



Gamesa Electric Stor 3X series – PCS Battery Inverters

Maximum efficiency
for utility-scale projects



TDHi <1%




One-way efficiency 99.45%

Outdoor solution

High DC short-circuit capacity



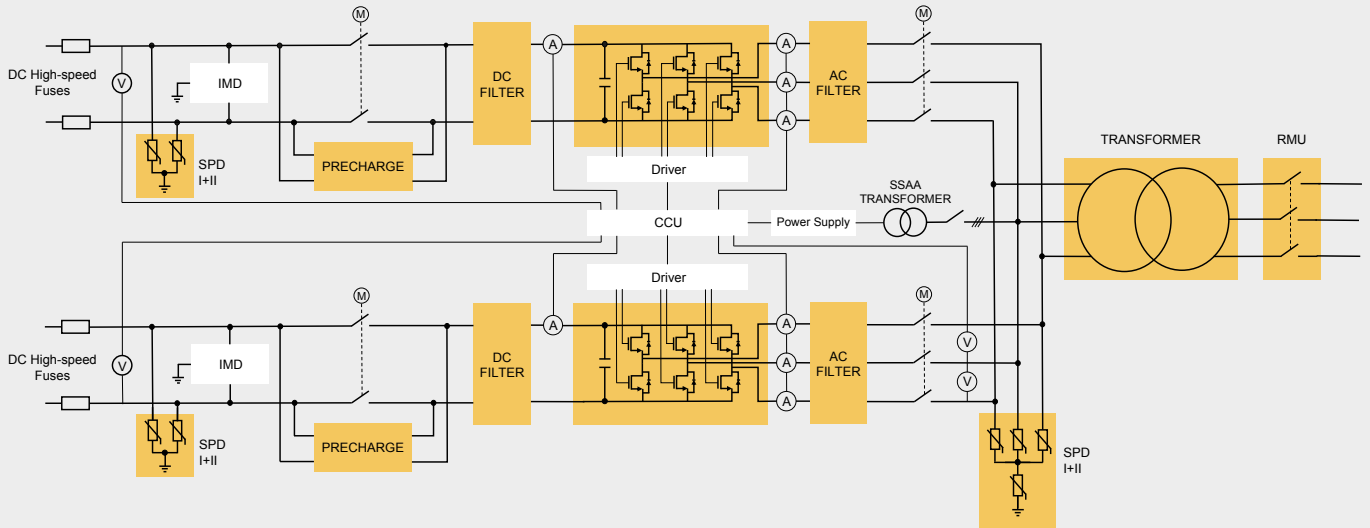
Gamesa Electric Stor 3X series – PCS Battery Inverter

	High Round Trip Efficiency (RTE)	Market leading efficiency of up to 99.45%, improving the overall system RTE and LCoS	Smart liquid/air cooling system that allows critical components to work at temperature level far below their limits, guaranteeing longer product lifespan and lower thermal losses	Enhanced temperature derating: keeping full power up to 40°C [104°F]
	Grid connection	Four quadrant operation for full active and reactive power support to comply with the most demanding grid codes	Weak grid and micro-grid configuration with a seamless transition and black start capabilities	Fast frequency control mode
	Battery oriented	Safety centered design with instantaneous controls and monitoring both hard-wired and through communication protocols	Double power module topology for two independent battery connections allowing for much higher DC short-circuit currents and increased system availability	Battery agnostic design to accommodate different battery technologies, including: li-ion, lead-acid, flow and others

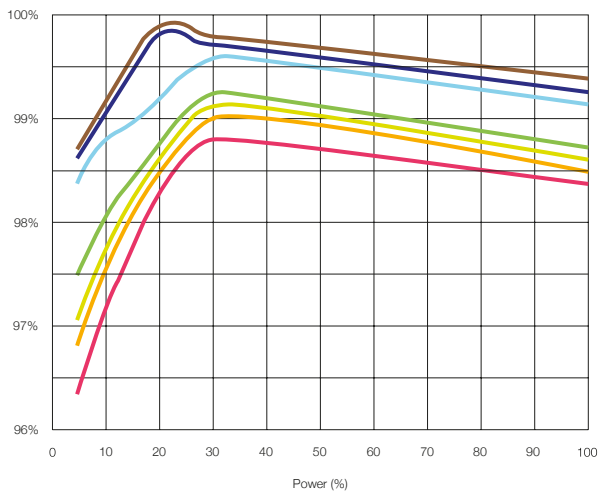


The Gamesa Electric Stor PCS 3X series combines a market leading efficiency, superior compactness and high reliability, all for a minimum LCoS.

Different product configurations available to optimize performance in demanding environments as well as different voltage levels to fit customers' needs.



