

PVI-CENTRAL-250 PVI-CENTRAL-300

GENERAL SPECIFICATIONS

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.

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

Industry-leading power conversion efficiencies 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.

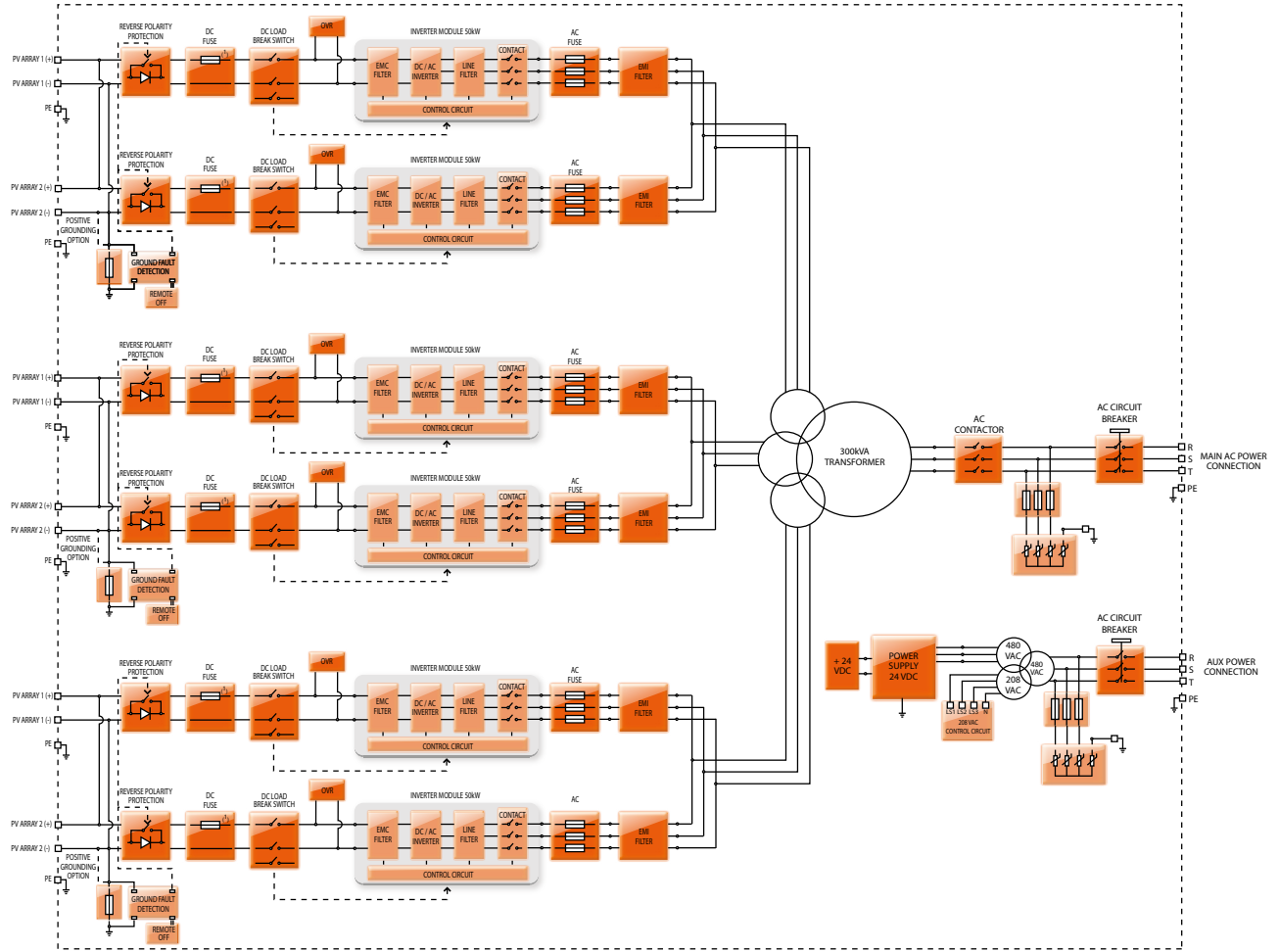
Three independent MPPT input channels offer maximum flexibility and energy harvesting.



