power, each MPPT [kW]	2
No. of DC Inputs	1
Max. DC Current, each MPPT [A]	10 (12 shortcircuit) 1 (1 positive, 1 negative)
DC Connection	MultiContact Ø 3mm (male - positive input + female - negative input) Mating cable connector included Conductor cross section: 4-6mmq/AWG12-10 - Cable Ø w/insulator: 3-6mm
<b>INPUT PROTECTION</b>	
Reverse polarity protection	Yes
Fuse rating, each input (-FS suffix versions only)	NA
DC side varistors	2, thermally protected
PV array Insulation Control	according to VDE0126-1-1
DC Switch (-S/-FS suffix versions only)	NA
<b>OUTPUT PARAMETERS</b>	
Nominal AC Power [up to 40°C, kW]	2
Max. AC Power [kW]	2
AC Grid Connection	single phase 230Vac 50Hz + PE
Nominal AC Voltage [V]	230
Maximum AC Voltage Range [V]	180-264
Nominal AC Frequency [Hz]	50
Max. AC Line Current [A]	9
AC Connection	Circular Bayonet Connector Conductor Cross Section: Solid / Stranded: 0,5-2,5mmq / AWG 20-14 Outer Cable Ø: 10-12mm
Line Power Factor	1
AC Current Distortion [THD%]	<2,5% at rated power with sine wave voltage
<b>OUTPUT PROTECTION</b>	
AC side varistors	2, plus gas arrester to ground
Ground fault protection (AC + DC leakage current)	according to VDE0126-1-1
<b>CONVERSION EFFICIENCY</b>	
Max. Efficiency	96%
Euro Efficiency	95,00%
<b>ENVIRONMENTAL PARAMETERS</b>	
Cooling	Natural cooling
Ambient Temp. Range [°C]	-20 / +60 (output power derating above 50°C)
Operating Altitude [m]	2000
Acoustical Noise [dBA]	<40 @1mt
Environmental IP Rating	IP65
Relative Humidity	0-100% condensing
<b>MECHANICAL</b>	
Dimensions [H x W x D]	420 x 326 x 141
Weight [kg]	12
<b>OTHER</b>	
Stand-By Consumption [W]	8
Feed In Power Threshold [W]	10
Night Time consumption [W]	0,3
Isolation	No isolation, Transformer-less
Display	YES (Alphanumeric 2 lines)
Communication	RS485 (screw terminal block - Conductor cross section: 0,08-1,5mmq/AWG28-16) Optional "Aurora Easy Control" remote monitoring system
<b>AVAILABLE PRODUCT VARIANTS</b>	
Standard - no options	PVI-2000-OUTD
With DC switch	NA
With DC switch and protection fuse/each input	NA

## MODEL SUMMARY

MODEL NUMBER	POWER
PVI-2000-OUTD	2000W

# PVI-3.0-OUTD / PVI-3.6-OUTD / PVI-4.2-OUTD

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## Specifica Generale

### Modelli da esterno

PVI-3.0-OUTD / PVI-3.0-OUTD-S

PVI-3.6-OUTD / PVI-3.6-OUTD-S

PVI-4.2-OUTD / PVI-4.2-OUTD-S

### AURORA® BENEFITS

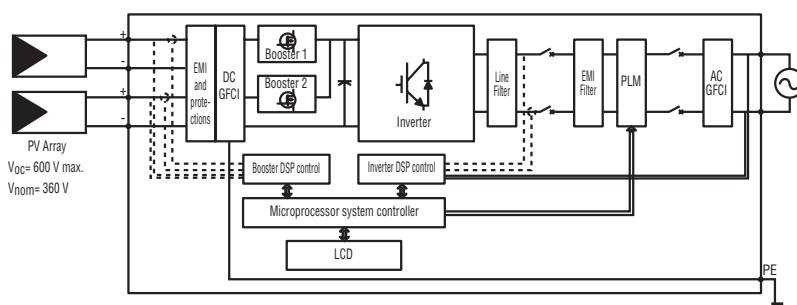
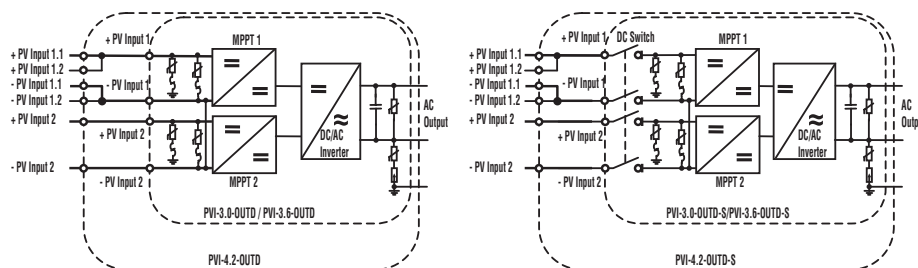
- Dual input section to process two strings with independent MPPT
- High speed MPPT for real time power tracking and improved energy harvesting
- Transformerless operation for highest efficiency: up to 96,8% (Euro 96%)
- Reverse polarity protection minimizes chance of damage due to mis-wiring
- True Sine Wave Output
- Anti-islanding Protection
- LCD Display on the front to monitor the main parameters
- Integrated DC switch in compliance with VDE 0100-712 (Germany) and CEI 64-8 V4 (Italy)
- Standard DC Multi-Contact terminals (model MC4), includes an integrated DC switch (PVI-X.X-OUTD-S)



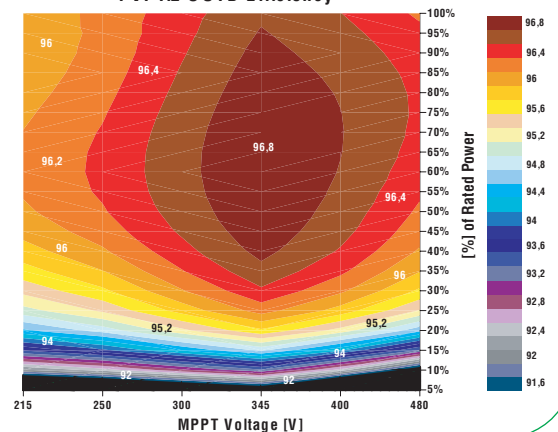
## STANDARDS E NORME

Gli inverter Aurora sono conformi alle normative vigenti per il funzionamento in connessione alla rete, la sicurezza e la compatibilità elettromagnetica, incluso: VDE0126, CEI 11-20, DK5940, CEI 64-8, IEC 61683, IEC 61727, EN50081, EN50082, EN61000, Certificazione CE, El Real Decreto RD1663/2000 de España.

## Block Diagram and typical efficiency



PVI-4.2-OUTD Efficiency





<b>CHARACTERISTICS</b>	<b>PVI-3.0-OUTD</b>	<b>PVI-3.6-OUTD</b>	<b>PVI-4.2-OUTD</b>
<b>INPUT PARAMETERS</b>			
Nominal DC Power [kW]	3,12	3,75	4,38
Max. Recommended DC Power [kW]	3,5	4,15	4,82
Operating Input Voltage Range [V]	0,7xVstart - 580 (360 nominal)		
Full Power MPPT input voltage range (symmetrical load) [V]	156-530	120-530	140-530
Full asymmetrical load input voltage range [V]	200-530 (@ 2kW) / 112-530 (@ 1,12kW)	190-530 (@ 3kW) / 90-530 (@ 0,75kW)	190-530 (@ 3kW) / 90-530 (@ 1,38kW)
Absolute Max. Input Voltage [V]	600		
Activation voltage "Vstart" [V]	200 nominal (adjustable within the range 120Vdc-350Vdc, independently/each input)		
No of independent MPPT trackers	2		
Max. Input Power, each MPPT [kW]	2	3	
No. of DC Inputs	2 ( 1 each MPPT )		3 ( 2 for MPPT1, 1 for MPPT2 )
Max. DC Current, each MPPT [A]	10 ( 12,5 short circuit )	16 ( 20 short circuit )	
DC Connection	4 ( 2 positive, 2 negative )		6 ( 3 positive, 3 negative )
	MultiContact Ø 4mm ( male - positive input + female - negative input )		
	Mating cable connector included		
	Conductor cross section: 4-6mmq/AWG12-10 - Cable Ø w/insulator: 3-6mm		
<b>INPUT PROTECTION</b>			
Reverse polarity protection	Yes		
Fuse rating, each input (-FS suffix versions only)	NA	NA	NA
Thermally Protected DC side varistor	4 ( 2 for each MPPT )		
PV array Insulation Control	according to VDE0126-1-1		
DC Switch (-S/-FS suffix versions only)	Integrated (Max. Voltage Rating : 600Vdc / Max Current Rating: 25A)		
<b>OUTPUT PARAMETERS</b>			
Nominal AC Power [up to 50°C, kW]	3	3,6	4,2
Max. AC Power [kW]	3,3	3,96	4,6
AC Grid Connection	single phase ( Live, Neutral, PE )		
Nominal AC Voltage Range [V]	200-245 (230 nominal)		
Maximum AC Voltage Range [V]	180-264 (may vary to comply with regulations in each country)		
Nominal AC Frequency [Hz]	50		
Max. AC Line Current [A]	14,5 ( 16 short circuit )	17,2 ( 19 short circuit )	20 ( 22 short circuit )
AC Connection	Screw terminal block		
	Conductor cross section: Solid 0.5-16mmq / Stranded: 0.5-10mmq / AWG20-6		
	Cable Gland: M32 - Cable Ø: 13-21mm		
Line Power Factor	1		
AC Current Distortion (THD%)	<3,5% at rated power with sine wave voltage		
<b>OUTPUT PROTECTION</b>			
AC side varistors	2 ( Live - Neutral / Live - PE )		
Ground fault protection (AC + DC leakage current)	according to VDE0126-1-1		
<b>CONVERSION EFFICIENCY</b>			
Max. Efficiency	96,80%		
Euro Efficiency	96%		
<b>ENVIRONMENTAL PARAMETERS</b>			
Cooling	Natural cooling		
Ambient Temp. Range [°C]	-25 / + 60 (output power derating above 50°C)		
Operating Altitude [m]	2000		
Acoustical Noise [dBA]	< 50 @ 1mt		
Environmental IP Rating	IP65		
Relative Humidity	0-100% condensing		
<b>MECHANICAL</b>			
Dimensions [H x W x D]	547 x 325 x 208		
Weight [kg]	17		
<b>OTHER</b>			
Stand-By Consumption [W]	8		
Feed In Power Threshold [W]	10		
Night Time consumption [W]	0,3		
Isolation	Transformer-less		
Display	YES (Alphanumeric 2 lines)		
Communication	RS485 (Screw terminal block - Conductor cross section: 0,08-1,5mmq/AWG28-16)		
	USB connection "Aurora Easy-Control" system for remote control ( Optional )		
<b>AVAILABLE PRODUCT VARIANTS</b>			
Standard - no options	PVI-3.0-OUTD	PVI-3.6-OUTD	PVI-4.2-OUTD
With DC switch	PVI-3.0-OUTD-S	PVI-3.6-OUTD-S	PVI-4.2-OUTD-S
With DC switch and blocking diode/each input	NA	NA	NA

## MODEL SUMMARY

MODEL NUMBER	POWER
PVI-3.0-OUTD/-S	3000W
PVI-3.6-OUTD/-S	3600W
PVI-4.2-OUTD/-S	4200W

# PVI-5000-OUTD / PVI-6000-OUTD

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## General Specifications

### Outdoor models

**PVI-5000-OUTD / PVI-5000-OUTD-S**

**PVI-6000-OUTD / PVI-6000-OUTD-S**

### AURORA<sup>®</sup> BENEFITS

- Dual input section to process two strings with independent MPPT (6000W max models)
- High speed MPPT for real time power tracking and improved energy harvesting
- Transformerless operation for highest efficiency: up to 97% (96,5% Euro)
- Reverse polarity protection minimizes chance of damage due to mis-wiring
- High overload capability: works up to 6000W under most ambient conditions
- True Sine Wave Output
- Anti-islanding Protection
- LCD Display on the front to monitor the main parameters
- Standard DC Multi-Contact terminals, screw terminals option available



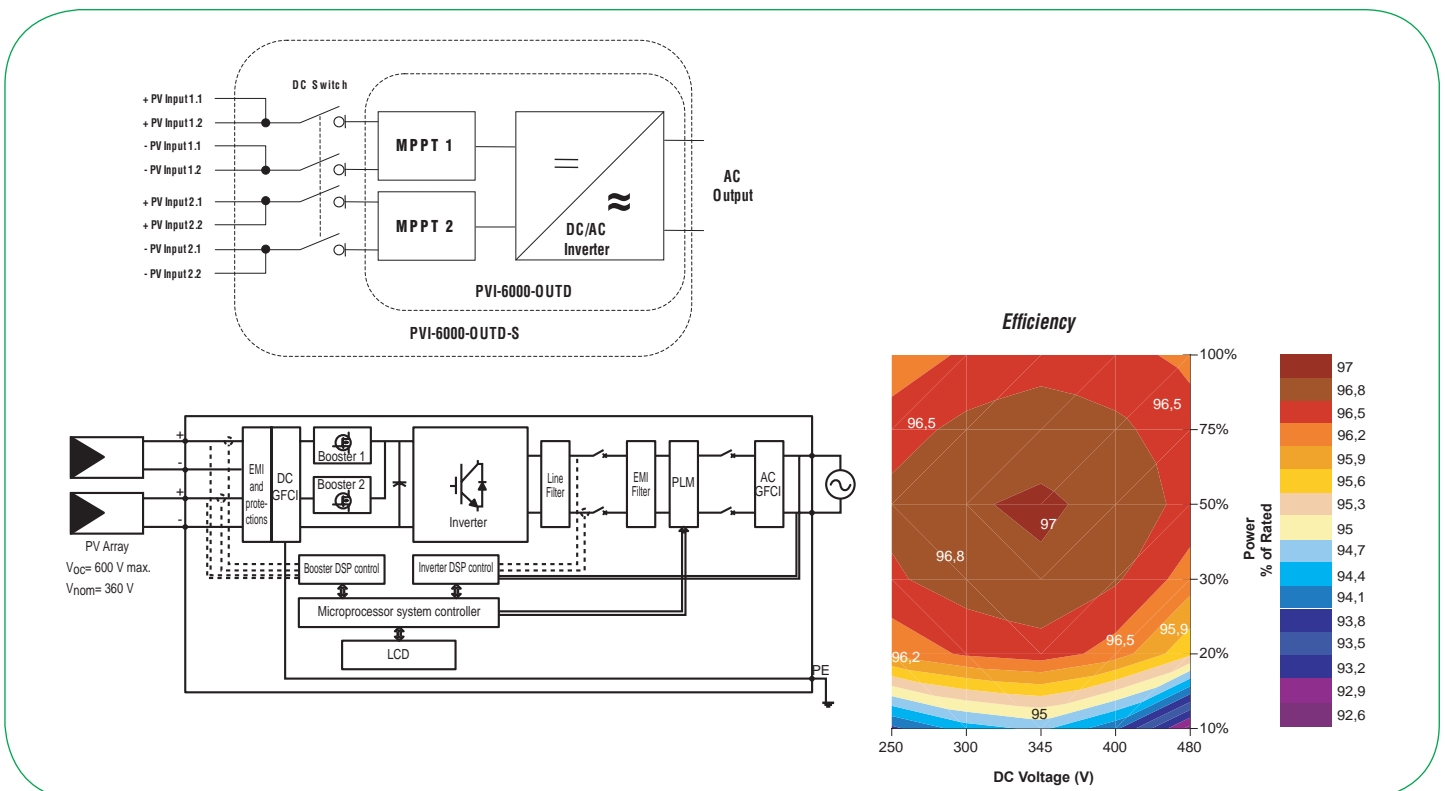
### SMART CONTROLS

Aurora controls are DSP (Digital Signal Processor) based with sophisticated control and self-diagnostic algorithms. A LCD display shows the main operational parameters. Three LED's indicate the operating status.