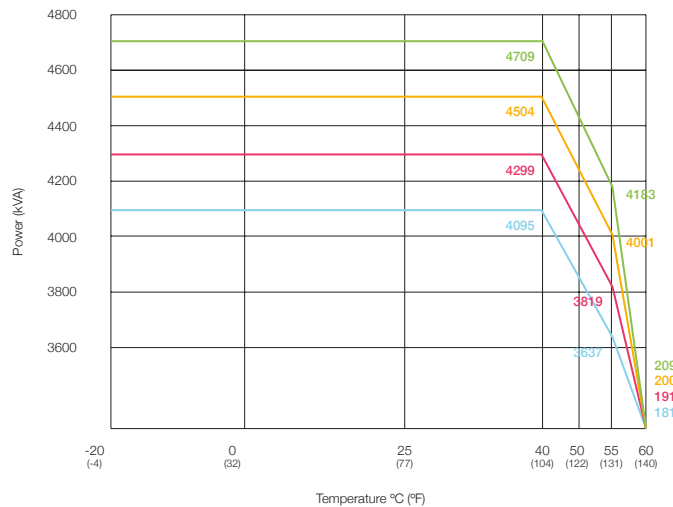
Efficiency



- 1300 Vdc
- 1110 Vdc
- 935 Vdc
- 1220 Vdc
- 950 Vdc
- 915 Vdc
- 1175 Vdc

Configurations

Up to 4700 kVA at 1300 V



- PCS 4700
- PCS 4500
- PCS 4300
- PCS 4100

	Stor PCS 4100	Stor PCS 4300	Stor PCS 4500	Stor PCS 4700
DC Connection				
DC Minimum Voltage*	835 V	875 V	915 V	955 V
DC Maximum Voltage (w/o derating)	< 1300 V			
DC Maximum Voltage (with derating)	< 1500 V			
Number of Independent Power Modules per PCS	2			
Max. DC Current @40°C [104°F]	2 x 2500 A			
Max. DC Current @50°C [122°F]	2 x 2313 A			
Max. DC Current @55°C [131°F]	2 x 2220 A			
Max. DC Current @60°C [140°F]	2 x 1110 A			
Number of Fused DC Inputs per Power Module/Total*	Up to 3+ & 3- / 6+ & 6-			
DC short-circuit capacity	2 x 250 kA, 1 msec			

AC Connection				
Nominal AC Power Total @40°C [104°F]	4095 kVA	4299 kVA	4504 kVA	4709 kVA
Nominal AC Power Total @50°C [122°F]	3790 kVA	3979 kVA	4169 kVA	4358 kVA
Nominal AC Power Total @55°C [131°F]	3637 kVA	3819 kVA	4001 kVA	4183 kVA
Nominal AC Power Total @60°C [140°F]	1819 kVA	1910 kVA	2001 kVA	2091 kVA
Maximum AC Current per Power Module / Total @40°C [104°F]	1970 Arms / 3940 Arms			
Nominal AC Voltage*	600 Vrms	630 Vrms	660 Vrms	690 Vrms
Nominal Voltage Allowance Range*	+/-10%			
Frequency Range*	47.5 - 53 / 57 - 63 Hz			
THD of AC Current	< 1% @Sn			
Power Factor Range	0 (reactive) - 1 - 0 (capacitive)			

Performance				
Max. Efficiency**	99.45%			
Californian Efficiency	99.02%	99.07%	99.11%	99.14%
Stand-by Power Consumption	< 200 W			

General Data				
Temperature Range - Operation***	-20°C / +60°C [-4°F / +140°F]			
Maximum Altitude****	< 2000 m [6561 ft] (w/o derating)			
Cooling System	Liquid & forced air			
Relative Humidity	4% – 100% (w/o condensation)			
Protection Class	IP55 class 1, NEMA3R			
Dimensions (W/H/D)	4325 x 2250 x 1022 mm [170.3" x 88.5" x 40.2"]			
Weight	4045 kg [8918 lb]			

AC Protections				
AC Side Disconnection & Short-circuit Current Protection	Two motorized AC circuit breakers - one per each power module			
AC Overvoltage Protection	Type 1 + 2 SPD			
Anti-islanding	Included (SW)			
Grid Voltage Fluctuations (LVRT, HVRT)*	Included (SW)			
Frequency Failure	Included (SW)			

DC Protections				
DC Disconnection	Two motorized DC switches (on-load) - one per each power module			
DC Over-voltage Protection	Type 1 + 2 SPD			
Reverse Polarity Detection	Included			
DC Ground Fault and Insulation Detection	Included			

Other Protections				
Over-temperature Protection	Included			
Emergency Push Button	Included			

Communications				
Control*	Modbus TCP/IP (Profinet, CAN upon request)			
Monitoring*	Modbus TCP/IP			
Websvrer	Included			

