

PVI-CENTRAL-250 PVI-CENTRAL-300

GENERAL SPECIFICATIONS CENTRALIZED MODELS

PVI-CENTRAL-250-US
PVI-CENTRAL-300-US

PVI-CENTRAL-250-CAN
PVI-CENTRAL-300-CAN

AURORA PLUS

These Aurora commercial-grade inverters are designed for large solar applications such as apartment buildings and industrial facilities. These extremely scalable modular inverter systems, based on 50kW conversion modules, increase usable power and improve availability.

The reduction of performance in any individual inverter will not impact the energy-harvesting capabilities of other modules.

Industry-leading power conversion efficiencies of up to 97.6%, combined with high-speed Maximum Power Point Tracking (MPPT) channels, optimize energy harvesting across a wide array of operating conditions. Inverter systems are delivered pre-configured and pre-tested in rugged enclosures, significantly reducing on-site wiring and testing.

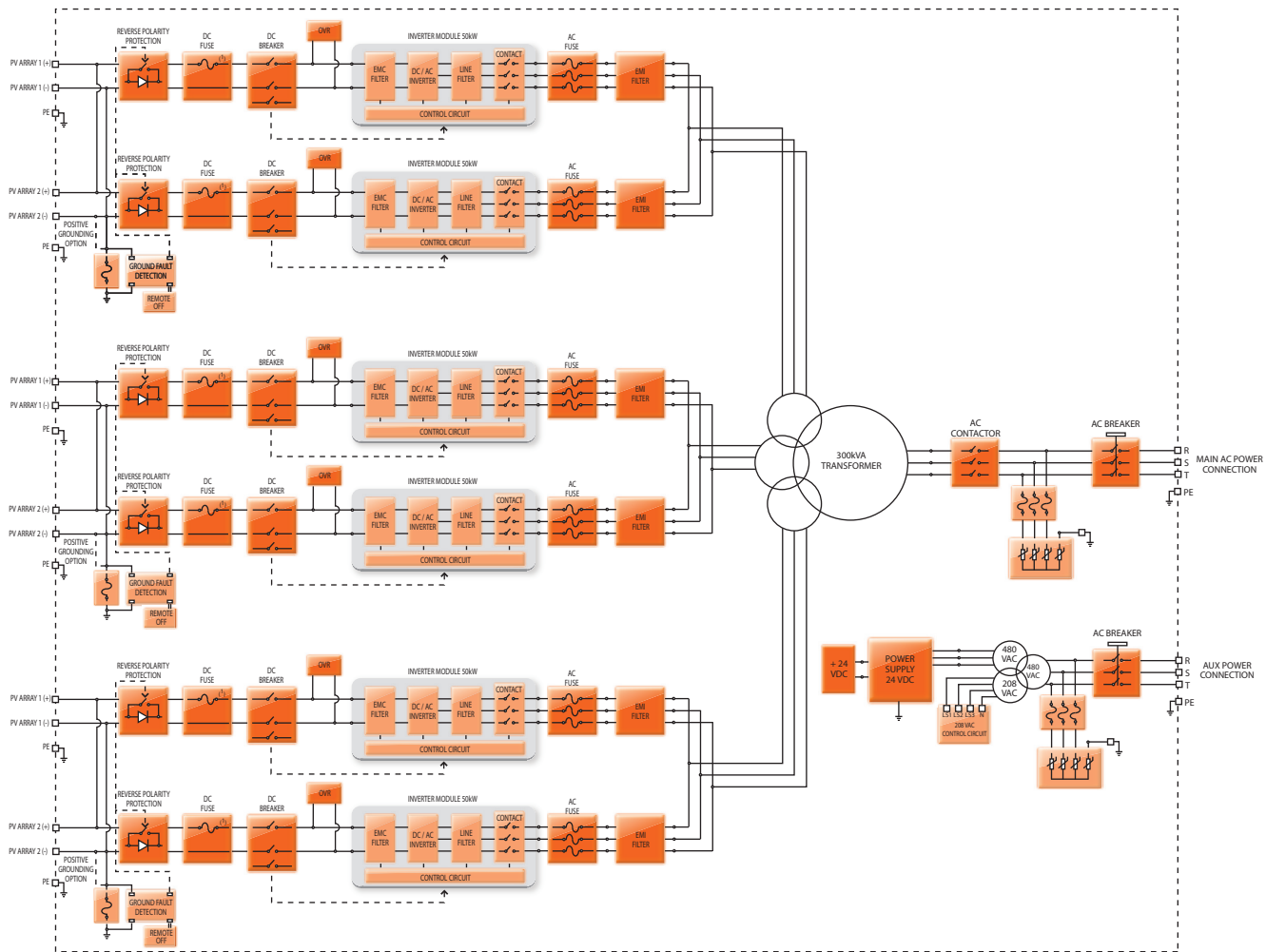
Three independent MPPT input channels offer maximum flexibility and energy harvesting.