### STANDARDS AND CODES

Aurora inverters comply with standards set for grid-tied operation, safety and electromagnetic compatibility including: VDE0126, CEI 11-20 IV ed, DK5940, IEC 61683, IEC 61727, EN50081, EN50082, EN61000, CE certification, El Real Decreto RD1663/2000 de España.

### Block Diagram and typical efficiency



<b>CHARACTERISTICS</b>	<b>PVI-5000-OUTD</b>	<b>PVI-6000-OUTD</b>
<b>INPUT PARAMETERS</b>		
Nominal DC Power [kW]	4,8	6,2
Max. Recommended DC Power [kW]	5,75	6,9
Operating Input Voltage Range [V]	0,7xVstart - 580 (360 nominal)	
Full Power MPPT input voltage range (symmetrical load) [V]	140-530	180-530
Full asymmetrical load input voltage range [V]	220-530 (@ 4kW) / 90-530 (@ 0,8kW)	
Absolute Max. Input Voltage [V]	600	
Activation voltage "Vstart" [V]	200 nominal (adjustable within the range 120Vdc-350Vdc, independently/each input)	
No of independent MPPT trackers	2	
Max. Input Power, each MPPT [kW]	4	
No. of DC Inputs	4 (2 each MPPT)	
Max. DC Current, each MPPT [A]	18 (22 shortcircuit)	
DC Connection	8 x MultiContact Ø 4mm (4 male - positive input + 4 female - negative input)	
	Mating cable connector included	
	Conductor cross section: 4-6mmq/AWG12-10 - Cable Ø w/insulator: 3-6mm	
<b>INPUT PROTECTION</b>		
Reverse polarity protection	Yes	
Fuse rating, each input (-FS suffix versions only)	NA	NA
DC side varistors	4 (2 for each MPPT), thermally protected	
PV array Insulation Control	according to VDE0126-1-1	
DC Switch (-S/-FS suffix versions only)	Integrated (Rating: 600Vdc / 25Adc)	
<b>OUTPUT PARAMETERS</b>		
Nominal AC Power (up to 50°C, kW)	4,6	6
Max. AC Power [kW]	5	6
AC Grid Connection	single phase 230Vac 50Hz + PE	
Nominal AC Voltage [V]	230	
Maximum AC Voltage Range [V]	180-264	
Nominal AC Frequency [Hz]	50	
Max. AC Line Current [A]	25	30
AC Connection	Cage-clamp terminal block	
	Conductor Cross Section: Solid: 0,5-16mmq / Stranded: 0,5-10mmq / AWG20-6	
	Cable Gland: M32 - Cable Ø: 13-21mm	
Line Power Factor	1	
AC Current Distortion [THD%]	<3,5% at rated power with sine wave voltage	
<b>OUTPUT PROTECTION</b>		
AC side varistors	2, plus gas arrester to ground	
Ground fault protection (AC + DC leakage current)	according to VDE0126-1-1	
<b>CONVERSION EFFICIENCY</b>		
Max. Efficiency	97%	
Euro Efficiency	96,40%	
<b>ENVIRONMENTAL PARAMETERS</b>		
Cooling	Natural cooling	
Ambient Temp. Range [°C]	-25 / +60 (output power derating above 50°C)	
Operating Altitude [m]	2000	
Acoustical Noise [dBA]	<50 @1mt	
Environmental IP Rating	IP65	
Relative Humidity	0-100% condensing	
<b>MECHANICAL</b>		
Dimensions [H x W x D]	740 x 325 x 195	
Weight [kg]	26	
<b>OTHER</b>		
Stand-By Consumption [W]	8	
Feed In Power Threshold [W]	10	
Night Time consumption [W]	0,3	
Isolation	No isolation, Transformer-less	
Display	YES (Alphanumeric 2 lines)	
Communication	RS485 (cage-clamp connector - Conductor cross section: 0,08-1,5mmq/AWG28-16); Usb (service only) Optional "Aurora Easy Control" remote monitoring system	
<b>AVAILABLE PRODUCT VARIANTS</b>		
Standard - no options	PVI-5000-OUTD	PVI-6000-OUTD
With DC switch	PVI-5000-OUTD-S	PVI-6000-OUTD-S
With DC switch and protection fuse/each input	NA	NA

## MODEL SUMMARY

MODEL NUMBER	POWER
PVI-5000-OUTD	5000W
PVI-5000-OUTD-S	5000W with DC Switch
PVI-6000-OUTD	6000W
PVI-6000-OUTD-S	6000W with DC Switch



# PVI-10.0-OUTD / PVI-12.5-OUTD

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## General Specifications - Outdoor models PVI-10.0-0 UTD / PVI-10.0-OUTD-S / PVI-10.0-OUTD-FS PVI-12.5-OUTD / PVI-12.5-OUTD-S / PVI-12.5-OUTD-FS

### AURORA® BENEFITS

- Dual independent input sections to offer the max configuration flexibility of the installation with 3 strings for each MPPT
- Transformerless operation for highest efficiency: up to 97,7%; Euro: 97,13% (10KW) ; 97,25 (12.5KW)
- True 3ph bridge topology for DC/AC output converter
- Wide MPPT input voltage range: 200-850Vdc
- Flat efficiency curve: to ensure consistent and stable performance across the whole input voltage and output power range
- Efficiency peaks at the middle of the input voltage and output power range to ensure better performance under real operating conditions
- Very fast and accurate dual MPPT algorithm (response time: 1sec; accuracy: 99,8%)
- Very low sensitivity to grid disturbances to avoid undesired disconnection from the grid
- Wide operating temperature range -25°/+60°C. Maximum output power guaranteed for ambient temperatures up to 50°C, free convection cooling (no ventilation)
- PVI-XX.X-OUTD-FS variants include DC switch and fuses (see block diagram)
- LCD Display on the front to monitor the main parameters
- Anti-islanding Protection
- Integrated RS-485
- Standard DC connection with MultiContact MC4 connector
- Reverse polarity protection minimizes chance of damage due to mis-wiring

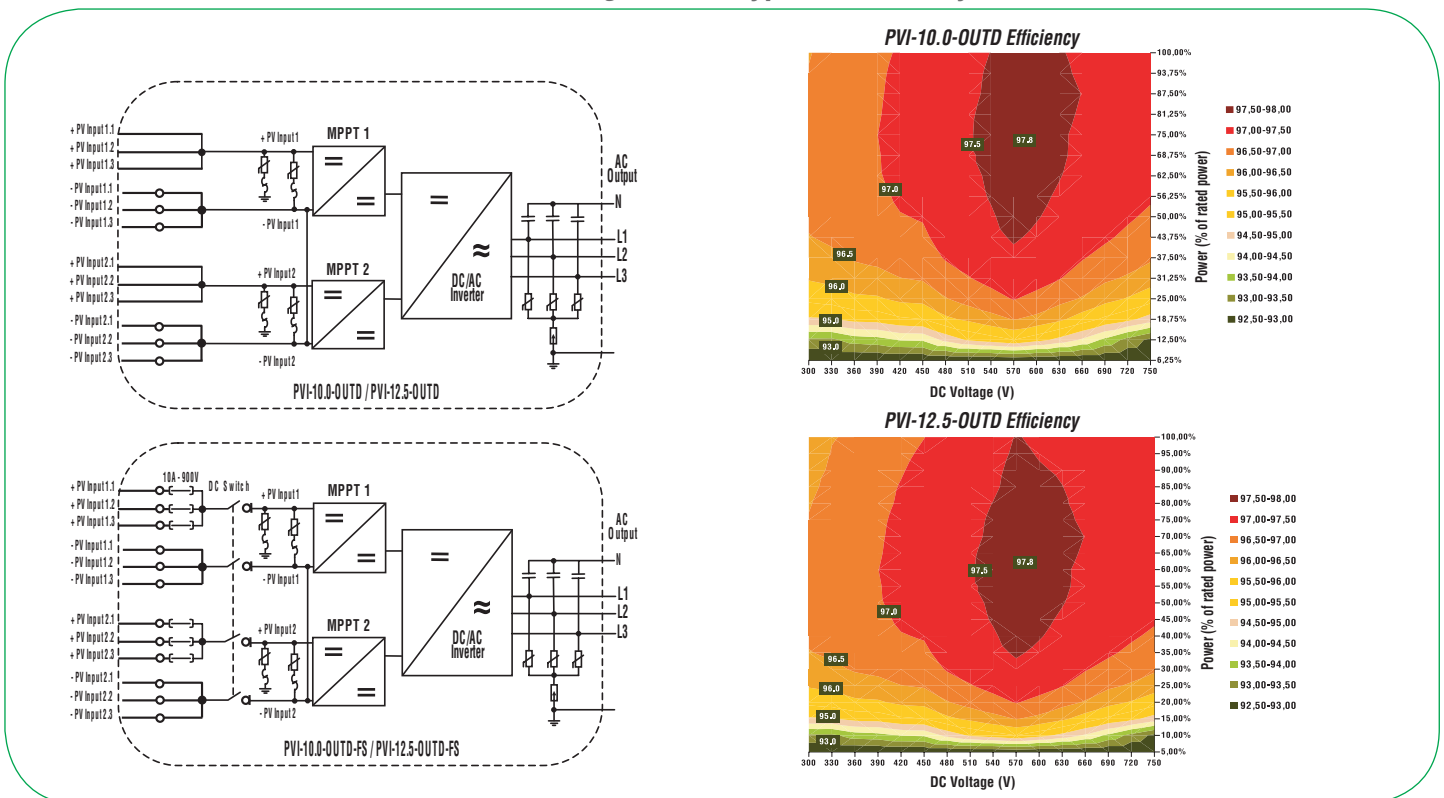


**Electrolyte - Free**  
The string inverter without electrolytic capacitors

### STANDARDS AND CODES

Aurora inverters comply with standards set for grid-tied operation, safety and electromagnetic compatibility including: VDE0126, CEI 11-20 IV ed, DK5940, IEC 61683, IEC 61727, EN50081, EN50082, EN61000, CE certification, El Real Decreto RD1663/2000 de España.

### Block Diagram and typical efficiency



<b>CHARACTERISTICS</b>	<b>PVI-10.0-OUTD</b>	<b>PVI-12.5-OUTD</b>
<b>INPUT PARAMETERS</b>		
Nominal DC Power [kW]	10,4	13
Max. Recommended DC Power [kW]	11,4	14,3
Operating Input Voltage Range [V]	0,7xVstart - 850 (580 nominal)	
Full Power MPPT input voltage range (symmetrical load) [V]	300-750	360-750
Full asymmetrical load input voltage range [V]	360-750 (@ 6,5kW) / 216-750 (@ 3,9kW)	445-750 (@ 8kW) / 278-750 (@ 5kW)
Absolute Max. Input Voltage [V]	900	
Activation voltage "Vstart" [V]	360 nominal (adjustable within the range 250Vdc-500Vdc, independently/each input)	
No of independent MPPT trackers	2	
Max. Input Power, each MPPT [kW]	6,5	8
No. of DC Inputs	6 (3 each MPPT, optionally fused)	
Max. DC Current, each MPPT [A]	18 (22 shortcircuit)	
DC Connection	12 x MultiContact Ø 4mm (6 male - positive input + 6 female - negative input) Mating cable connector included Conductor cross section: 4-6mmq/AWG12-10 - Cable Ø w/insulator: 3-6mm	
<b>INPUT PROTECTION</b>		
Reverse polarity protection	Yes	
Fuse rating, each input (-FS suffix versions only)	10Adc / 900Vdc	
DC side varistors	4 (2 for each MPPT), thermally protected	
PV array Insulation Control	according to VDE0126-1-1	
DC Switch (-S/-FS suffix versions only)	Integrated (Rating: 1000Vdc / 25Adc)	
<b>OUTPUT PARAMETERS</b>		
Nominal AC Power (up to 50°C, kW)	10	12,5
Max. AC Power [kW]	11	13,8
AC Grid Connection	3 phase 400Vac 50Hz with or without neutral (3 or 4 wires network) + PE	
Nominal AC Voltage [V]	3x400Vac	
Maximum AC Voltage Range [V]	311-456Vac (may be limited in acc. to country-specific requirements)	
Nominal AC Frequency [Hz]	50	
Max. AC Line Current [A]	16,6A per phase (19A short circuit)	20A per phase (22A short circuit)
AC Connection	Screw terminal block Conductor Cross Section: Solid: 0,5-16mmq / Stranded: 0,5-10mmq / AWG20-6 Cable Gland: M40 - Cable Ø: 19-28mm	
Line Power Factor	1	
AC Current Distortion [THD%]	<2% at rated power with sine wave voltage	
<b>OUTPUT PROTECTION</b>		
AC side varistors	3, star connected to common point, plus gas arrester to ground	
Ground fault protection (AC + DC leakage current)	according to VDE0126-1-1	
<b>CONVERSION EFFICIENCY</b>		
Max. Efficiency	97,70%	
Euro Efficiency	97,13%	97,25%
<b>ENVIRONMENTAL PARAMETERS</b>		
Cooling	Natural cooling	
Ambient Temp. Range [°C]	-20 / +60 (output power derating above 50°C)	
Operating Altitude [m]	2000	
Acoustical Noise [dBA]	<50 @1mt	
Environmental IP Rating	IP65	
Relative Humidity	0-100% condensing	
<b>MECHANICAL</b>		
Dimensions [H x W x D]	650 x 620 x 200	
Weight [kg]	38	
<b>OTHER</b>		
Stand-By Consumption [W]	10	
Feed In Power Threshold [W]	30W	
Night Time consumption [W]	<2	
Isolation	No isolation, Transformer-less	
Display	YES (Alphanumeric 2 lines)	
Communication	RS485 (Screw terminal block - Conductor cross section: 0,08-1,5mmq/AWG28-16)	
<b>AVAILABLE PRODUCT VARIANTS</b>		
Standard - no options	PVI-10.0-OUTD	PVI-12.5-OUTD
With DC switch	PVI-10.0-OUTD-S	PVI-12.5-OUTD-S
With DC switch and protection fuse/each input	PVI-10.0-OUTD-FS	PVI-12.5-OUTD-FS

