Satcon
EQUINOX™

Satcon 500 kW Equinox Solution

Peak Efficiency of 98.5%*

Power Efficiency without Transformer

Power Level (%)	Output Power (kW)	Efficiency (%)
10	50	96.9
20	100	98.0
30	150	98.2
50	250	98.1
75	375	98.0
100	500	97.8

Note: Values shown at 425 VDC

Equinox is offered with three extreme climate packages to meet your particular application needs:

Equinox Desert Package:

Allows best in class operating temperatures up to 55°C[1] at full power

NEMA 3R/IP54 dust protected enclosure provides resistance against blowing sand particles

Equinox Tropical Package:

NEMA 3R/IP54 weather resistant enclosure provides protection against heavy rainfall

Corrosion resistance in harsh salt environments

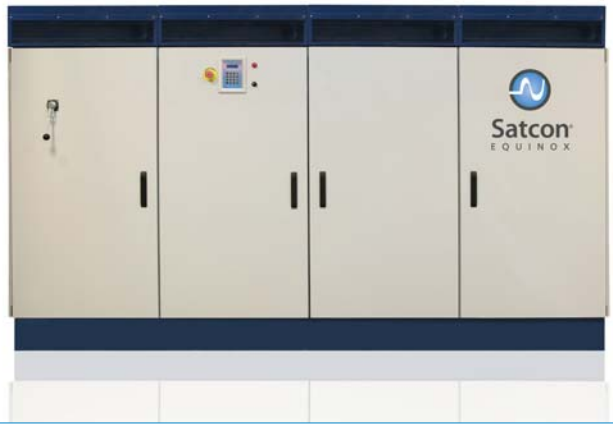
Equinox Cold Weather Package:

NEMA3R/IP54 enclosure provides protection against sleet, snow and is undamaged by external formation of ice

Operates in cold climates down to -40°C[1]

[1] with additional option packages

PV Inverters | Equinox 500 kW



Best in Class Peak Efficiency of 98.5%*

Profitable PV Power

The Satcon™ Equinox™ 500 kW PV inverter has a significant impact on the profitability dynamic of large-scale solar PV systems. With its unparalleled system intelligence, next-generation Edge™ MPPT technology, and industrial-grade engineering, the Equinox 500 kW inverter maximizes system uptime and power production, even in the harshest environments.

Commercial and Utility Scale

The world's largest solar power installations depend on Satcon Equinox PV inverters to provide efficient and stable power—even in the harshest climates.

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 in the Widest Range of Environments

Equinox, Satcon's next generation inverter design, features best in class efficiency (98.5%) combined with three extreme climate packages to provide you with the highest levels of system performance and uptime and the utility scale solar industry's widest thermal operating range.

Equinox comes complete with a NEMA 3R/IP54 enclosure and is available in three separate climate packages in order to deliver you optimal yield in the solar industry's widest range of environments:

Equinox Desert Package

Designed to maximize total system power production in extreme heat and airborne contaminants, the Equinox Desert Package offers best in class operating temperatures up to 55°C[1] at full power, and protection against blowing sand.

Equinox Tropical Package

The Equinox Tropical Package delivers the same high temperature operating range along with the industry's leading ruggedized outdoor rated enclosure that protects against heavy rainfall and provides corrosion resistance in harsh salt environments.

Equinox Cold Weather Package

The Equinox Cold Weather package provides protection against sleet, snow and ice, with an optional operating temperature down to -40°C.

* preliminary

Satcon EQUINOX™

Satcon 500 kW Equinox Solution

AC Side System Value

- Control of real and reactive power
- Remote system restart
- Controllable ride-thru
- Dynamic VAR generation

Proven Reliability

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

Low Maintenance

- Modular components make service efficient
- Dual cooling fans

Safety

- UBC Seismic Zone 4 compliant
- Built-in DC and AC disconnect switches
- Integrated DC two-pole disconnect switch isolates the inverter (with the exception of the GFDI circuit) from the photovoltaic power system to allow inspection and maintenance
- Protective covers over exposed power connections

Streamlined Design

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

Single Cabinet with Small Footprint

- Convenient access to all components
- Large in-floor cable glands make access to DC and AC cables easy

