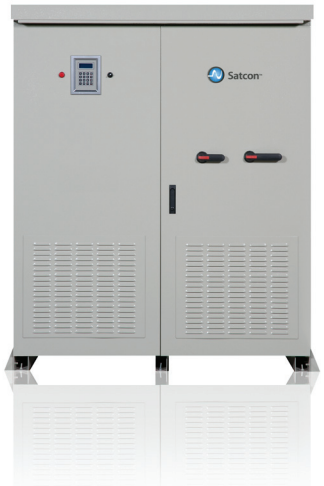
PowerGate Plus 135 kW UL

PVS-135-UL

Satcon PowerGate Plus PV inverters are the world's most widely deployed solutions, powering many of the largest commercial and utility-scale solar installations.



Advanced Performance

With their advanced system intelligence, next-generation EDGE® MPPT technology, and industrial-grade engineering, PowerGate® Plus inverters maximize system uptime and power production, even in cloudy conditions.

Utility-Ready Features

- Open communication protocol, compatible with virtually any third-party monitoring system and easily integrated into SCADA systems allowing fast communications
- Remote control of real and reactive power
- Low-voltage ride through
- Power factor control
- Simplified grid interconnection

EDGE MPPT

- Provides rapid and accurate control that boosts PV plant kilowatt yield
- Provides a wide range of operation across all photovoltaic cell technologies

Printed Circuit Board Durability

- Conformal coated to withstand extreme humidity and air-pollution levels

Profitable PV Power

The Satcon® PowerGate® Plus 135 kW PV inverters have a significant impact on the profitability dynamic of large-scale solar PV systems. With its system intelligence, next-generation EDGE® MPPT technology and industrial-grade engineering, the PowerGate Plus 135 kW inverters maximize system uptime and power production, even in the harshest environments.

Advanced, Rugged, and Reliable

Engineered from the ground up to meet the demands of large-scale installations, Satcon PV inverters feature an outdoor-rated enclosure, advanced monitoring and control capabilities and EDGE, Satcon's next-generation MPPT solution.

Proven Performance

The proven leader in solar PV inverter solutions for commercial installations, Satcon sets the standards for efficient large-scale power conversion.

Increased PV Plant Yield

At the heart of PowerGate Plus is EDGE, Satcon's next-generation power optimization solution. With rapid and accurate MPPT control, EDGE increases PV plant kWh yield by extending the production window of arrays, enabling them to operate at optimal voltage and current levels for longer periods of time—even in varied sun conditions. To maximize efficiency, EDGE improves the performance of all PV technologies, including fixed and tracking solar arrays, enabling you to get the most from your investment.

Satcon®

Utility-Ready Solar Inverters

PowerGate Plus 135 kW UL

Streamlined Design

With all components encased in a single, space-saving enclosure, PowerGate Plus PV inverters are easy to install, operate and maintain.

Rugged Construction

- Engineered for outdoor environments
- Wide thermal operating range: from -4° F to +122° F (-20° C to +50° C) without derating
- Solar shield attached to exterior of enclosure dissipate solar radiation, reduce heat buildup
- Redundant cooling fans
- Single cabinet with small footprint

Easy Maintenance

- Modular components make service efficient
- Convenient access to all components
- Customizable large in-floor cable gland plates make installation of DC and AC cables easy
- Integrated DC two-pole disconnect switch isolates the inverter, with the exception of the GFDI (Ground Fault Detection and Interruption) circuit, from the photovoltaic power system to allow inspection and maintenance

Proven Reliability

Rugged and reliable, PowerGate Plus PV inverters are engineered from the ground up to meet the demands of large-scale installations.