## MODEL SUMMARY

MODEL NUMBER	POWER
PVI-10.0-OUTD/-S/-FS	10.000W
PVI-12.5-OUTD/-S/-FS	12.500W

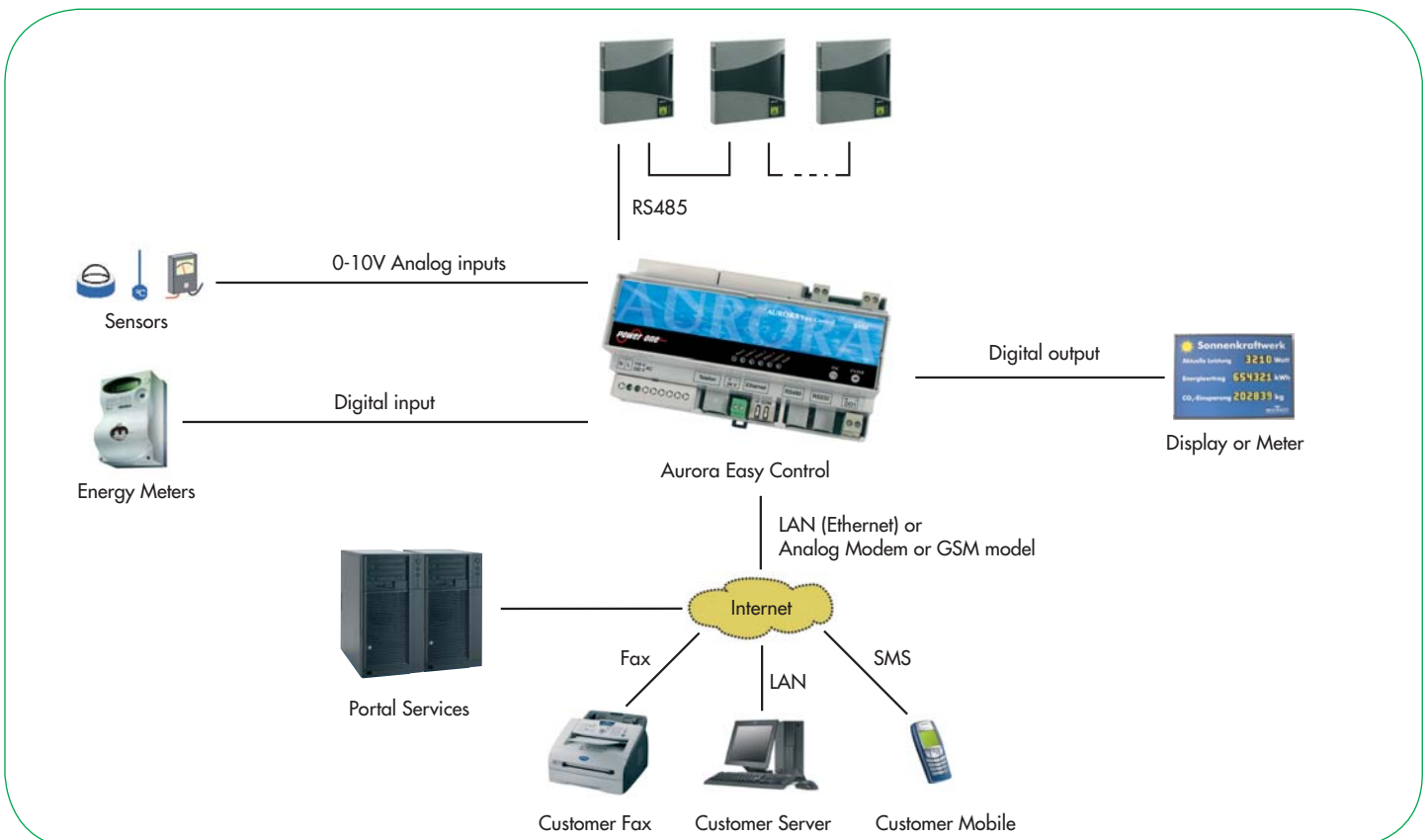
## General Specification Aurora Easy Control PVI-AEC-PRO PVI-AEC-BASIC PVI-AEC-LIGHT

### AURORA EASY CONTROL BENEFITS

- Remote monitoring of PV plants through Ethernet, analogue Modem, ISDN, DSL or GSM
- Performance/operational data available: energy yield, power, array voltages, array currents, AC parameters, temperatures, for each inverter.
- Up to 4 analogue input channels to connect ambient sensors (irradiance, temperature, wind, etc.)
- Up to 4 digital input channels to connect power meters' digital output
- Pulse output to connect external LED display
- Active alarm management with automatic delivery of SMS, e-mail or fax alarm message in case of malfunction
- Configurable digital output to drive impulse energy meters or large displays
- Power One offers also the exclusive advantages of a web portal service (optional) to enhance the monitoring functions through internet.
- The advantages of Aurora web portal includes:
  - Easy connection also in case Aurora Easy Control is linked to local networks protected by firewalls
  - Access from any computer connected to Internet
  - Performance and alarm reports editing in various formats (CSV, HTML, PDF)



### Block Diagram





CHARACTERISTICS	PVI-AEC-PRO	PVI-AEC-BASIC	PVI-AEC-LIGHT
<b>GENERAL</b>			
Operating temperature range:	0°C...+55°C		
Non operating (storage) temperature range:	-20°C...+65°C		
Environmental protection class:	IP 20		
Mounting system:	DIN top hat rail		
Dimensions:	160(Width) x 90(Height) x 73(Length) mm - (9 modules)		
Weight:	360g		
<b>FUNCTIONS</b>			
Memory:	32MB CF Memory Card		
Display:	2 rows, with backlight	-	-
Inputs:	4 x analog / 4 x digital	1 x analog / 1 x digital	1 x analog / 1 x digital
DC supply output 24Vdc:	To power external sensors or signal converters (230mA max.)		
Digital output:	Configurable output: "impulse" for large display or "status" for alarm activation		
Connection interface 1:	Dial-up modem, ISDN, DSL, or GSM	Dial-up modem, ISDN, DSL	Dial-up modem
Connection interface 2:	Ethernet		
Interface to inverters:	RS-485 serial link		
Limitations:	max. 31 inverters	max. 31 inverters	up to 5 inverters, 20kWp max.
<b>ELECTRICAL</b>			
Analog inputs (configurable):	0...10Vdc max. overload: 12Vdc 0...20mA max. overload: 40mA / 3Vdc Temperature input PT-1000		
Digital inputs:	Status input: Low < 1,5Vdc High > 2,5Vdc (max. overload 7Vdc) Impulse (meter) input: Low = 0Vdc to 7Vdc High = 9Vdc to 24Vdc (max. overload!) (24Vdc supply available from the unit!)		
Digital output (configurable):	Opto-isolated, max. overload: 70Vdc / 50mA (check polarity!)		
Supply input:	230Vac (85Vac...260Vac), 50/60Hz		
Consumption:	< 7.5W (during measurement or sensor activation)		
Battery for integrated clock:	Lithium type Li2032		
<b>ACCURACY</b>			
Voltage:	0,5% full scale		
Current:	1% full scale		

ACCESSORIES	Description
PVI-AEC-BOX	IP30 for Aurora Easy Control
PVI-AEC-EXP-AI4-DI4	Input expansion module: 4 x analog / 4 x digital
<b>Irradiance sensors</b>	
PVI-AEC-IRR	Irradiance sensor 0-10V
PVI-AEC-IRR-T	Combined irradiance & module temp. sensor 0-10V
<b>Module temperature sensors (backside cell temperature) and signal converters</b>	
PVI-AEC-T100-ADH	PT-100 self-adhesive sensor
PVI-AEC-CONV-T100-24V	PT 100 signal converter (24V supply)
PVI-AEC-CONV-T1000-24V	PT-1000 signal converter (24V supply)
<b>Cased temperature sensors (ambient temperature)</b>	
PVI-AEC-T1000-INTEGR	PT-1000 sensor in case, with integrated converter
<b>Wind sensors</b>	
PVI-AEC-WIND	Wind speed sensor (anemometer)

Data-Logger Models	Connection interface 1 (modem)				Connection interface 2
	Analog	ISDN	DSL	GSM	Ethernet
PVI-AEC-LIGHT-Analog	x	-	-	-	x
PVI-AEC-LIGHT-Ethernet	-	-	-	-	x
PVI-AEC-BASIC-Analog	x	-	-	-	x
PVI-AEC-BASIC-DSL	-	-	x	-	x
PVI-AEC-PRO-Analog	x	-	-	-	x
PVI-AEC-PRO-DSL	-	-	x	-	x
PVI-AEC-PRO-GSM	-	-	-	x	x



Rev. 1.5 - 10/11/2008 - Aurora is a trademark by Power-One - Product is subject to technical improvements

## General Specification PVI-STRINGCOMB PVI-STRINGCOMB-S

### AURORA® BENEFITS

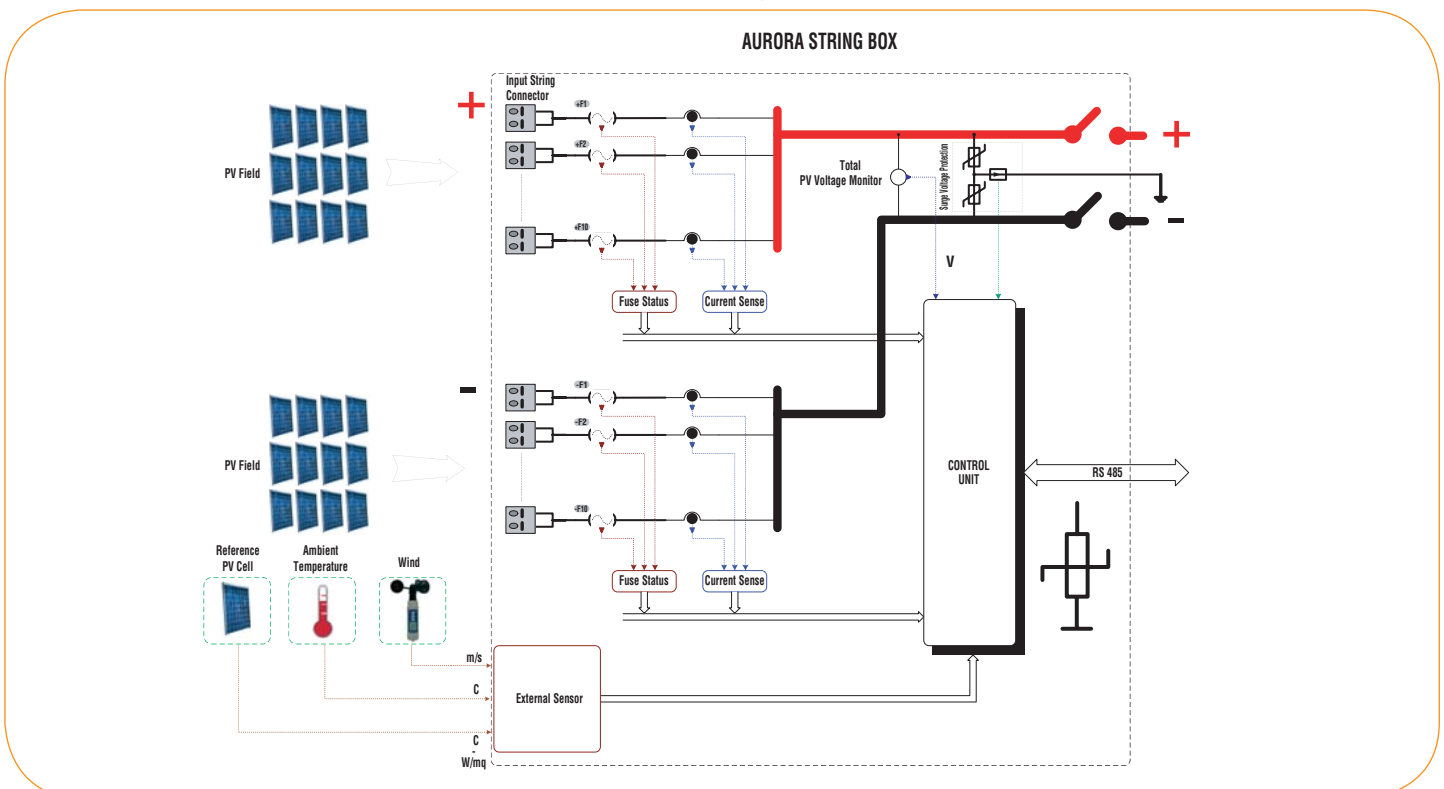
- The string combiner box for the protection and monitoring of the array in centralized PV systems
- 20 input channels rated 10A (or 10 inputs rated 20A each) with integrated string current measurement (hall effect sensors) are available for an accurate monitoring and early fault detection of each string
- Fuse status monitoring ensures prompt fault detection and alarm
- Up to 20 strings can be connected and paralleled on the same box, with protection fuse mounted on removeable DIN rail fuse holders on both the positive and negative pole (2 parallel strings for each fuse)
- String cable connection via Multi-Contact or cable glands and terminal blocks
- Overvoltage protection with replaceable varistor cartridge on both DC power and signal lines
- Available with integrated output DC switch (STRINGCOMB-S version) on optionally with remote disconnect
- IP65 plastic enclosure for outdoor installation
- Integrated RS-485 serial port for remote communication with the inverter
- 3+1 optional analog inputs for connection to external sensors (irradiance, temperature, wind speed, etc...)
- 1+1 digital inputs
- internal auxiliary power supply
- optional electronic antitheft
- auxiliary input for external battery back-up voltage



### HIGH PERFORMANCE REDEFINED

The string combiner box PVI-STRINGCOMB is an ideal complement to the Aurora PVI-CENTRAL family of inverters that ensures the same control and monitoring accuracy of the PV generator typically achieved with string inverters. The individual string currents are accurately measured with hall effect sensors and any mismatch is promptly detected by the system supervisor to allow for quick identification of any fault of the solar panels. All string combiner boxes include surge protection with removable elements as well as fuse protection for each couple of string channel.