Main Standards*****				
IEC 62109-1	IEC 62920	EN 55011	CSA C22.2	
IEC 62109-2	IEC 62116	IEEE519	Rule 21	
IEC 61000-6-2	IEC 61683	NTS 2.1	Rule 14	
IEC 61000-6-4	IEC 60529	UL 1741-SA	PRC 024	
IEC 61727	EN 50530	UL 62109-1	NEC 2017	

Optionals				
Low Temperature Kit up to -40°C [-40°F]				
DC Input Current Monitoring				
Factory-fitted DC fast fuses				

- * Consult Gamesa Electric for a specific configuration
- ** Efficiency measured during UL 1741 certification
- *** With derating from 40°C [104°F]
- **** Up to 4000 m [13123 ft] with derating as optional
- ***** Consult Gamesa Electric for other Standards / Directives



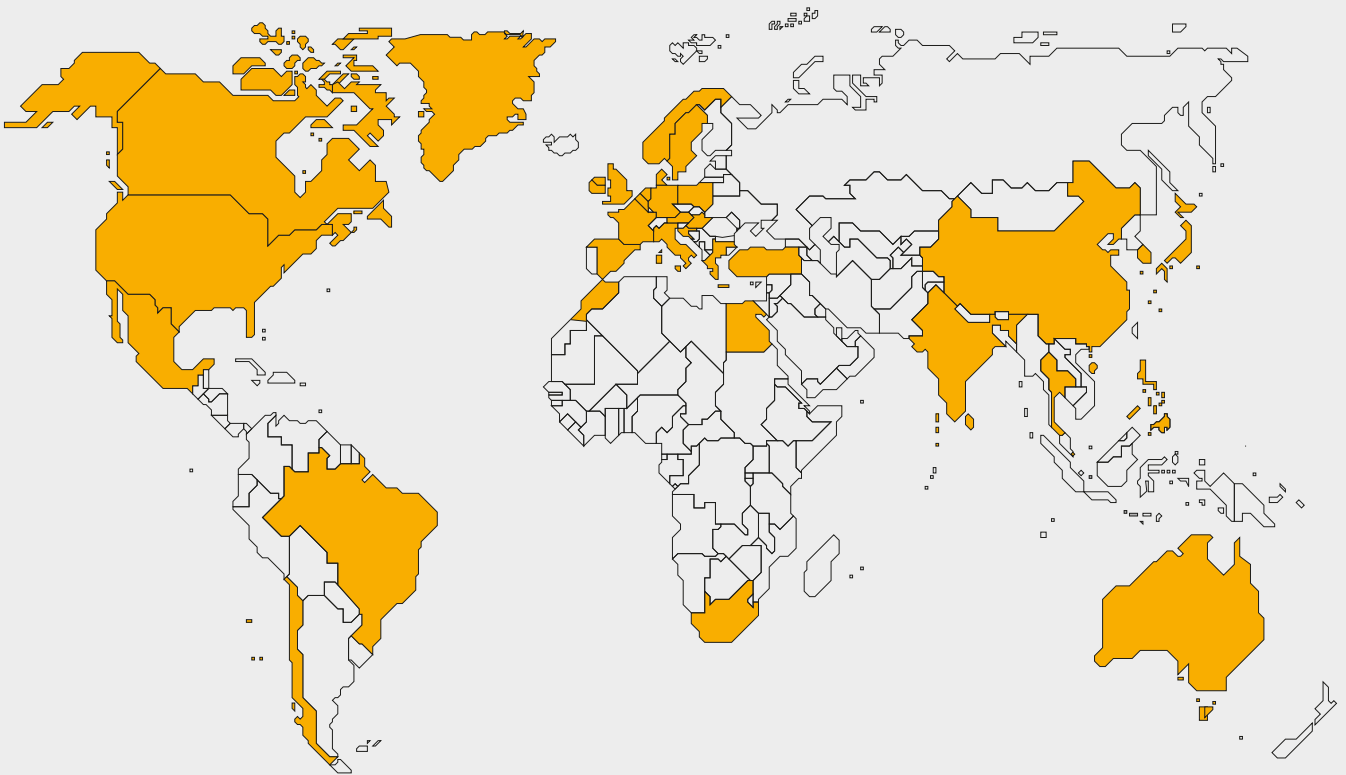
+3.7 GW
SOLAR ENERGY



+115 GW
WIND POWER



+90
COUNTRIES



Worldwide presence

Australia
Austria
Belgium
Brazil
Canada

Chile
China
Croatia
Denmark
Egypt

France
Germany
Greece
Hong Kong
Hungary

India
Ireland
Italy
Japan
Korea

Mexico
Morocco
Netherlands
Norway
Philippines

Poland
Singapore
South Africa
Sri Lanka
Sweden

Thailand
Turkey
UK
USA