Features

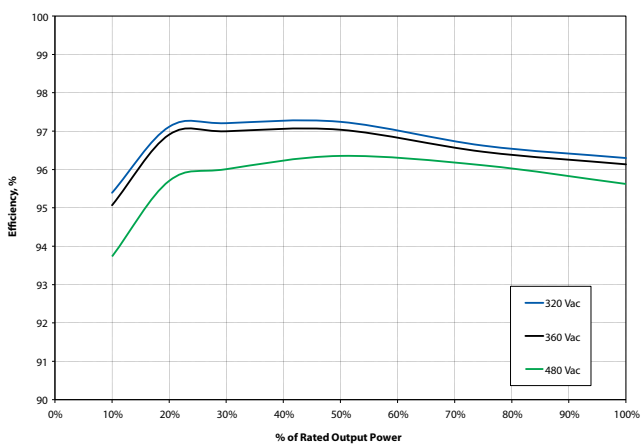
- Reduced susceptibility to a single fault. In case of a component failure, a maximum of 50kW will be lost
- Reduced acoustic noise due to the high switching frequency
- Outdoor enclosure for unrestricted use under any environmental conditions
- Maximum input voltage up to 600Vdc, high design flexibility and reduced DC distribution losses for large scale PV plants
- Integrated DC and AC distribution and protection. Fully equipped for connection, additional accessories not required
- Easy installation and maintenance procedure. Front extractible DC/AC converters and accessibility to all critical parts
- Two independent RS-485 communication interfaces - for inverter and intelligent string combiner monitoring
- High efficiency LV isolation transformer
- Integrated DC disconnect switch for each 50 kW module AC and DC side integrated protection (fuses and OVR) easily replaceable
- Integrated fuse grounding kit with ground-fault detection and interruption (GFDI) compliant to UL174