### Block Diagram



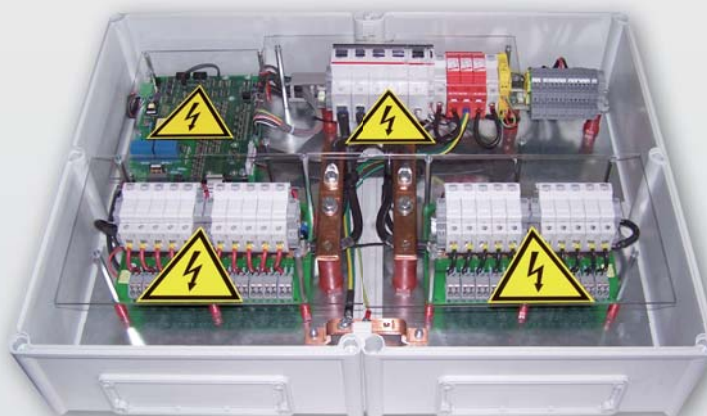
## CHARACTERISTICS

	PVI-STRINGCOMB	PVI-STRINGCOMB-S
<b>INPUT</b>		
Input Voltage Range [Vdc]	250 - 850	250 - 850
Absolute maximum input voltage [Vdc]	1000	1000
Measurement channels	10	10
Max. Idc current for each channel [A]	20	20
Max. combined input current [A]	160	125
DC fuses	10+10	10+10
Number of strings per fuse	2	2
String cable cross section [mm <sup>2</sup> ]	up to 6	up to 6
Maximum number of strings (parallel)	20 (2 on each fuse)	20 (2 on each fuse)
DC overvoltage protection	Yes (with replaceable cartridge)	Yes (with replaceable cartridge)
<b>OUTPUT</b>		
Max. output current rating [A]	160	125
Output DC cable connection	M10 (max 120mmq)	M10 (max 120mmq)
Grounding connection cable	M8 (max 35 mmq)	M8 (max 35 mmq)
Output DC switch rating	-	125A/1000V
<b>MECHANICAL AND ENVIRONMENTAL DATA</b>		
Size (height x width x depth) [mm]	559 x 757 x 250	559 x 757 x 250
Weight [kg]	23	25
Protection degree	IP65	IP65
Operating ambient temperature range [°C]	-25 to +55	-25 to +55
Relative humidity (*)	0 to 95%	0 to 95%
<b>COMMUNICATION</b>	via RS485	via RS485
<b>AVAILABLE DATA</b>	Corrente i stringa, stato dei fusibili di stringa, temperatura interna, lettura da sensori esterni, stato della protezione di overvoltage	

(\*) pressure equalizing valve to avoid condensing

## MODEL SUMMARY

MODEL NUMBER	CONFIGURATION
PVI-STRINGCOMB	20x10A (or 10x20A) string combiner with current measurement and string protection fuses
PVI-STRINGCOMB-MC	20x10A (or 10x20A) string combiner with current measurement and string protection fuses with MULTICONTACT MC4
PVI-STRINGCOMB-S	20x10A (or 10x20A) string combiner with current measurement, string protection fuses and DC output switch
PVI-STRINGCOMB-S-MC	20x10A (or 10x20A) string combiner with current measurement, string protection fuses and DC output switch with MULTICONTACT MC4



## STANDARDS AND CODES

Aurora inverters comply with standards set for grid-tied operation, safety and electromagnetic compatibility including: UL 1741, VDE0126, CEI 11-20, DK5940, CEI 64-8, IEC 61683, IEC 61727, EN50081, EN50082, EN61000, CE certification.



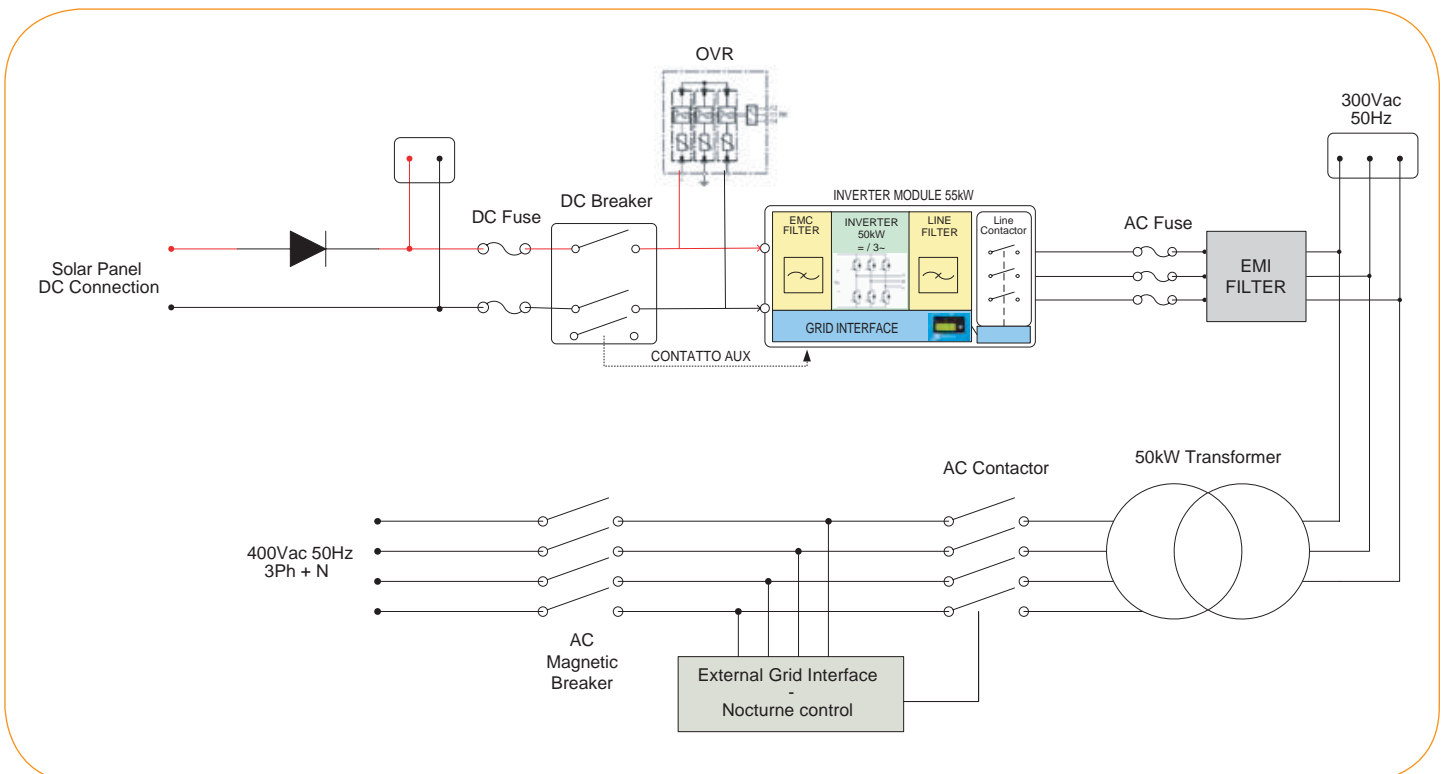
## General Specification Centralized Model PVI-CENTRAL-50

### AURORA<sup>®</sup> BENEFITS

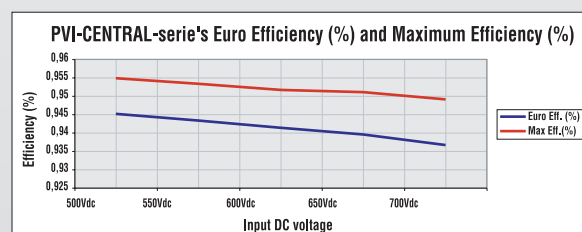
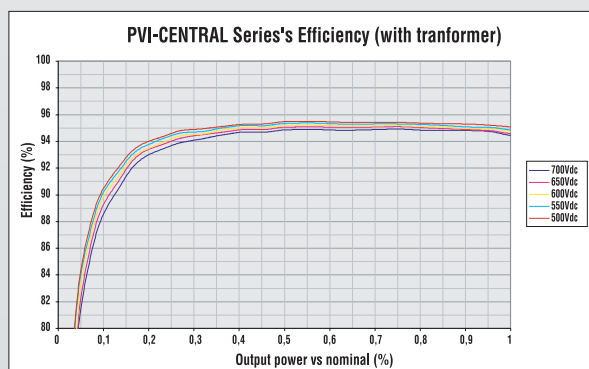
- Modular architecture with independent pluggable converter
- Easy maintenance system with the possibility to quickly plug and unplug the converter module
- Low acoustic noise thanks to the high switching frequency
- High conversion efficiency (Euro efficiency 94,51%)
- Complete turnkey solution for the connection to the Low Voltage public network in accordance to DK5940 and CEI 11-20 (Italy), VDE 0126/VDEW (Germany, France, Greece) and Real Decreto RD1663/2000 (Spain)
- Integrated connections, protections and disconnection from DC and AC
- Predisposition for connection without external equipment
- Night-time disconnection of the transformer through integrated light sensors to eliminate undesired losses
- WEBLOGGER monitoring system (optional) for the remote surveillance and performance evaluation of the PV plant
- A string combiner box is optionally available to parallel, protect and monitor all the PV strings and enhance the monitoring and diagnostic capabilities of the system



### Block Diagram - 55kW



CHARACTERISTICS	PVI-CENTRAL-50
<b>INPUT PARAMETERS</b>	
Maximum recommended PV power [kWp]	-
Total (master slave mode)	59
Per channel (multi-master mode)	
Absolute maximum input voltage [Vdc]	900
MPPT input voltage range [Vdc]	465 - 850 (550 nominal)
Number of independent MPPT	
multi-master configuration	1
multi-master/slave configuration	na
master/slave	1
Total Maximum input current [Adc]	123
Multi-master mode (each module)	123
Input Reflected Ripple voltage	<3%
Number of DC inputs available	1
Max. DC input wire section (each polarity)	1x120mmq (M10)
<b>STANDARD EQUIPMENT - INPUT</b>	
Insulation Control	Yes, with alarm
Integrated DC protection	
Reverse polarity and backfeed current protection (each input)	YES, with series diode
Input fuse overcurrent protection (each input/both polarities)	125A/1000V
Load-breaking DC switch (each input, monitored)	125A/1000V
Input overvoltage protection (monitored)	1
<b>OUTPUT PARAMETERS</b>	
Nominal AC Output Power, PACnom (up to 50°C, kW)	55
Nominal AC Output Current [Arms]	81
AC Output Voltage range [Vrms]	3 x 400 +/-15%
Nominal AC Frequency [Hz]	50 / 60
Power Factor [cos φ]	>0.99 (@ Pac nominal)
AC Current Harmonics [THD%]	< 4% (@ Pac nominal)
Inverter Switching Frequency [kHz]	18
Max AC output wire section (each phase)	1x70mmq ( M8 )
<b>STANDARD EQUIPMENT - OUTPUT</b>	
AC Contactor (night time disconnect)	Yes
*AC Output Circuit Breaker (Magnetothermic switch)	Yes
AC side overvoltage protection (power and aux input)	Yes
<b>CONVERSION EFFICIENCY</b>	
Peak Efficiency % (@ Vin nom)	95.50%
Euro Efficiency % (@ Vin nom)	94.50%
<b>ENVIRONMENTAL PARAMETERS</b>	
Environmental Protection Degree	IP20
Operating Temperature Range	-10°C...+50°C
Required ambient air cooling flow	1500m3/h
Relative Humidity (non-condensing)	< 95%
Audible Noise [dBA @ 1mt]	<62
<b>AUXILIARY SUPPLY</b>	
External Auxiliary Supply Voltage	3x400Vac + N, 50/60Hz
Maximum consumption in operation	<0.2% of PACnom
Night time losses [W]	<15W
<b>COMMUNICATION/USER INTERFACE</b>	
Communication Port (PC / Datalogger)	1 x RS485 (RS485 USR)
Communication - String Combiner boxes (PVI-STRINGCOMB)	1 x RS485 (RS485 2)
Remote Communication (optional)	WEBLOGGER (Ethernet, GPRS)
User Interface	2-lines Display (on each inverter module)
<b>MECHANICAL CHARACTERISTICS</b>	
Dimensions (WxHxD) [mm]	1250 x 1570(*) x 810
(*) Output Air conduit not included	
Overall Weight [kg]	800
50kW module Weight [kg]	65
<b>APPROVALS</b>	
EMC	*EN 61000-6-2, EN 61000-6-4 ; EN 61000-3-11; EN 61000-3-12
CE Compliance	Yes
Grid connection	DK5940 Ed. 2.2, VDEW, RD1663/2000



