



POWERGATE™ Photovoltaic 50kW Power Converter System

SatCon's **PowerGate™** power converter for photovoltaic applications (AE-PV Series), available in both 208 Volt and 480 Volt versions is a 50 kW grid-tie interactive inverter designed to convert power generated by PV arrays into utility grade power for export to the utility grid.

PowerGate™ AE-PV Series Features

- Fully integrated system, Complete electrical conversion installation in one box
- Intelligent wake up and sleep algorithms at dusk and dawn squeeze out maximum kWhr exported
- Use of film capacitors increases life up to four times over electrolytic capacitors used by others
- Low sleep mode power consumption increases net energy delivered to the grid
- Field wiring compartments reduce installation time and cost. No field interconnect between components
- Filtered top air entry/bottom exhaust reduces debris blockage
- Soft charge network limits AC inrush on system wake up
- Highest overall efficiency available on the market today
- Wider input Voltage range
- Highly accurate peak power tracking, revises every line cycle
- Smaller overall system footprint
- DC Contactor quickly isolates any faults that may occur on PV cabling.
- AC Line contactor isolates high efficiency transformer from the grid in sleep mode
- Full system monitoring and protection via front panel display and RS232/485 communication port.
- Discharge contactor removes stored energy on DC bus for customer safety
- Sloped roof prevents standing water
- Top, and side cable entries

System Includes:

- High efficiency isolation transformer
- Input fused disconnect & contactor
- AC line breaker & contactor
- Generating Power indicator
- Keypad with alpha-numeric four-line display
- Top lifting eye-bolts
- DC surge protection



SatCon's power converter software has been UL1741 certified for a number of grid-connect alternative energy applications. The AE-PV **PowerGate™** series power converter is designed to meet the requirements of IEEE1547 is UL 1741 certified and CEC listed. This ensures safe, reliable grid connection with **PowerGate's™** certified software for anti-island detection.



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Model AE-50-60-PV-A Specifications:

Rated output:	50 kW
AC Rated Voltage:	480 Volts AC +/-10%, 3 ph. 60Hz
AC Rated Current:	60 Amps, 0.99pf Lag
AC Breaker Interrupt:	25kA @ 480Vac
Nominal DC:	400 Volts, 175Amps max with programmable current limit
Min DC input for Rated kW:	330 Vdc worst case, 300Vdc @ nom. line
Power Tracking Window:	270 to 660 VDC
Current Harmonics:	<3% THD
Min Power for Wake/Sleep:	500W
Peak Inverter Efficiency:	96.0%
Peak System Efficiency:	94.5%
Max. Heat Dissipation	2.75kW at 50kW delivery
Enclosure type:	NEMA 1 and NEMA 3R, Seismic Zone 4, 11 gauge steel
Dimensions: (h x w x d)	1780 x 1020 x 610 mm (70 x 40 x 24in)
Weight:	1800lbs, 820kg
Humidity: (relative)	95% (non-condensing)
Ambient Temp:	-20 to +50°C (-4 to 122°F) @ 6000ft.
Storage Temp:	-40 to 85°C (-40 to 185°F)
Array Configuration:	Monopole grounded (See Other Options)
AC Line Terminals	M10 (3/8") h/w on 1" Bus
DC Terminals	200MCM-#2
Certification:	UL 1741 certification and CEC listed
Listings:	CEC listed & approved system metering

Standard Features
Maximum peak power tracking
Overload on temperature permit
DC & AC voltage surge protection
Adjustable DC ground fault
Event log in non volatile memory
NC contact for AC line breaker trip
Automatic:
Wake up / sleep sequencing
Grid synchronization
Reconnect on grid restoration
Local & Remote Monitoring:
Grid status
DC input power
DC input voltage
DC input current
Line kVAR
Line kW
Line kVA
Line kWhr.
Power Factor
Three Line to Neutral Voltages
Three Line + Neutral Currents
Protection & Diagnostics:
Emergency stop
Control & power supply fault
Inverter over current
Input Over Voltage
Door open
Fan fault
Blown Fuse
Contact Fault
Magnetics Over Temperature
Inverter Over Temperature
Line over/under voltage & frequency
Line & Neutral over current
Gating fault
Options:
3 p fused combiner. (-ve gnd.)
Various external combiners
2 pole DC disc. (Floating or center grounding available)
50 Hz & various line voltages
Condensation limiting heater
Higher Breaker interrupt ratings
CE certification
Consult factory for other options

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