Safety

- UBC seismic Zone 4 compliant
- Built-in DC and AC disconnect switches
- Protective covers over exposed power connections

Output Transformer

- Provides galvanic isolation
- Matches the output voltage of the PV inverter to the grid

PowerGate Plus 135 kW Specifications		UL/CSA		
Input Parameters				
Input Voltage Range		310-600 VDC	320-600 VDC	310-600 VDC
Maximum Array Input Voltage		600 VDC		
Maximum Operating Input Current[1]		454 ADC	440 ADC	454 ADC
PV Array Configuration	Negative Ground	•		
	Positive Ground	•		
DC Input Combiner Options				
Combiner Bus Bar Inputs	•	9		
Number of Inputs and Fuses	○ ○	5 x 160A 9 x 100A		
Transformer				
Integrated Transformer[2]		Yes		
Efficiency				
Maximum[3]		96.5%	96.6%	96.7%
CEC		96%		
Output Parameters				
Nominal Power		135 kW		
Nominal Output Voltage		208 VAC	240 VAC	480 VAC
Output Voltage Range, [-12%/10%]		183-229 VAC	211-264 VAC	422-526 VAC
Maximum Output Current/Phase		375 A	325 A	163 A
Standby Consumptions (tare losses including control power and aux.)		63 W	64 W	63 W
Nominal Output Frequency, 3-Phase		60 Hz		
Maximum Harmonic Distortion		<3% THD		
Power Factor, Full Load		>99%		
Dynamic Power Factor Control		+/- 0.8		
Power Curtailment		0-100%, 1% steps		
Environment				
Operating Temperature Range (Nominal Power)		-4° F to +122° F (-20° C to +50° C) (Opt. -40° C to +50° C)		
Storage Temperature Range		-22° F to +158° F (-30° C to +70° C)		
Cooling		Forced Air		
Noise Level (Distance of 3 m)		<65 dB(A)		
Relative Humidity (Non-Condensing)		up to 90%		

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Utility-Ready Solar Inverters

PowerGate Plus 135 kW Specifications	UL/CSA
Enclosure	
Dimensions (H x W x D)	80 x 65 x 31 in. (203 x 165 x 78 cm)
Weight[4]	2,684 lbs. (1220 kg)
Finish	RAL 7032
Protection Rating	NEMA 3R/IP44
Warranty and Services	
Five Year Warranty	•
Extended Warranty (1 and 5 year increments)	○
Preventative Maintenance Agreement	○
Uptime Guarantee[5]	○
Design Services	○
APEX Project Management	○
Communication Interface	
Modbus RS485	•
Modbus TCP/IP	○
Monitoring	
PV View Plus	○
PV Zone	○
Third-Party Compatibility	•
Regulations and Standards Conformity	
UL1741, CSA 107.1, IEEE 1547, IEEE C62.41.2, IEEE C62.45, IEEE C37.90.1, IEEE C37.90.2	•
UBC Zone 4 Seismic Rating	•

• Standard / Standard Option
○ Optional

[1] Calculated at nominal power and minimum DC voltage.
[2] The 20% boost tap on the isolation transformer increases the AC voltage output range for applications where the solar array DC operating voltage is at or near the lower end of the DC input range. This boost allows for continued inverter operation at lower DC voltage input levels.
[3] Calculated with auxiliary power.
[4] Dependent on options selected.
[5] Requires Preventative Maintenance Agreement.

NOTE: All specifications are subject to change.

Output Options

PowerGate Plus 135 kW	
UL/CSA	208 VAC Output
	240 VAC Output
	480 VAC Output

Power Efficiency

Power Level	Efficiency*
10%	92.9%
20%	95.8%
30%	96.5%
50%	96.7%
75%	96.5%
100%	96.2%

* 480V model

Energy Equity Protection (EEP)

Satcon provides a wide range of optional value-added services to protect your investment across the entire lifecycle of your project.

Design Services

Satcon's Design Services organization can guide you through all phases of project development using our broad experience and engineering skills.

APEX Project Management

Satcon APEX™ Project Management ensure that your project comes in on time and on budget.

- Project planning
- Logistics
- Project supervision
- Mitigating risk, maximizing ROI

Warranty and Services

- Help desk
- Training programs
- Support services
- Extended warranty
- Preventative maintenance plans
- 99% Uptime Guarantee

PowerGate Plus Options

- Satcon Smart Subcombiners: Intelligent string monitoring
- Fused input combiners
- Satcon communication card: CCM Gateway
- Weather station
- PV View Plus monitoring system
- PV Zone

www.Satcon.com

Please visit Satcon's Resource Library for additional tools and product information, including:

- Satcon's product configurator
- Satcon's string sizing calculator
- Training and support resources:
  - On-demand video training
  - Articles, white papers and case studies

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