## MODEL SUMMARY

MODEL NUMBER	CONFIGURATION
PVI-CENTRAL-50	with transformer

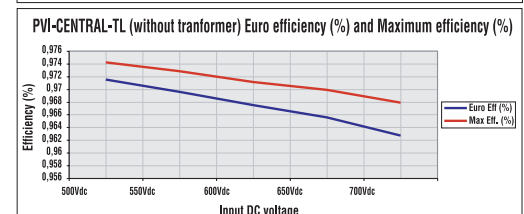
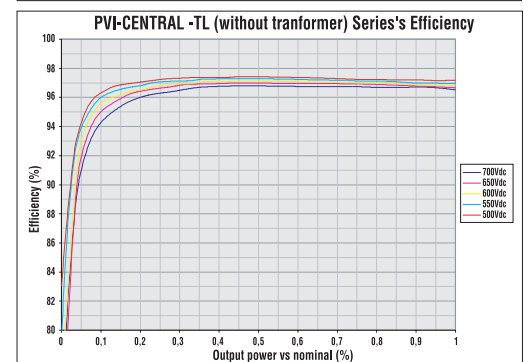
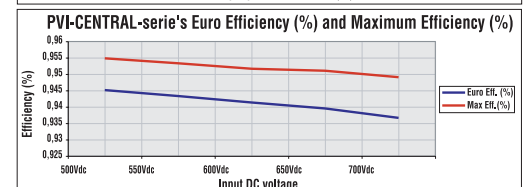
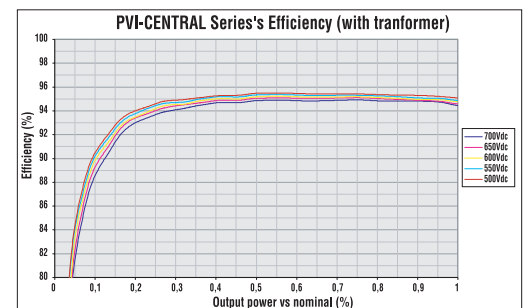
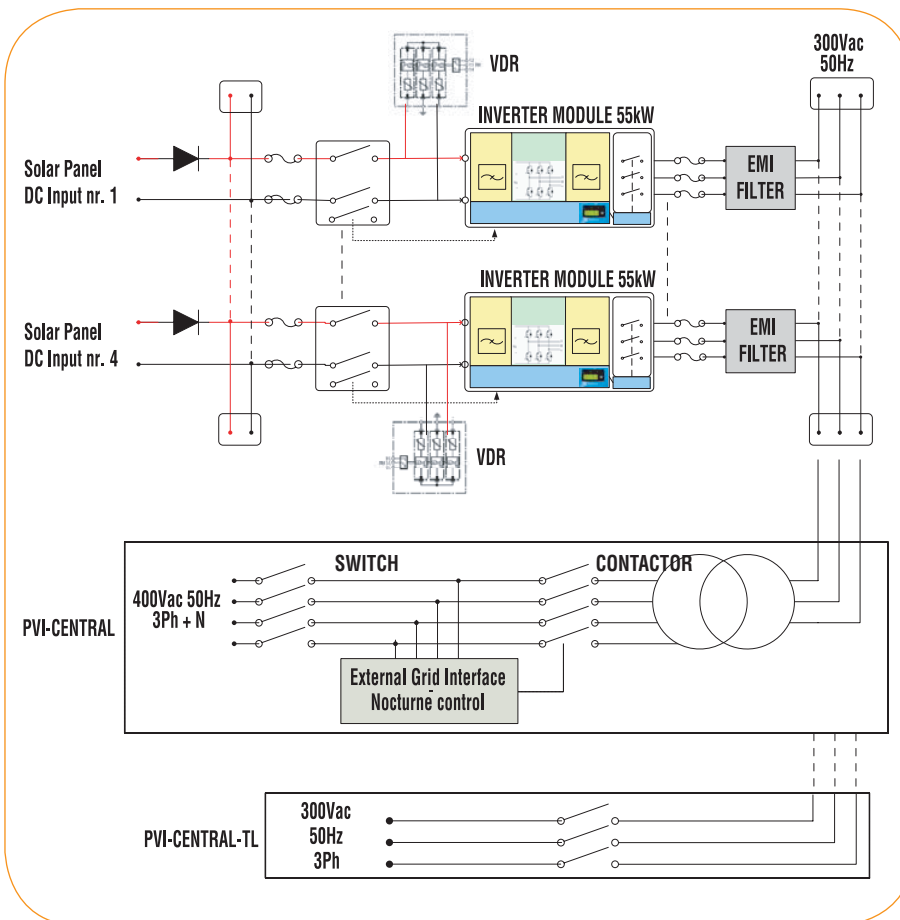
## General Specification Centralized Model PVI-CENTRAL-100 PVI-CENTRAL-100-TL

### AURORA® BENEFITS

- Flexible system architecture with 2 functionally independent 55kW modules, configurable in "Master-Slave" mode (modules in parallel) or "Multi-Master" mode (independent modules).
- Reduced acoustic noise thanks to the high switching frequency (18kHz).
- Can be installed within residential areas without need of acoustic noise reduction
- High conversion efficiency
- Easy maintenance system, thanks to the possibility of quick plug & unplug of the inverter modules.
- Integrated connections, protections and disconnection from DC and AC
- Predisposition for connection without external equipment
- Reduced sensitivity to a single fault: in case of a component fault the system keeps operating with 55kW derating
- Also available without LV transformer for direct connection to the medium voltage network (with dedicated MT transformer)



### Block Diagram - 110Kw-220Kw





<b>CHARACTERISTICS</b>	<b>PVI-CENTRAL-100</b>	<b>PVI-CENTRAL-100-TL</b>
<b>INPUT PARAMETERS</b>		
Maximum recommended PV power [kWp]	-	
Total (master slave mode)	118	118
Per channel (multi-master mode)	59	59
Absolute maximum input voltage [Vdc]	900	900
MPPT input voltage range [Vdc]	465 - 850 (550 nominal)	465 - 850 (550 nominal)
Number of independent MPPT		
multi-master configuration	2	2
multi-master/slave configuration	na	na
master/slave	1	1
Total Maximum input current [Adc]	246	246
Multi-master mode (each module)	123	123
Input Reflected Ripple voltage	< 3%	< 3%
Number of DC inputs available	2	2
Max. DC input wire section (each polarity)	2x120mmq (M10)	2x120mmq (M10)
<b>STANDARD EQUIPMENT - INPUT</b>		
Insulation Control	Yes, with alarm	Yes, with alarm
Integrated DC protection		
Reverse polarity and backfeed current protection (each input)	YES, with series diode	YES, with series diode
Input fuse overcurrent protection (each input/both polarities)	125A/1000V	125A/1000V
Load-breaking DC switch (each input, monitored)	125A/1000V	125A/1000V
Input overvoltage protection (monitored)	1	2 (1 for each input)
<b>OUTPUT PARAMETERS</b>		
Nominal AC Output Power, PACnom (up to 50°C, kW)	110	110
Nominal AC Output Current [Arms]	162	216
AC Output Voltage range [Vrms]	3 x 400 +/-15%	3 x 300 +/-20%
Nominal AC Frequency [Hz]	50 / 60	50 / 60
Power Factor [cos φ]	>0.99 (@ Pac nominal)	>0.99 (@ Pac nominal)
AC Current Harmonics [THD%]	< 4% (@ Pac nominal)	< 4% (@ Pac nominal)
Inverter Switching Frequency [kHz]	18	18
Max AC output wire section (each phase)	1x90mmq ( M8)	1x240mmq ( M12 )
<b>STANDARD EQUIPMENT - OUTPUT</b>		
AC Contactor (night time disconnect)	Yes	No
*AC Output Circuit Breaker (Magnetothermic switch)	Yes	Yes
AC side overvoltage protection (power and aux input)	Yes	Yes
<b>CONVERSION EFFICIENCY</b>		
Peak Efficiency % (@ Vin nom)	95.50%	97.50%
Euro Efficiency % (@ Vin nom)	94.50%	96.90%
<b>ENVIRONMENTAL PARAMETERS</b>		
Environmental Protection Degree	IP20	IP20
Operating Temperature Range	-10°C...+50°C	-10°C...+50°C
Required ambient air cooling flow	2000m3/h	2000m3/h
Relative Humidity (non-condensing)	< 95%	< 95%
Audible Noise [dBA @ 1mt]	<65	<63
<b>AUXILIARY SUPPLY</b>		
External Auxiliary Supply Voltage	3x400Vac + N, 50/60Hz	3x400Vac + N, 50/60Hz
Maximum consumption in operation	<0.2% of PACnom	<0.15% of PACnom
Night time losses [W]	<30W	<30W
<b>COMMUNICATION/USER INTERFACE</b>		
Communication Port (PC / Datalogger)	1 x RS485 (RS485_USR)	1 x RS485 (RS485_USR)
Communication - String Combiner boxes (PVI-STRINGCOMB)	1 x RS485 (RS485_2)	1 x RS485 (RS485_2)
Remote Communication (optional)	WEBLOGGER (Ethernet, GPRS)	WEBLOGGER (Ethernet, GPRS)
User Interface	2-lines Display (on each inverter module)	2-lines Display (on each inverter module)
<b>MECHANICAL CHARACTERISTICS</b>		
Dimensions (WxHxD) [mm]	1250x1570(*)x810	1250 x 1030(*) x 810
(*) Output Air conduit not included		
Overall Weight [kg]	900	480
50kW module Weight [kg]	65	65
<b>APPROVALS</b>		
EMC	*EN 61000-6-2, EN 61000-6-4 ; EN 61000-3-11; EN 61000-3-12	
CE Compliance	Yes	
Grid connection	DK5940 Ed. 2.2, VDEW, RD1663/2000	

## MODEL SUMMARY

MODEL NUMBER	CONFIGURATION
PVI-CENTRAL-100	with transformer
PVI-CENTRAL-100-TL	without transformer

# PVI-CENTRAL-150/200

# AURORA® Photovoltaic Inverter

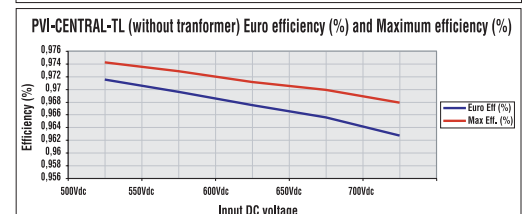
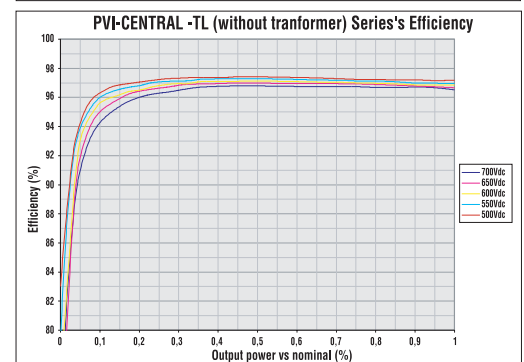
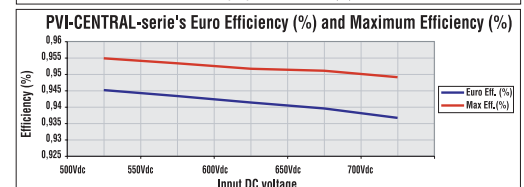
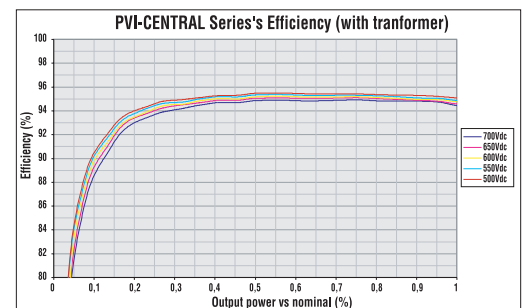
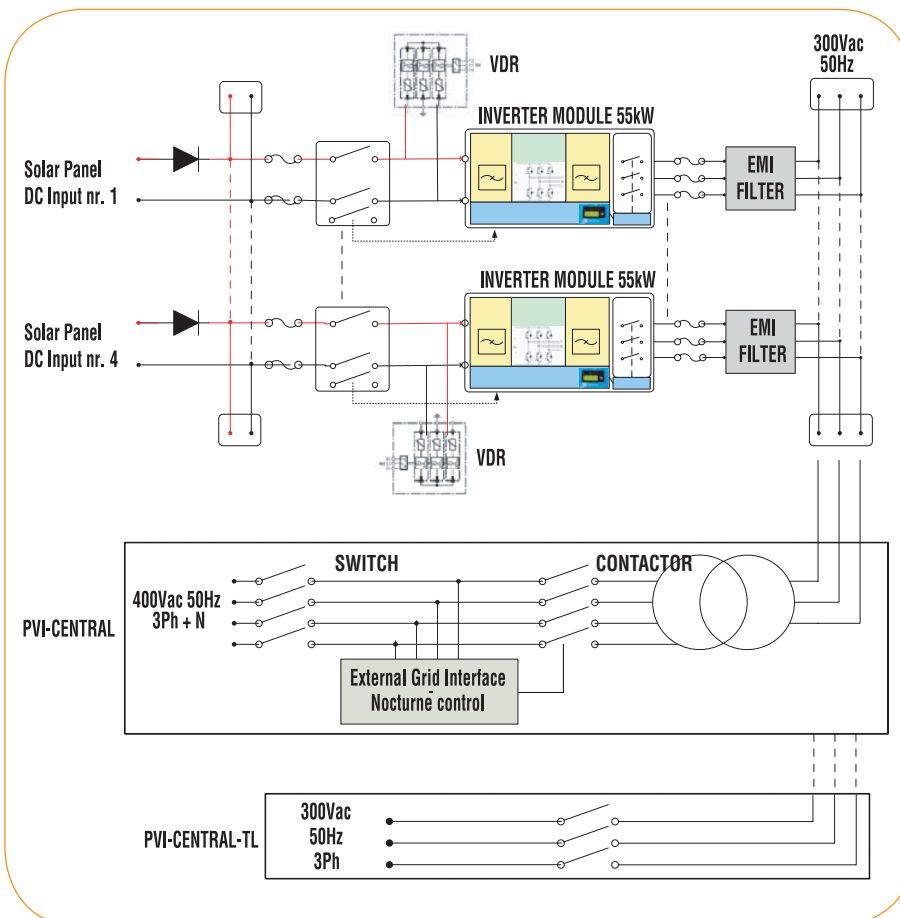
## General Specification Centralized Model PVI-CENTRAL-150/200 PVI-CENTRAL-150/200-TL