Rugged Construction

- Engineered for outdoor environments

Output Transformer

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

Quiet Operation

- 65 dB(A) standard

Satcon Equinox 500kW Specifications			UL/CSA	CE
Input Parameters				
Maximum Array Input Voltage	600 VDC		•	
	900 VDC			•
PV Array Configuration	Positive Ground		o	o
	Negative Ground		•	o
	Floating		o	•
Input Voltage Range, MPPT	320 VDC - 600 VDC		•	
	420 VDC - 850 VDC			•
Maximum Input Current	1,628 ADC/1,565 ADC		•	
	1,228 ADC		o	•
Output Parameters				
Native Output Voltage (non-transformer)	200 VAC/208 VAC		•	
	265 VAC		o	•
Nominal Output Voltage (transformer)	480 VAC		•	
	400 VAC			•
Output Voltage Range (L-L)	200 VAC/ 208 VAC	176-220 VAC/ 183-229 VAC	•	
	480 VAC	422-528 VAC	•	
	265 VAC	233-292VAC	o	•
	400 VAC	352-440 VAC		•
Output Frequency Range	59.3-60.5 Hz		•	
	49.3-50.5 Hz			•
Nominal Output Frequency	60 Hz		•	
	50 Hz			•
Max Output Current/Phase	200 VAC/ 208 VAC	1,443 A/ 1,388 A	•	
	480 VAC	601 A	•	
	265 VAC	1,090 A	o	•
	400 VAC	722 A		•
Peak Efficiency		**98.5%***		
CEC-Weighted Efficiency (w/xfmr)		96.5%		
CEC-Weighted Efficiency (w/o xfmr)		97.5%		
European Efficiency (w/o xfmr)		97.5%		
Max Continuous Power Output		500kW (KVA)	•	•
Tare Losses	200/208 VAC	180W	•	
	480 VAC	140 W	•	
	265 VAC	180W	o	•
	400 VAC	140 W		•
Power Factor @ Full Load		>0.99	•	•
Harmonic Distortion		< 3% THD	•	•

• Standard
o Optional

* preliminary
Note: Specifications are subject to change.

Satcon EQUINOX™

Satcon 500 kW Equinox Solution

Output Options

Equinox 500 kW	
UL/CSA	208 VAC
	480 VAC
CE	265 VAC
	400 VAC

Satcon Equinox 500kW Specifications		UL/CSA	CE
Temperature			
Operating Temperature Range (Full Power)	-40˚ C to 55˚ C[1]	•	•
Storage Temperature Range	-30˚ C to +70˚ C	•	•
Cooling	Forced air	•	•
Noise			
Noise Level	<65 dB(A)	•	•
Inverter DC Combiner			
Number of Inputs and Fuse Ratings	20x(160 A)	•	
	30x(100 A)	•	
	20x(100 A)		•
	20x(125 A)		•
Inverter Cabinet			
Cabinet Finish	RAL 7035	•	•
Hood and Base Trim Finish	RAL 5001	•	•
Cabinet Dimensions	82.8" H x 159.5" W x 31.5" D	•	
	210.3cm H x 405.1cm W x 80.0cm D		•
Cabinet Weight	4,500 lb	•	
	2041 kg		•
Enclosure Rating	NEMA 3R/IP54	•	•
Transformer			
Integrated Internal Transformer		•	•
Low Tap Voltage[2]	20%	•	•
Testing and Certification			
UL1741, CSA 107.1-01, IEEE 1547, IEEE C62.41.2, IEEE C62.45, IEEE C37.90.1, IEEE C37.90.2		•	
CE Certification (IEC 62109-1, EN 61000-6-2, EN 61000-6-4, DIN V VDE V 0126-1-1, DIN V VDE V 0126-14-1)			•
UBC Zone 4 Seismic Rating		•	•

• Standard
○ Optional

[1] with additional option packages
[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.

Note: Specifications are subject to change.

Satcon Corporate
27 Drydock Avenue
Boston, MA 02210
P: +1.617.897.2400
F: +1.617.897.2401
E: sales@satcon.com

Satcon West
2925 Bayview Drive
Fremont, CA 94538
P: +1.510.226.3800
F: +1.510.226.3801
E: sales@satcon.com

Satcon Canada
835 Harrington Court
Burlington, ON L7N 3P3
Canada
P: +1.905.639.4692
F: +1.905.639.0961
E: sales@satcon.com

Satcon Greece
Athanasiou Diakou 2 &
Marathonas Ave
Gerakas 15344
Greece
P: +30.210.6654424
F: +30.210.6654425
E: sales@satcon.com

Satcon Czech Republic
Classic 7 Business Park
Jankovcova 1037/49
170 00 Praha 7
Czech Republic
P: +420.255.729.610
F: +420.255.729.611
E: sales@satcon.com

Satcon Shenzhen China
Room 1112, 11/F, International
Chamber of Commerce,
No. 168 FuHua San Road,
FuTian District, Shenzhen, P.R.C.
518048
P: +86.755.6168.2588
F: +86.755.6168.2599
E: sales@satcon.com

Satcon Shanghai China
Room 2308, 23/F, New
HongQiao Center Building,
No. 83 LouGuanShan Road,
Changning District,
Shanghai, P.R.C.
P: +86.139.1811.2818
E: sales@satcon.com

EQ500210.1