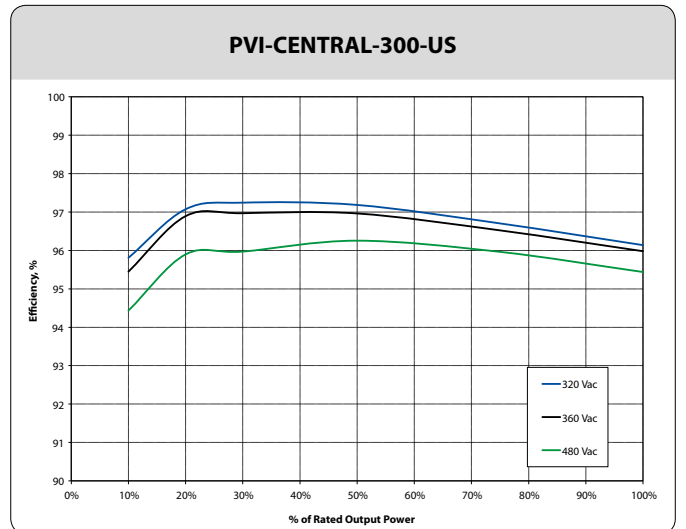
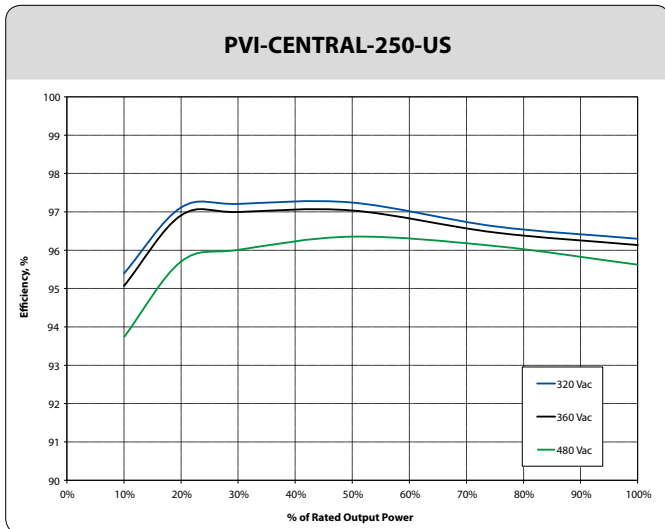
Features

- Reduced susceptibility to a single fault. In case of a component failure, a maximum of 50kW will be lost
- Reduced acoustic noise due to high switching frequency
- 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 UL1741