### AURORA® BENEFITS

- Flexible system architecture with 4 functionally independent 55kW modules, configurable in "Master-Slave" mode (modules in parallel) or "Multi-Master" mode (independent modules), or Multi-Master/Slave (two MPPT, each made up by two paralleled modules)
- Reduced acoustic noise thanks to the high switching frequency (18kHz).
- Modular configuration on 55kW independent conversion devices
- High conversion efficiency  
Easy maintenance system, thanks to the possibility of quick plug & unplug of the inverter modules.
- Integrated connections, protections and disconnection from DC and AC
- Predisposition for connection without external equipment
- Reduced sensitivity to a single fault: in case of a component fault the system keeps operating with 55kW derating
- Also available without LV transformer for direct connection to the medium voltage network (with dedicated MT transformer)



### Block Diagram - 110Kw-220Kw



<b>CHARACTERISTICS</b>	<b>PVI-CENTRAL-150</b>	<b>PVI-CENTRAL-150-TL</b>	<b>PVI-CENTRAL-200</b>	<b>PVI-CENTRAL-200-TL</b>
<b>INPUT PARAMETERS</b>				
Maximum recommended PV power [kWp]	-			
Total (master slave mode)	177	177	236	236
Per channel (multi-master mode)	59	59	59	59
Absolute maximum input voltage [Vdc]	900	900	900	900
MPPT input voltage range [Vdc]	465 - 850 (550 nominal)	465 - 850 (550 nominal)	465 - 850 (550 nominal)	465 - 850 (550 nominal)
Number of independent MPPT				
multi-master configuration	3	3	4	4
multi-master/slave configuration	2	2	2	2
master/slave	1	1	1	1
Total Maximum input current [Adc]	369	369	492	492
Multi-master mode (each module)	123	123	123	123
Input Reflected Ripple voltage	< 3%	< 3%	< 3%	< 3%
Number of DC inputs available	3	3	4	4
Max. DC input wire section (each polarity)	3x120mmq (M10)	3x120mmq (M10)	4x120mmq (M10)	4x120mmq (M10)
<b>STANDARD EQUIPMENT - INPUT</b>				
Insulation Control	Yes, with alarm	Yes, with alarm	Yes, with alarm	Yes, with alarm
Integrated DC protection				
Reverse polarity and backfeed current protection (each input)	YES, with series diode	YES, with series diode	YES, with series diode	YES, with series diode
Input fuse overcurrent protection (each input/both polarities)	125A/1000V	125A/1000V	125A/1000V	125A/1000V
Load-breaking DC switch (each input, monitored)	125A/1000V	125A/1000V	125A/1000V	125A/1000V
Input overvoltage protection (monitored)	3 (1 for each input)	3 (1 for each input)	4 (1 for each input)	4 (1 for each input)
<b>OUTPUT PARAMETERS</b>				
Nominal AC Output Power, PACnom (up to 50°C, kW)	165	165	220	220
Nominal AC Output Current [Arms]	243	324	324	432
AC Output Voltage range [Vrms]	3 x 400 +/-15%	3 x 300 +/-20%	3 x 400 +/-15%	3 x 300 +/-20%
Nominal AC Frequency [Hz]	50 / 60	50 / 60	50 / 60	50 / 60
Power Factor [cos φ]	>0.99 (@ Pac nominal)	>0.99 (@ Pac nominal)	>0.99 (@ Pac nominal)	>0.99 (@ Pac nominal)
AC Current Harmonics [THD%]	< 4% (@ Pac nominal)	< 4% (@ Pac nominal)	< 4% (@ Pac nominal)	< 4% (@ Pac nominal)
Inverter Switching Frequency [kHz]	18	18	18	18
Max AC output wire section (each phase)	1x185mmq ( M10 )	1x240mmq ( M12 )	1x185mmq ( M10 )	1x240mmq ( M12 )
<b>STANDARD EQUIPMENT - OUTPUT</b>				
AC Contactor (night time disconnect)	Yes	No	Yes	No
*AC Output Circuit Breaker (Magnetothermic switch)	Yes	Yes	Yes	Yes
AC side overvoltage protection (power and aux input)	Yes	Yes	Yes	Yes
<b>CONVERSION EFFICIENCY</b>				
Peak Efficiency % (@ Vin nom)	95.50%	97.50%	95.50%	97.50%
Euro Efficiency % (@ Vin nom)	94.50%	96.90%	94.50%	96.90%
<b>ENVIRONMENTAL PARAMETERS</b>				
Environmental Protection Degree	IP20	IP20	IP20	IP20
Operating Temperature Range	-10°C...+50°C	-10°C...+50°C	-10°C...+50°C	-10°C...+50°C
Required ambient air cooling flow	3000m3/h	3000m3/h	4000m3/h	4000m3/h
Relative Humidity (non-condensing)	< 95%	< 95%	< 95%	< 95%
Audible Noise [dBA @ 1mt]	<68	<66	<72	<69
<b>AUXILIARY SUPPLY</b>				
External Auxiliary Supply Voltage	3x400Vac + N, 50/60Hz	3x400Vac + N, 50/60Hz	3x400Vac + N, 50/60Hz	3x400Vac + N, 50/60Hz
Maximum consumption in operation	<0.2% of PACnom	<0.15% of PACnom	<0.2% of PACnom	<0.15% of PACnom
Night time losses [W]	<45W	<45W	<60W	<60W
<b>COMMUNICATION/USER INTERFACE</b>				
Communication Port (PC / Datalogger)	1 x RS485 (RS485 USR)	1 x RS485 (RS485 USR)	1 x RS485 (RS485 USR)	1 x RS485 (RS485 USR)
Communication - String Combiner boxes (PVI-STRINGCOMB)	1 x RS485 (RS485 2)	1 x RS485 (RS485 2)	1 x RS485 (RS485 2)	1 x RS485 (RS485 2)
Remote Communication (optional)	WEBLOGGER (Ethernet, GPRS)	WEBLOGGER (Ethernet, GPRS)	WEBLOGGER (Ethernet, GPRS)	WEBLOGGER (Ethernet, GPRS)
User Interface	2-lines Display (on each inverter module)	2-lines Display (on each inverter module)	2-lines Display (on each inverter module)	2-lines Display (on each inverter module)
<b>MECHANICAL CHARACTERISTICS</b>				
Dimensions (WxHxD) [mm]	1250 x 2100(*) x 810	1250 x 1570(*) x 810	1250 x 2100(*) x 810	1250 x 1570(*) x 810
(*) Output Air conduit not included				
Overall Weight [kg]	1200	680	1300	780
50kW module Weight [kg]	65	65	65	65
<b>APPROVALS</b>				
EMC	*EN 61000-6-2, EN 61000-6-4 ; EN 61000-3-11; EN 61000-3-12			
CE Compliance	Yes			
Grid connection	DK5940 Ed. 2.2, VDEW, RD1663/2000			

## MODEL SUMMARY

MODEL NUMBER	CONFIGURATION
PVI-CENTRAL-150	with transformer
PVI-CENTRAL-150-TL	without transformer
PVI-CENTRAL-200	with transformer
PVI-CENTRAL-200-TL	without transformer

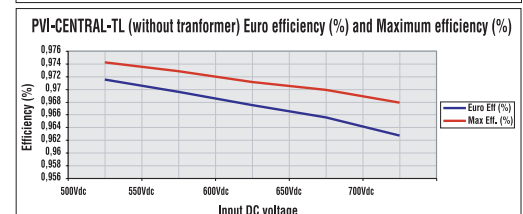
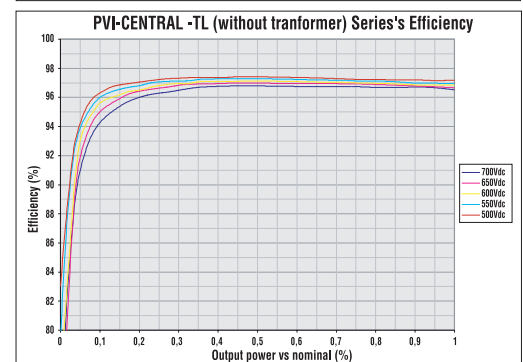
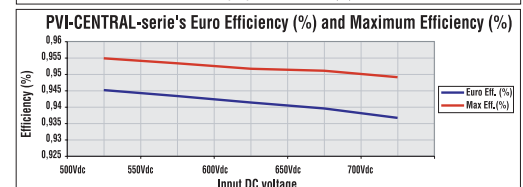
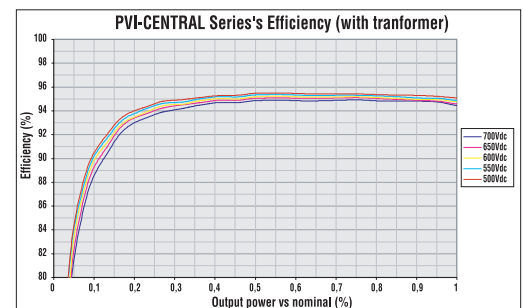
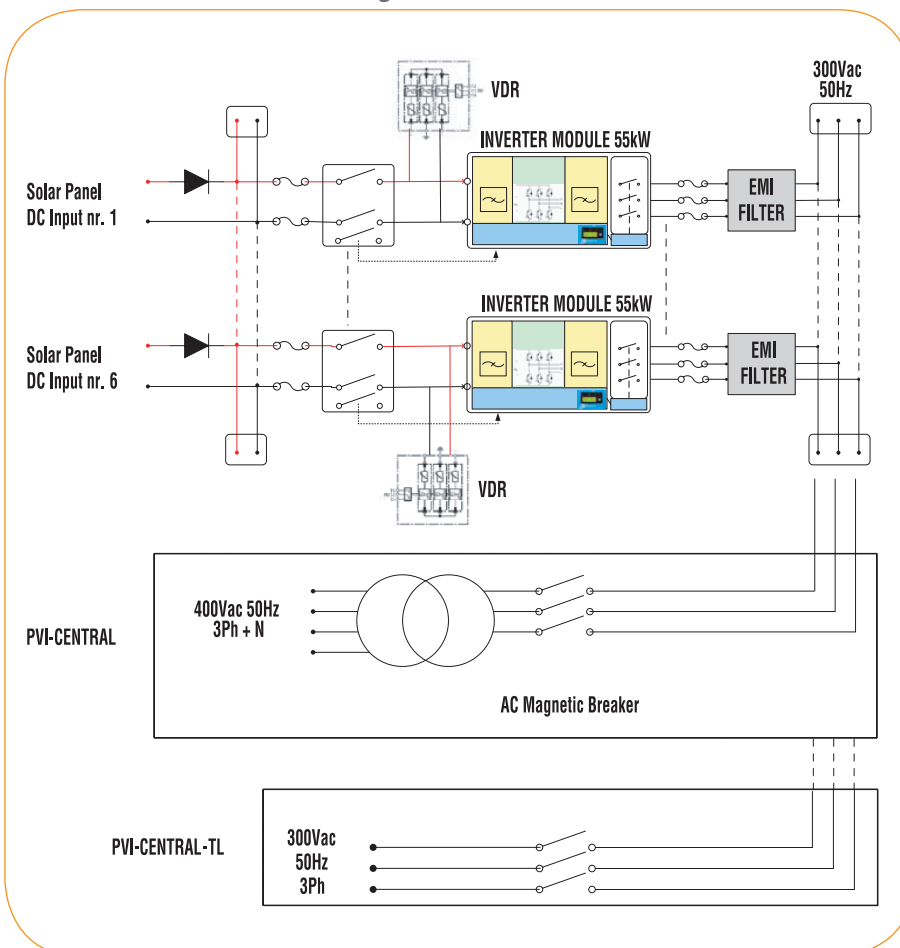
## General Specification Centralized Model PVI-CENTRAL-250/300 PVI-CENTRAL-250/300-TL

### AURORA® BENEFITS

- Flexible system architecture with 6 functionally independent 55kW modules, configurable in "Master-Slave" mode (modules in parallel) or "Multi-Master" mode (independent modules), or Multi-Master/Slave (three MPPT, each made up by two paralleled modules)
- Reduced acoustic noise thanks to the high switching frequency (18kHz).
- Modular configuration on 55kW independent conversion devices
- High conversion efficiency (PVI-CENTRAL-300-TL Euro efficiency 97,14%; PVI-CENTRAL-300 Euro efficiency 94,51%)
- Easy maintenance system, thanks to the possibility of quick plug & unplug of the inverter modules.
- Integrated connections, protections and disconnection from DC and AC
- Predisposition for connection without external equipment
- Reduced sensitivity to a single fault: in case of a component fault the system keeps operating with 55kW derating
- Also available without LV transformer for direct connection to the medium voltage network (with de dicated MT transformer)