BLOCK DIAGRAM OF PVI-CENTRAL-300 WITH TRANSFORMER FOR NORTH AMERICA

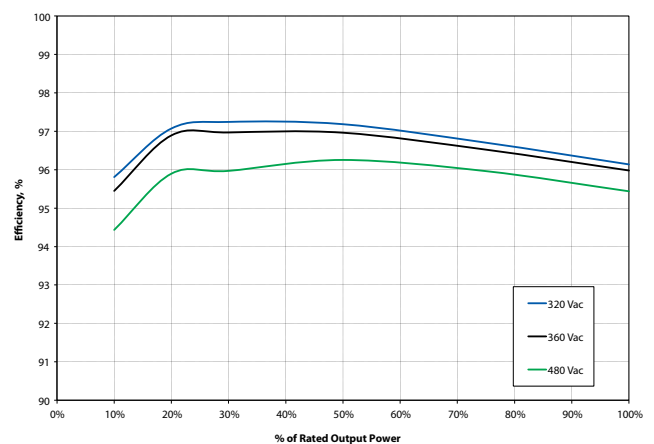


Block Diagram and Efficiency Curves

PVI-CENTRAL-250-US



PVI-CENTRAL-300-US



PARAMETER	PVI-CENTRAL-250-US	PVI-CENTRAL-300-US	PVI-CENTRAL-250-CAN	PVI-CENTRAL-300-CAN
Input Side				
Absolute Maximum DC Input Voltage (V _{max,abs})	600 V		600 V	
MPPT Input DC Voltage Range (V _{MPPTmin,r} ... V _{MPPTmax,r})	320...600 V		320...600 V	
MPPT Input DC Range (V _{MPPTmin,f} ... V _{MPPTmax,f}) at Full Power	320...550 V		320...550 V	
Number of Independent MPPT Multi - Master/Slave	3		3	
Maximum Combined DC Input Current (I _{dcmxc})	850 A	1020 A	850 A	1020 A
Maximum DC Input Current for Each Module (I _{dcmx,m})	170 A		170 A	
Number of DC Inputs Pairs	5	6	5	6
DC Connection Type	10 x 350 kcmil 90° / M10	12 x 350 kcmil 90° / M10	10 x 350 kcmil 90° / M10	12 x 350 kcmil 90° / M10
Input Protection				
Reverse Polarity Protection	YES, with series diode		YES, with series diode	
Input Over Voltage Protection - Varistor	Yes		Yes	
Photovoltaic Array Isolation Control	GFDI ⁽¹⁾ , According to UL 1741		GFDI ⁽¹⁾ , According to UL 1741	
Fuse Size for Each Input Pair	200A / 600V		200A / 600V	
Output Side				
AC Grid Connection Type	Three phases (Δ)		Three phases (Δ)	
Rated AC Power (P _{ac,r})	250 kW	300 kW	250 kW	300 kW
Rated Grid Voltage (V _{ac,r})	480 V	480 V	600 V	600 V
AC Voltage Range (V _{acmin} ...V _{acmax})	423...528 V		528...660 V	
Maximum Output Current (I _{ac,max})	315 A	378 A	253 A	303 A
Rated Frequency (f _r)	60 Hz		60 Hz	
Frequency Range (f _{min} ...f _{max})	59.3...60.5 Hz		59.3...60.5 Hz	
Power Factor (Cosφ _{iac,r})	> 0.995		> 0.995	
Total Harmonic Distortion	< 3% (@ P _{ac,r})		< 3% (@ P _{ac,r})	
AC Connection Type	3 x 350 kcmil 90° / M10		3 x 350 kcmil 90° / M10	
Output Protection				
Anti-Islanding Protection	According to UL 1741		According to UL 1741	
Output Overvoltage Protection (Varistor)	Yes		Yes	
Night Time Disconnect	Yes		Yes	
AC Circuit Breaker	Yes / 65 kA		Yes / 65 kA	
Operating Performance				
Maximum Efficiency (η _{max})	97.6%		97.6%	
Weithted Efficiency (η _{EURO} / η _{CEC})	97.6 / 97.2%		97.6 / 97.2%	
Stand-by Consumption/Night-time power loss	< 105 W	< 120 W	< 105 W	< 120 W
AC Auxiliary Supply	3 x 480 Vac, 50/60 Hz		3 x 480 Vac, 50/60 Hz	
Auxiliary Supply Consumption	< 0.30% of P _{ac,r}	< 0.35% of P _{ac,r}	< 0.30% of P _{ac,r}	< 0.35% of P _{ac,r}
Inverter Switching Frequency	9 kHz		9 kHz	
Communication				
Wired Local Monitoring	PVI-USB-RS485_232 (opt.)		PVI-USB-RS485_232 (opt.)	
Remote Monitoring	PVI-AEC-EVO (opt.), AURORA-UNIVERSAL (opt.)		PVI-AEC-EVO (opt.), AURORA-UNIVERSAL (opt.)	
AURORA String Combiner	PVI-STRINGCOMB (opt.)		PVI-STRINGCOMB (opt.)	
User Interface	TFT LCD 5.7"		TFT LCD 5.7"	
Environmental				
Ambient Temperature Range	-25...+60 °C / -13...+140°F with derating above 50°C / 122°F		-25...+60 °C / -13...+140°F with derating above 50°C / 122°F	
Relative Humidity	0...100 % condensing		0...100 % condensing	
Noise Emission	< 62 dB @ 1 m		< 62 dB @ 1 m	
Maximum Operating Altitude without Derating	1000 m / 3280 ft		1000 m / 3280 ft	
Physical				
Environmental Protection Rating	Nema 3R		Nema 3R	
Cooling	Air forced		Air forced	
Required Air Cooling Flow	7000 m³/h - 4130 CFM	8000 m³/h - 4720 CFM	7000 m³/h	8000 m³/h
Dimension (H x W x D)	2147mm x 2933mm x 1250mm / 84.5" x 115.7" x 49"3		2147mm x 2933mm x 1250mm / 84.5" x 115.7" x 49"3	
Weight	< 2495 kg / 5500 lb	2722 kg / 6000 lb	< 2495 kg / 5500 lb	2722 kg / 6000 lb
Weight of the module	< 70 kg / 154 lb		< 70 kg / 154 lb	
Safety				
Transformer	Yes		Yes	
Marking	cCSAus		cCSAus	
Safety and EMC Standard	UL 1741, CSA - C22.2 N. 107.1-01		UL 1741, CSA - C22.2 N. 107.1-01	
Grid Standard	IEEE 1547		IEEE 1547	

1. Ground Fault Detector Interrupter



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