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



Block Diagram and Efficiency Curves



TECHNICAL DATA	VALUES	PVI-CENTRAL-250-US	PVI-CENTRAL-300-US	PVI-CENTRAL-250-CAN	PVI-CENTRAL-300-CAN
Nominal Output Power	kW	250	300	250	300
Input Side (DC)					
Absolute Maximum Voltage	Vdc	600		600	
MPPT Voltage Range	Vdc	320-600		320-600	
MPPT Range at Full Power	Vdc	320-550		320-550	
Max current per 50kW Inverter Module	Adc	170		170	
Maximum Combined Current	Adc	850	1020	850	1020
Number of Inputs		2x(100kW module) + 1x(50kW module)	3x(100kW module)	2x(100kW module) + 1x(50kW module)	3x(100kW module)
DC Connections		10 x 350kcmil 90°C terminals 9/16" stud with double lug 6-position ground block Front/ Rear		10 x 350kcmil 90°C terminals 9/16" stud with double lug 6-position ground block Front/ Rear	
Output Side (AC)					
Nominal Voltage (Range)		480(423-528) 3-phase/3W+Ground		600 (528-660) 3-phase/3W+Ground	
Grid Frequency (Range)	Hz	60(59.3- 60.5)		60(59.3- 60.5)	
Maximum Output Current	A _{rms}	315	378	253	303
Power Factor		>0.995		>0.995	
Total Harmonic Distortion (@P _{ac,R})	%	<3		<3	
Isolation Transformer		yes		yes	
AC Connection		2 Conductors/Phase (6x300kcmil) 90° terminals 9/16" threaded stud Front/ Rear		2 Conductors/Phase (6x300kcmil) 90° terminals 9/16" threaded stud Front/ Rear	
Protection Devices					
Input					
Reverse Polarity Protection		Yes, with series diode		Yes, with series diode	
Over Voltage Protection		Yes; varistor		Yes; varistor	
DC Switch for each input module	A/V	200/600		200/600	
Fuse size for each input pair	A/V	200/600		200/600	
PV Array Isolation Control		GFDI, according to UL 1741		GFDI, according to UL 1741	
Output					
Anti-Islanding Protection		Yes		Yes	
Overvoltage Protection		Varistor, Type 2 per UL 1449		Varistor, Type 2 per UL 1449	
AC Circuit Breaker (adj.)	kA	600 A, 65kA		600 A, 65kA	
Night Time Disconnect		Yes		Yes	
Efficiency					
CEC Efficiency	%	97		97	
Maximum Efficiency	%	97.6		97.6	
Operating Performance					
Stand-by consumption/Night-time power loss	W	<105	<120	<105	<120
Auxiliary Power Supply Connection Type		3 x 480 Vac, 50/60 Hz		3 x 480 Vac, 50/60 Hz	
Auxiliary Power Supply Consumption(@P _{ac,r})	%	< 0.30	< 0.35	< 0.30	< 0.35
Inverter Switching Frequency	kHz	9		9	
Environmental					
Ambient Temperature Range, Operating and Storage	°F/°C	-25 to +60 °C / -13 to +140°F with derating above 50°C / 122°F		-25 to +60 °C / -13 to +140°F with derating above 50°C / 122°F	
Noise Emission Level	dBa@1m	< 62		< 62	
Maximum Operating Altitude without Derating	ft/m	3280 /1000		3280/1000	
Relative Humidity	%	0-95 noncondensing		0-95 noncondensing	
Communication					
Wired Local Monitoring (1 X RS-485)		PVI-USB-RS485_232 (opt.)		PVI-USB-RS485_232 (opt.)	
Remote Monitoring (1 X RS-485)		AURORA-UNIVERSAL (opt.)		AURORA-UNIVERSAL (opt.)	
AURORA String Combiner (1 X RS-485)		PVI-STRINGCOMB-US (opt.)		PVI-STRINGCOMB-US (opt.)	
User Interface		Touchscreen LCD 5.7"		Touchscreen LCD 5.7"	
Mechanical Specifications					
Environmental Protection Rating		NEMA 3R		NEMA 3R	
Cooling		Forced Air		Forced Air	
Required Air Cooling Flow	CFM/(m ³ /h)	4130/(7000)		4130/(7000)	
Dimension (HxWxD)	in/mm	84.5 x115.7x49.3 2147x2933x1250		84.5x115.7x49.3 2147x2933x1250	
Unit Weight	lb/kg	5500/2495	6000/2722	5500/2495	6000/2722
Weight of the 50 kW swappable module	lb/kg	154 / 70		154 / 70	
Safety					
Marking		cCSA _{US}		cCSA _{US}	
Safety and EMC Standard		UL 1741, CSA - C22.2 N. 107.1-01		UL 1741, CSA - C22.2 N. 107.1-01	
Utility Interconnect Standard		IEEE 1547		IEEE 1547	
Warranty					
Standard Warranty	Years	5		5	
Extended Warranty	Years	10,15,20		10,15,20	



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