### Block Diagram - 250Kw-330Kw





<b>CHARACTERISTICS</b>	<b>PVI-CENTRAL-250</b>	<b>PVI-CENTRAL-250-TL</b>	<b>PVI-CENTRAL-300</b>	<b>PVI-CENTRAL-300-TL</b>
<b>INPUT PARAMETERS</b>				
Maximum recommended PV power [kWp]	-			
Total (master slave mode)	295	295	354	354
Per channel (multi-master mode)	59	59	59	59
Absolute maximum input voltage [Vdc]	900	900	900	900
MPPT input voltage range [Vdc]	465 - 850 (550 nominal)	465 - 850 (550 nominal)	465 - 850 (550 nominal)	465 - 850 (550 nominal)
Number of independent MPPT				
multi-master configuration	5	5	6	6
multi-master/slave configuration	3	3	3	3
master/slave	1	1	1	1
Total Maximum input current [Adc]	615	615	738	738
Multi-master mode (each module)	123	123	123	123
Input Reflected Ripple voltage	< 3%	< 3%	< 3%	< 3%
Number of DC inputs available	5	5	6	6
Max. DC input wire section (each polarity)	5x120mmq (M10)	5x120mmq (M10)	6x120mmq (M10)	6x120mmq (M10)
<b>STANDARD EQUIPMENT - INPUT</b>				
Insulation Control	Yes, with alarm	Yes, with alarm	Yes, with alarm	Yes, with alarm
Integrated DC protection				
Reverse polarity and backfeed current protection (each input)	YES, with series diode	YES, with series diode	YES, with series diode	YES, with series diode
Input fuse overcurrent protection (each input/both polarities)	125A/1000V	125A/1000V	125A/1000V	125A/1000V
Load-breaking DC switch (each input, monitored)	125A/1000V	125A/1000V	125A/1000V	125A/1000V
Input overvoltage protection (monitored)	5 (1 for each input)	5 (1 for each input)	6 (1 for each input)	6 (1 for each input)
<b>OUTPUT PARAMETERS</b>				
Nominal AC Output Power, PACnom (up to 50°C, kW)	275	275	330	330
Nominal AC Output Current [Arms]	405	540	486	648
AC Output Voltage range [Vrms]	3 x 400 +/-15%	3 x 300 +/-20%	3 x 400 +/-15%	3 x 300 +/-20%
Nominal AC Frequency [Hz]	50 / 60	50 / 60	50 / 60	50 / 60
Power Factor [cos φ]	>0.99 (@ Pac nominal)	>0.99 (@ Pac nominal)	>0.99 (@ Pac nominal)	>0.99 (@ Pac nominal)
AC Current Harmonics [THD%]	< 4% (@ Pac nominal)	< 4% (@ Pac nominal)	< 4% (@ Pac nominal)	< 4% (@ Pac nominal)
Inverter Switching Frequency [kHz]	18	18	18	18
Max AC output wire section (each phase)	2x240mmq ( M12 )	2x240mmq ( M12 )	2x240mmq ( M12 )	2x240mmq ( M12 )
<b>STANDARD EQUIPMENT - OUTPUT</b>				
AC Contactor (night time disconnect)	No	No	No	No
*AC Output Circuit Breaker (Magnetothermic switch)	Yes (*)	Yes	Yes (*)	Yes
AC side overvoltage protection (power and aux input)	Yes	Yes	Yes	Yes
<b>CONVERSION EFFICIENCY</b>				
Peak Efficiency % (@ Vin nom)	95.50%	97.50%	95.50%	97.50%
Euro Efficiency % (@ Vin nom)	94.50%	96.90%	94.50%	96.90%
<b>ENVIRONMENTAL PARAMETERS</b>				
Environmental Protection Degree	IP20	IP20	IP20	IP20
Operating Temperature Range	-10°C...+50°C	-10°C...+50°C	-10°C...+50°C	-10°C...+50°C
Required ambient air cooling flow	5000m3/h	5000m3/h	6000m3/h	6000m3/h
Relative Humidity (non-condensing)	< 95%	< 95%	< 95%	< 95%
Audible Noise [dBA @ 1m]	<75	<72	<78	<75
<b>AUXILIARY SUPPLY</b>				
External Auxiliary Supply Voltage	3x400Vac + N, 50/60Hz	3x400Vac + N, 50/60Hz	3x400Vac + N, 50/60Hz	3x400Vac + N, 50/60Hz
Maximum consumption in operation	<0.2% of PACnom	<0.15% of PACnom	<0.2% of PACnom	<0.15% of PACnom
Night time losses [W]	<45W	<45W	<60W	<60W
<b>COMMUNICATION/USER INTERFACE</b>				
Communication Port (PC / Datalogger)	1 x RS485 (RS485 USR)	1 x RS485 (RS485 USR)	1 x RS485 (RS485 USR)	1 x RS485 (RS485 USR)
Communication - String Combiner boxes (PVI-STRINGCOMB)	1 x RS485 (RS485 2)	1 x RS485 (RS485 2)	1 x RS485 (RS485 2)	1 x RS485 (RS485 2)
Remote Communication (optional)	WEBLOGGER (Ethernet, GPRS)	WEBLOGGER (Ethernet, GPRS)	WEBLOGGER (Ethernet, GPRS)	WEBLOGGER (Ethernet, GPRS)
User Interface	2-lines Display (on each inverter module)	2-lines Display (on each inverter module)	2-lines Display (on each inverter module)	2-lines Display (on each inverter module)
<b>MECHANICAL CHARACTERISTICS</b>				
Dimensions (WxHxD) [mm]	1250 x 2100(*) x 810 +	1250 x 2100(*) x 810	1250 x 2100(*) x 810 +	1250 x 2100(*) x 810
(*) Output Air conduit not included	1250 x 1055(*) x 810 (trafo box)		1250 x 1055(*) x 810 (trafo box)	
Overall Weight [kg]	1600	1000	1700(*)	1100(*)
50kW module Weight [kg]	65	65	65 (*)	65 (*)
<b>APPROVALS</b>				
EMC	*EN 61000-6-2, EN 61000-6-4 ; EN 61000-3-11; EN 61000-3-12			
CE Compliance	Yes			
Grid connection	DK5940 Ed. 2.2, VDEW, RD1663/2000			

## MODEL SUMMARY

MODEL NUMBER	CONFIGURATION
PVI-CENTRAL-250	with transformer
PVI-CENTRAL-250-TL	without transformer
PVI-CENTRAL-300	with transformer
PVI-CENTRAL-300-TL	without transformer

## GENERAL SPECIFICATIONS

**PVI-3600-OUTD-UK-F-W**  
**PVI-3600-OUTD-US-F-W**  
**PVI-3600-OUTD-IT-F-W**  
**PVI-3600-OUTD-ES-F-W**



Wind Interface Box  
opzionale



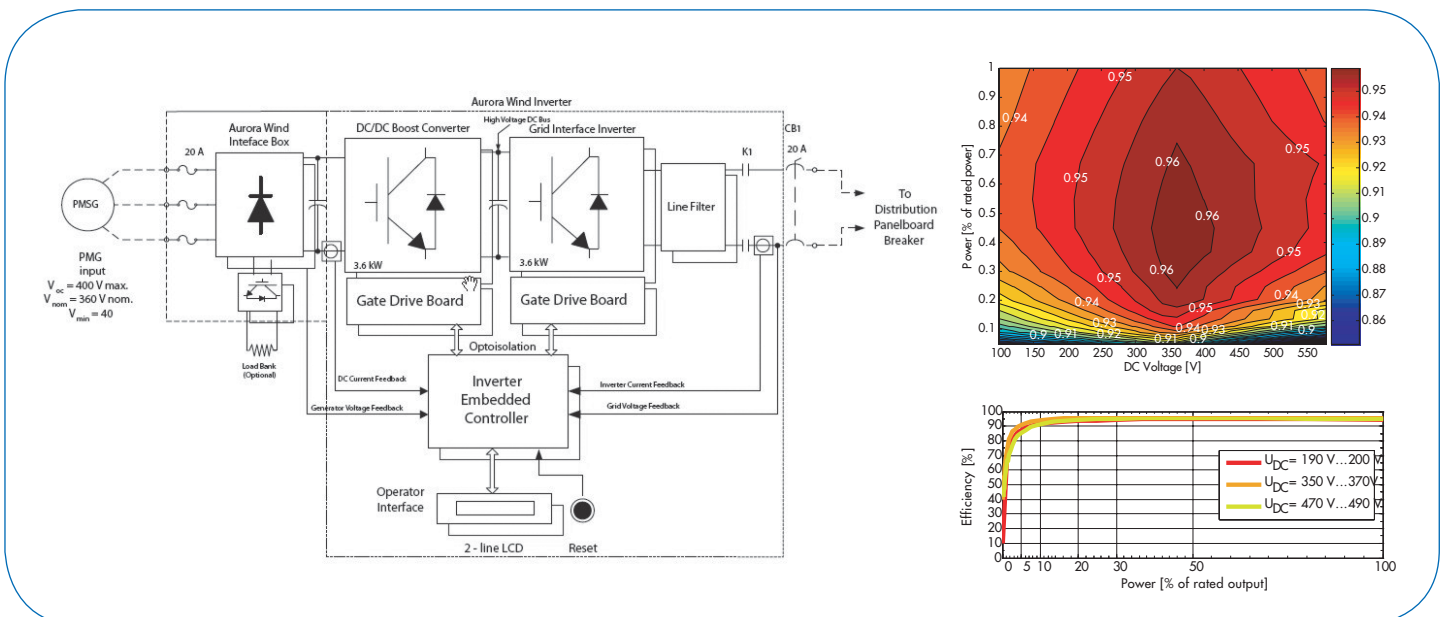
### AURORA® BENEFITS

- PMG (Permanent Magnet Generator) Power Curve implemented in high speed MPPT
- IP65 (NEMA 4X)—The completely sealed, rugged unit can withstand the harshest environmental conditions
- High speed MPPT for real time power tracking and improved energy harvesting
- Compact size and high power density: 3600W of output power in a box just 420mm x 326mm x 141mm (16.5in x 12.8in x 5.55in)
- Front heatsink keeps the unit cleaner and more efficient over time
- Transformerless operation for highest efficiency—up to 96%
- High overload capability—works up to 3600W under most ambient conditions
- True Sine Wave Output
- Anti-islanding Protection
- Certified grid connected operation according to the international standards
- LCD on the front to monitor the main parameters and display kW and kWh
- Wind interface box is optional

## HIGH PERFORMANCE REDEFINED

Power-One offers our Aurora PVI-3600 Outdoor Wind Inverter that features revolutionary switching technology. Our Aurora wind inverter includes state-of-the-art silicon power devices that help reduce switching losses. Power devices include power MOS-FET's and IGBT's. Robust and reliable, Aurora was designed to last up to 25 years, and features large derating criteria on all critical components. It delivers true maximum output power on a continuous basis. With this design concept we achieve peak efficiencies of over 96%. Total current harmonic distortion, on the other hand, is typically less than 2% through the use of high-frequency switching techniques. Exclusive to Aurora, is its power curve in software that optimizes the wind turbine's output.

## Block Diagram and typical efficiency



<b>CHARACTERISTICS</b>	<b>PVI-3600-OUTD-UK-F-W</b>	<b>PVI-3600-OUTD-IT-F-W</b>	<b>PVI-3600-OUTD-US-F-W</b>	<b>PVI-3600-OUTD-ES-F-W</b>
Power Rating Ac [W]	3600	3600	3600	3600
Absolute Max Voltage range [Vdc]	0 to 600	0 to 600	0 to 600	0 to 600
Max. Power Tracking Window range [Vdc]	50-580 (360 nominal)	50-580 (360 nominal)	50-580 (360 nominal)	50-580 (360 nominal)
Power Curve	Manufacturer special	Manufacturer special	Manufacturer special	Manufacturer special
Nominal AC Frequency [Hz]	50	50	60	50
Line Power Factor	1	1	1	1
Maximum AC Line Current [Arms]	16	16	16	16
AC Current Distortion [%]	<2.5% THD at rated power with sinewave voltage	<2.5% THD at rated power with sinewave voltage	<2.5% THD at rated power with sinewave voltage	<2.5% THD at rated power with sinewave voltage
Max Efficiency [%]	96 (Euro 95)	96 (Euro 95)	96 (Euro 95)	96 (Euro 95)
Tare Losses [mW]	<200	<200	<200	<200
Operating Ambient Temperature [°C]	-25 to +60	-25 to +60	-25 to +60	-25 to +60
Enclosure Environmental Rating	IP65 / NEMA 4 X	IP65 / NEMA 4 X	IP65 / NEMA 4 X	IP65 / NEMA 4 X
Relative Humidity	0-100% condensing	0-100% condensing	0-100% condensing	0-100% condensing
Elevation	Derated above 6,600ft (2000m)	Derated above 6,600ft (2000m)	Derated above 6,600ft (2000m)	Derated above 6,600ft (2000m)
Audible Noise [dBA]	< 40	< 40	< 40	< 40
Size (height x width x depth) [mm]	420mm x 326mm x 141mm (16.5in x 12.8in x 5.55in)	420mm x 326mm x 141mm (16.5in x 12.8in x 5.55in)	420mm x 326mm x 141mm (16.5in x 12.8in x 5.55in)	420mm x 326mm x 141mm (16.5in x 12.8in x 5.55in)
Weight [kg]	13,5	13,5	13,5	13,5

## MODEL SUMMARY

MODEL NUMBER	POWER
PVI-3600-OUTD-UK-F-W	3600W
PVI-3600-OUTD-US-F-W	3600W
PVI-3600-OUTD-IT-F-W	3600W
PVI-3600-OUTD-ES-F-W	3600W

## SMART CONTROLS

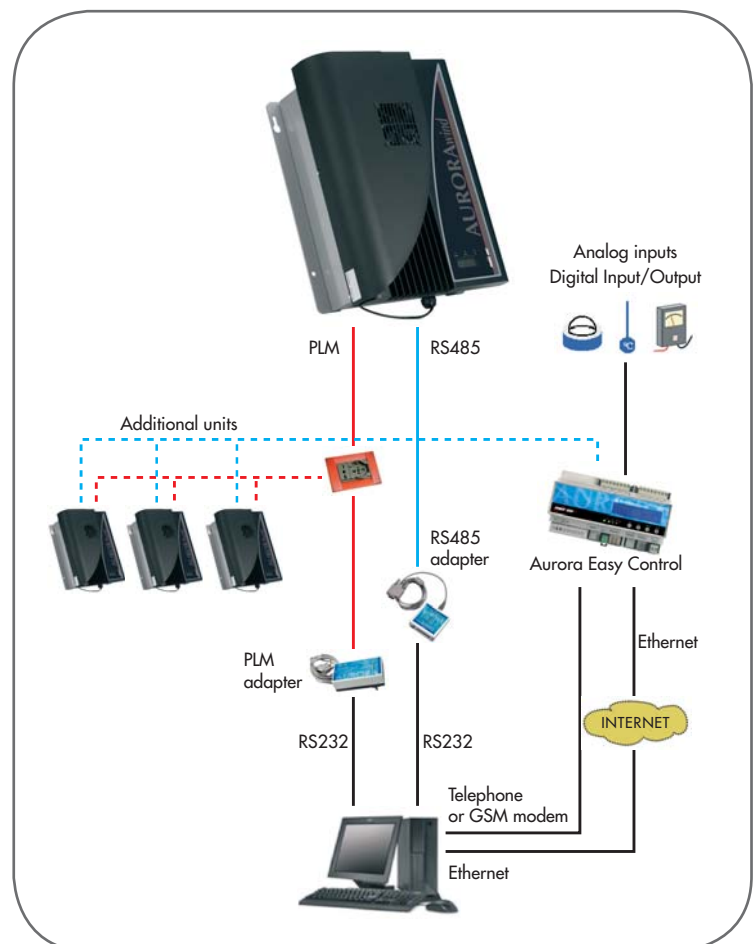
Aurora controls are DSP (Digital Signal Processor) based with sophisticated control and self-diagnostics algorithms. An LCD shows the main operational parameters. Three LED's indicate the operating status.

## BEST IN CLASS COMMUNICATION CAPABILITIES

Aurora features an integrated RS485 Communication link. An RS485 to RS232 converter (optional) is available to monitor the unit.

