

PowerGate Plus 500 kW CE

PVS-500-CE

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 500 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 500 kW inverters maximize system uptime and power production, even in the harshest environments.

Advanced, Rugged, and Reliable

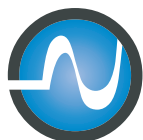
Engineered from the ground up to meet the demands of large-scale installations, Satcon PV inverters feature an outdoor-rated enclosure, advanced monitoring and control capabilities and EDGE, Satcon's next-generation MPPT solution.

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 500 kW CE

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 -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

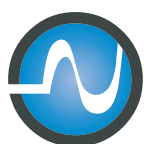
Proven Reliability

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

PowerGate Plus 500 kW Specifications		CE
Input Parameters		
Input Voltage Range		420-850 VDC
Maximum Array Input Voltage		900 VDC
Maximum Operating Input Current ¹		1228 ADC
PV Array Configuration	Floating	•
	Negative Ground	•
	Positive Ground	•
DC Input Combiner Options		
Combiner Bus Bar Inputs	•	20
Number of Inputs and Fuses	○	20 x 160 A
	○	20 x 125 A
	○	20 x 100 A
Transformer		
Integrated Transformer		No
Efficiency		
Maximum ²		97,9%
European – Eta		97,3%
Output Parameters		
Nominal Power		500 kW
Nominal Output Voltage		265 VAC
Output Voltage Range, [-12%/10%]		233-292 VAC
Maximum Output Current/Phase		1090 A
Standby Consumptions (tare losses including control power and aux.)		170 W
Nominal Output Frequency, 3-Phase		50 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)		-20° C to +50° C
Storage Temperature Range		-30° C to +70° C
Cooling		Forced Air
Noise Level (Distance of 3 m)		<65 dB(A)
Relative Humidity (Non-Condensing)		up to 90%
Maximum Altitude without Derating		4000 m



Satcon[®]
Utility-Ready Solar Inverters

PowerGate Plus 500 kW Specifications	CE
Enclosure	
Dimensions (H x W x D)	235 x 391 x 109 cm
Weight ³	2810 kg
Finish	RAL 7032
Protection Rating	IP44 (Outdoor Rated)
Warranty and Services	
Five Year Warranty	•
Extended Warranty (1 and 5 year increments)	◦
Preventative Maintenance Agreement	◦
Uptime Guarantee ⁴	◦
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	
CE mark, Low Voltage Directive 2006/95/EC, EMC Directive 2004/108/EC, EN 50178, EN 62116, EN 62093, IEC62109-1	•
GB/T19939, CNCA/CTS0004	•
UBC Zone 4 Seismic Rating	•
Advanced Grid Support (Incl. LVRT/BDEW) Option ⁵	◦*
RD 1663/2000	•
ENEL Connection Guidelines	•

- Standard / Standard Option
- Optional

* Preliminary data.

¹ Calculated at nominal power and minimum DC voltage.

² Calculated with auxiliary power.

³ Dependent on options selected.

⁴ Requires Preventative Maintenance Agreement.

⁵ LVRT Enabled Through EDGE ACA™

NOTE: All specifications are subject to change.

EDGE ACA™ Features:

- LVRT: More rugged PLL enables ride through to 0.0 VAC. Meets a multitude of LVRT profiles including BDEW 2008
- Power Factor Control
- Automatic power ramp rates
- Frequency response/regulation
- Automated voltage control/VAR injection
- Frequency Ride Through
- Automatic Voltage Regulation at POI with site controller
- Power Curtailment
- Communication flexibility via Fiber Optics, RS-485, RS-232, CAN BUS, and built in Ethernet hardware
- Scalability to meet growing grid support requirements via SD flash drive and abundant I/O ports
- Proprietary PWM building block allows advanced switching algorithms for power quality control

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.

Warranty and Services

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

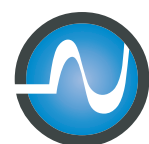
PowerGate Plus Options

- 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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