SATCON Power Systems

POWERGATE®

30 & 50 kW Photovoltaic Inverters

PowerGate™ inverters offer market-leading reliability, efficiency and ease-of-use for large-scale grid-connected photovoltaic systems. A single-enclosure solution, the utility-grade PowerGate™ incorporates a high-efficiency transformer and both AC and DC switchgear that disconnect the inverter at night, minimizing tare losses. A highly efficient MPPT tracking algorithm and intelligent wake-up routine further maximize net energy harvest. The PowerGate™ is certified to UL-1741 and is available with a variety of local and remote data monitoring options.

Utility-Grade Design

20-year design life • Reverse convection top-air entry • Sloped roof • 25-year film-type capacitors • 5-year standard warranty • Extended warranties available

Easy Installation and Use

Single enclosure minimizes field wiring • Integrated high-efficiency transformer • Optional integrated sub-array combiner • Internal AC and DC switchgear • Top and bottom cable entry • Top-lifting eye-bolts and forklift base

Superior Energy Harvesting

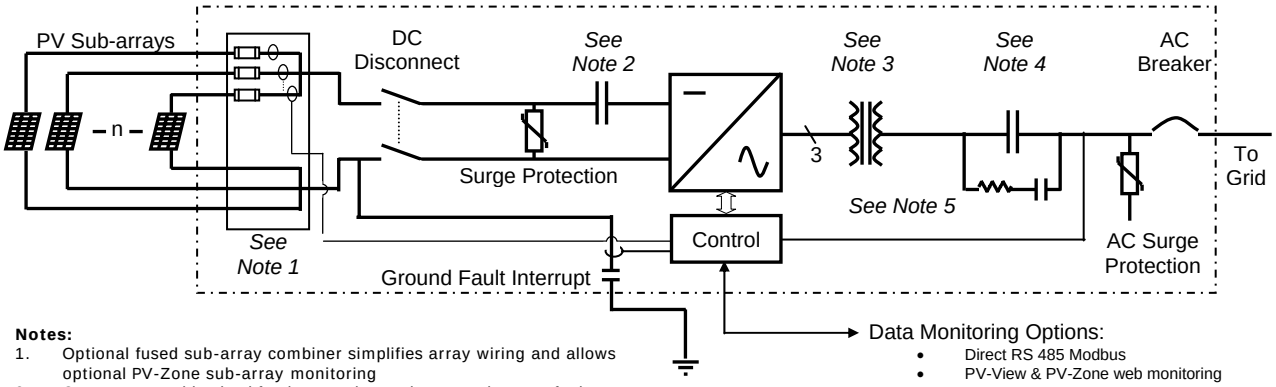
Industry leading efficiency • Automatic night disconnect minimizes transformer losses • High-speed MPPT • Soft charge network minimizes in-rush current and nuisance trips • Wide input voltage range

Remote and Local Data Monitoring

4-line alphanumeric LCD display • Optional *PV View* web enabled data monitoring • Optional *PV Zone* sub-array performance monitoring • RS485 Modbus

Safety

Certified to UL 1741 • Integrated DC contactor for array isolation • Surge withstand testing to ANSI 62.41 and IEEE1547-2003



Notes:

1. Optional fused sub-array combiner simplifies array wiring and allows optional PV-Zone sub-array monitoring
2. Contactor provides backfeed protection and automatic array fault isolation
3. Integrated high-efficiency transformer
4. Integrated AC contactor opens at night and minimizes standby losses
5. Pre-charge circuit minimizes in-rush current and nuisance trips

Specifications – Model Specific

Power (kWac)	30				50		
Model #	AE-30-60-PV				AE-50-60-PV		
Voltage Suffix	D	F	E	A	D	F	A
AC Output Voltage (L-L Vac)	208	240	120/240	480	208	240	480
Nom Current/Phase (Amps)	84	73	125	36	139	121	60
Max Fault Current/Phase (Amps)	100	90	156	45	175	152	75
CEC Efficiency (%)	92.5	NA	93	93	94.5	93	93
Nominal DC Current (Amps)	96				160		
Optional PV Sub- Array Combiner (# of fused strings)	3 x 75 Amps				3 x 100 Amps		
Max. Weight (lbs) [kg]	1300 [591]				1778 [808]		
Max Heat Dissipation (kBTU/hour)	7.16				9.3		

Specifications – All Models

Nominal MPP DC range (Vdc)	330-600
Max MPPT Range (Vdc)	295-600 (Note)
Max Voc (Vdc)	600
Nom. Frequency Range (Hz)	59.5 - 60.5
AC Voltage Range Setpoints (%)	+/- 10
Power Factor	1
Harmonic Distortion (% THD)	<3
Peak Efficiency (%)	95-97
Cooling	Fan Forced
Noise level (dBA)	<65
Ambient Temp. range (degC)	-20 to 50
Max amb. temp. at Pnom (degC)	50
Enclosure rating	NEMA 3R
Enclosure Construction	11 gauge Powder Coated Steel - Seismic Zone 4

Relative humidity(%)	95
Altitude (ft) [m]	6000 [1830]
Display	LCD 4 Line x 20
Computer interface / type	RS232, RS485
Communicaton Protocol	Modbus
Standard Warranty	5 Year
Certification	UL 1741
Compliances	IEEE 929, 1547, 519, ANSI 62.41

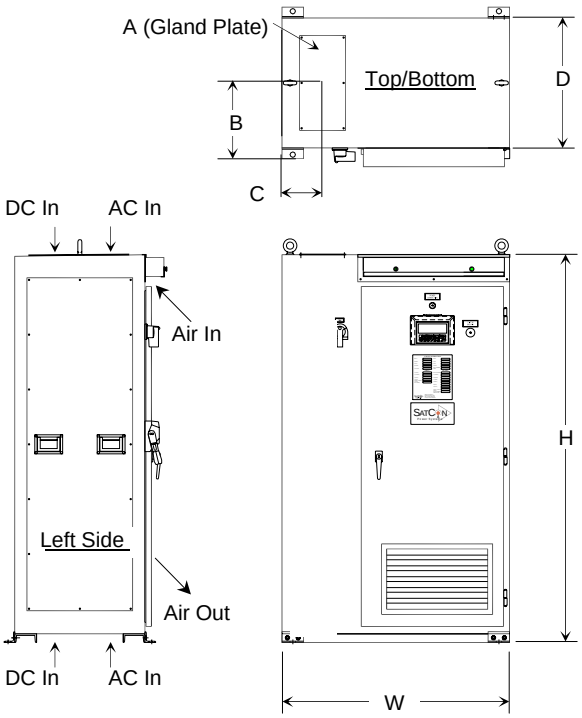
Optional Features

PV View® Remote Monitoring
PV Zone® Sub-Array Monitoring
Environmental monitoring
External revenue grade meter

Note: To achieve 295 volts “Low tap” must be specified at time of order. Unit will derate if grid voltage is < nominal.

Enclosure Layout and Dimensions

	30kW except 120/240 Vac	50kW and 30 kW 120/240
HxWxD (in) [mm]	59.63x38x28 [1515x965x711]	71.63x40x24 [1820x1016x610]
Top Gland Plate		
A (in) [mm]	20x7 [508]	16x7 [407x178]
B (in) [mm]	14 [356]	12 [305]
C (in) [mm]	7.5 [191]	7.5 [191]
Bottom Gland Plate		
A (in) [mm]	18x5 [457x127]	14x5 [356x127]
B (in) [mm]	14 [356]	12 [305]
C (in) [mm]	3.5 [89]	3.5 [89]



All specifications and drawings subject to change without notice.