## STANDARDS AND CODES

Aurora inverters comply with standards set for grid-tied operation, safety and electromagnetic compatibility including: CE Certification, CSA- C22.2 N.107.1-01, UL1741, CLEAR SKIES G83/1, CEI 11-20 IV ed, DK 5940, IEC 61683, IEC 61727, EN 50081, EN50082, EN61000.



Rev. 1.1 - 08/04/08 - Aurora is a trademark by Power-One - Product is subject to technical improvements

## General Specifications Outdoor models PVI-6000-OUTD-US-W PVI-6000-OUTD-IT-W PVI-6000-OUTD-ES-W



Wind Interface Box  
opzionale



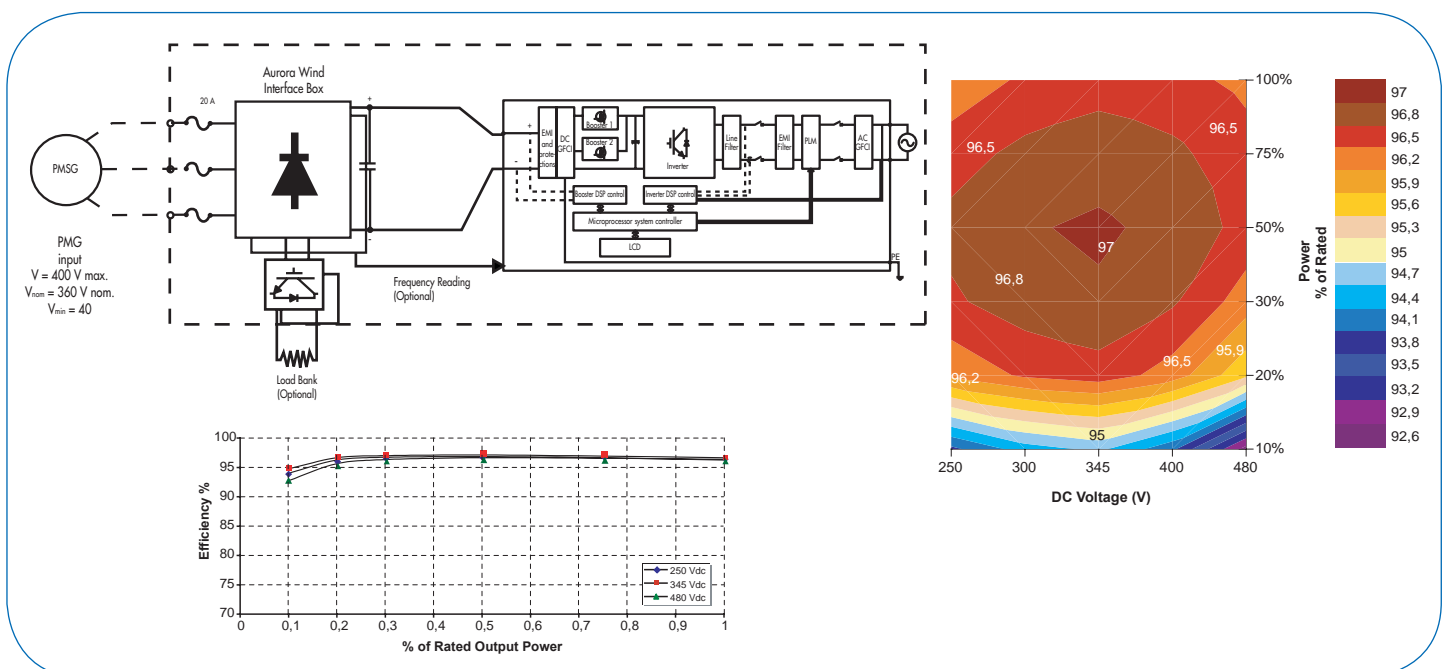
### AURORA® BENEFITS

- IP65 (NEMA 4) ruggedized, completely sealed unit to stand the harshest environmental conditions
- High speed MPPT for real time power tracking and improved energy harvesting
- Compact size and high power density: 6000W (6000W max) of output power in a box just 740mm x 325mm x 195mm (29 1/8" x 12 3/4" x 7 5/8")
- Front heatsink keeps the unit cleaner and more efficient over time
- Transformerless operation for highest efficiency: up to 97% (96,5% Euro; 96,5% CEC)
- Reverse polarity protection minimizes chance of damage due to incorrect wiring, when used in conjunction with Aurora PVI-WIND-INTERFACE BOX.
- High overload capability: works up to 6000W under most ambient conditions
- True Sine Wave Output
- Anti-islanding Protection
- Certified grid connected operation according to the International standards
- LCD Display on the front to monitor the main parameters
- Integrated RS-485 serial communication
- WIND INTERFACE BOX is optional

### HIGH PERFORMANCE REDEFINED

The revolutionary switching technology utilized in the Aurora inverter includes state-of-the-art for silicon Power Devices such as CoolMOS™ and Insulated Gate Bi-polar Transistors (IGBT's) to reduce switching losses. Aurora has been designed with substantial derating of all critical components, achieving an extremely robust and reliable inverter designed to last for 25 years and to deliver rated maximum output power on a continuous basis. With this design concept we achieve peak efficiencies of over 97%. Total current harmonic distortion, on the other hand, is typically less than 1% thanks to the use of high-frequency switching techniques.

### Block Diagram and typical efficiency





CHARACTERISTICS	PVI-6000-OUTD-US-W	PVI-6000-OUTD-IT-W	PVI-6000-OUTD-ES-W
Output Power Rating Ac [W]	6000	6000	6000
Absolute Max Input Voltage [Vdc]	600	600	600
Max. Power Tracking Window range [Vdc]	50 to 580 (360 nominal)	50 to 580 (360 nominal)	50 to 580 (360 nominal)
Input Configuration (Max. Idc =18 A for each channel)	Two channel in parallel with common MPPT	Two channel in parallel with common MPPT	Two channel in parallel with common MPPT
Nominal AC Voltage (Range) [Vrms]	240V split phase, Optional - 208V or 277V Single Phase	Single-phase 200-245 (180-264) (may vary to comply with regulations in each country)	Single-phase 200-245 (180-264) (may vary to comply with regulations in each country)
Nominal AC Frequency [Hz]	60	50	50
Line Power Factor	1	1	1
Maximum AC Line Current [Arms]	30	30	30
AC Current Distortion [%]	<2% THD at rated power with finewave voltage	<2% THD at rated power with finewave voltage	<2% THD at rated power with finewave voltage
Max Efficiency [%]	97 (96.5% CEC)	97 (Euro 96.4)	97 (Euro 96.4)
Tare Losses [mW]	250	<1500	250
Operating Ambient Temperature [°C]	-25 to +60	-25 to +60	-25 to +60
Enclosure Environmental Rating	NEMA 4X	IP65	IP65
Relative Humidity	0-100% condensing	0-100% condensing	0-100% condensing
Elevation	derated above 2.000 m (6,600ft)	derated above 2.000 m (6,600ft)	derated above 2.000 m (6,600ft)
Audible Noise [dBA]	<50@ 1m	<50@ 1m	<50@ 1m
Size (height x width x depth) [mm]	740 x 325 x 195 (29 1/8" x 12 3/4" x 7 5/8")	740 x 325 x 195	740 x 325 x 195
Weight [kg]	26 (57.3 lbs)	26	26

## SMART CONTROLS

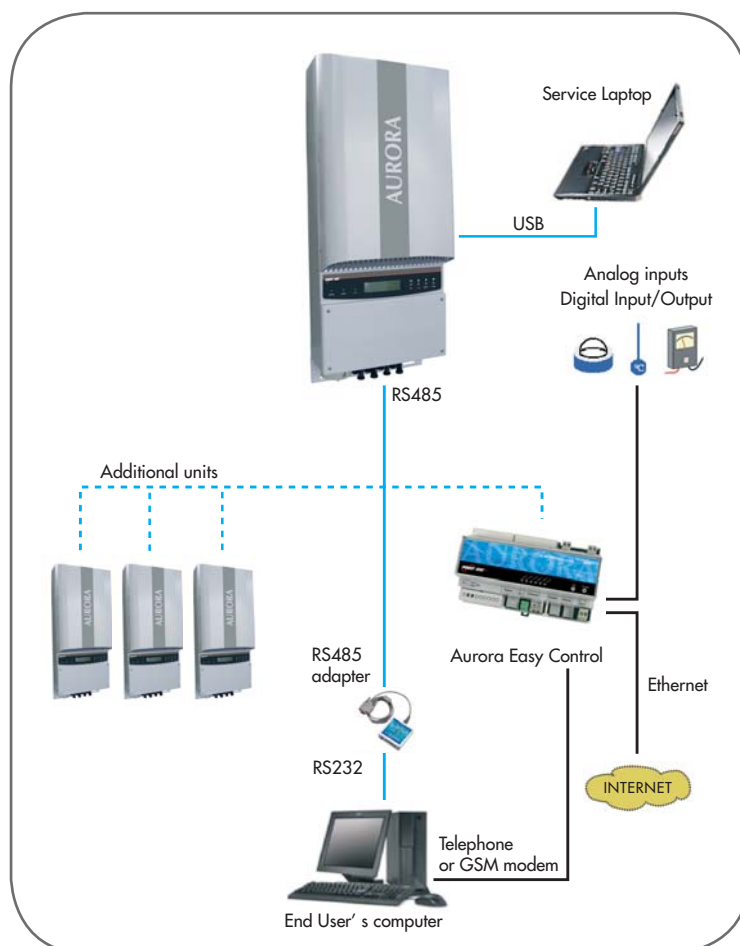
Aurora controls are DSP (Digital Signal Processor) based with sophisticated control and self-diagnostics algorithms. An LCD shows the main operational parameters. Three LED's indicate the operating status.

## BEST IN CLASS COMMUNICATION CAPABILITIES

Aurora features an integrated RS485 Communication link. An RS485 to RS232 converter (optional) is available to monitor the unit.

## STANDARDS AND CODES

Aurora inverters comply with standards set for grid-tied operation, safety and electromagnetic compatibility including: CE Certification, CSA- C22.2 N.107.1-01, UL1741, CLEAR SKIES G83/1, CEI 11-20 IV ed, DK 5940, IEC 61683, IEC 61727, EN 50081, EN50082, EN61000.



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## GENERAL SPECIFICATIONS PVI-WIND-INTERFACE

### Wind Interface Box

The Power-One Aurora Wind Interface Box represents an application of the successful Aurora inverter to small wind applications. The compact wind interface box is designed for a grid-connected application. The Aurora inverter can be configured to an OEM's specific MPPT power curve.

The model PVI-Windbox is used in combination with the Aurora Wind Inverter.

### AURORA® Wind Interface Features

- Conversion efficiency at rating: 99.4%
- 3-Phase input from PMG
- High output power at full rating 7200W
- Fused wind input
- Automatic brake function above 530 Vdc
- External brake resistor options



Wind Interface Box

Descrizione	Parametri
Input Voltage Range (no damage)	0 to 400 VAC
Operating Input Voltage range from PMG (permanent Magnet Generator)	40-400Vac / 0-600Hz
Max. Operating Input Current	16.6A RMS
Input Overcurrent (fuse protected)	20A RMS
Max. Output Power (@400 VAC, PFC>0.7)	7200W
Output Voltage Range (operating)	50-600 Vdc
Automatic Brake Function	>530 Vdc
Efficiency (@400 VAC, PFC>0.7)	99.4%
DC Output Voltage Range	0-600 Vdc
Max. Current in the Brake Resistor	30 A
Operating Ambient Temperature	-25°C to +55°C
Enclosure Type	NEMA 4X
Relative Humidity	0-100% condensing
Audible Noise	< 40 dBA
Size (height x width x depth)	29 x 26 x 9.5 (mm)

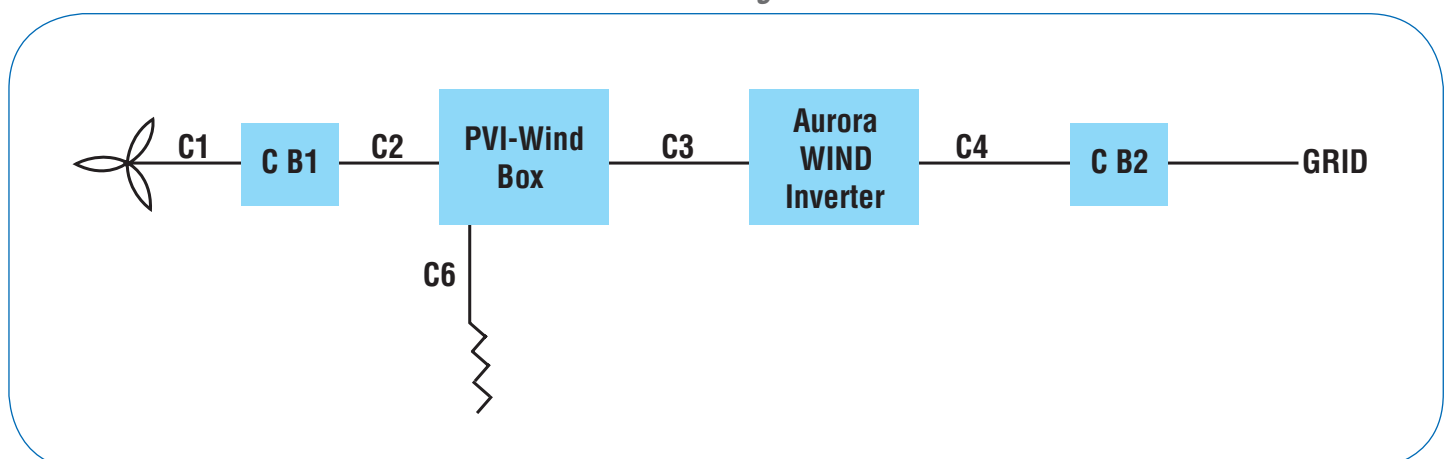
### SOMMARIO DEI MODELLI

CODICE DEI MODELLI	POTENZA
PVI-7200-WIND-INTERFACE	7200W
PVI-4000-WIND-INTERFACE	4000W
PVI-2500-WIND-INTERFACE	2500W

### STANDARDS E NORME

WIND-INTERFACE BOX è conforme alle normative standard vigenti per il funzionamento in connessione alla rete, la sicurezza elettromagnetica incluso: UL1741 e CSA C22.2 N.107.1-01

### Block Diagram







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