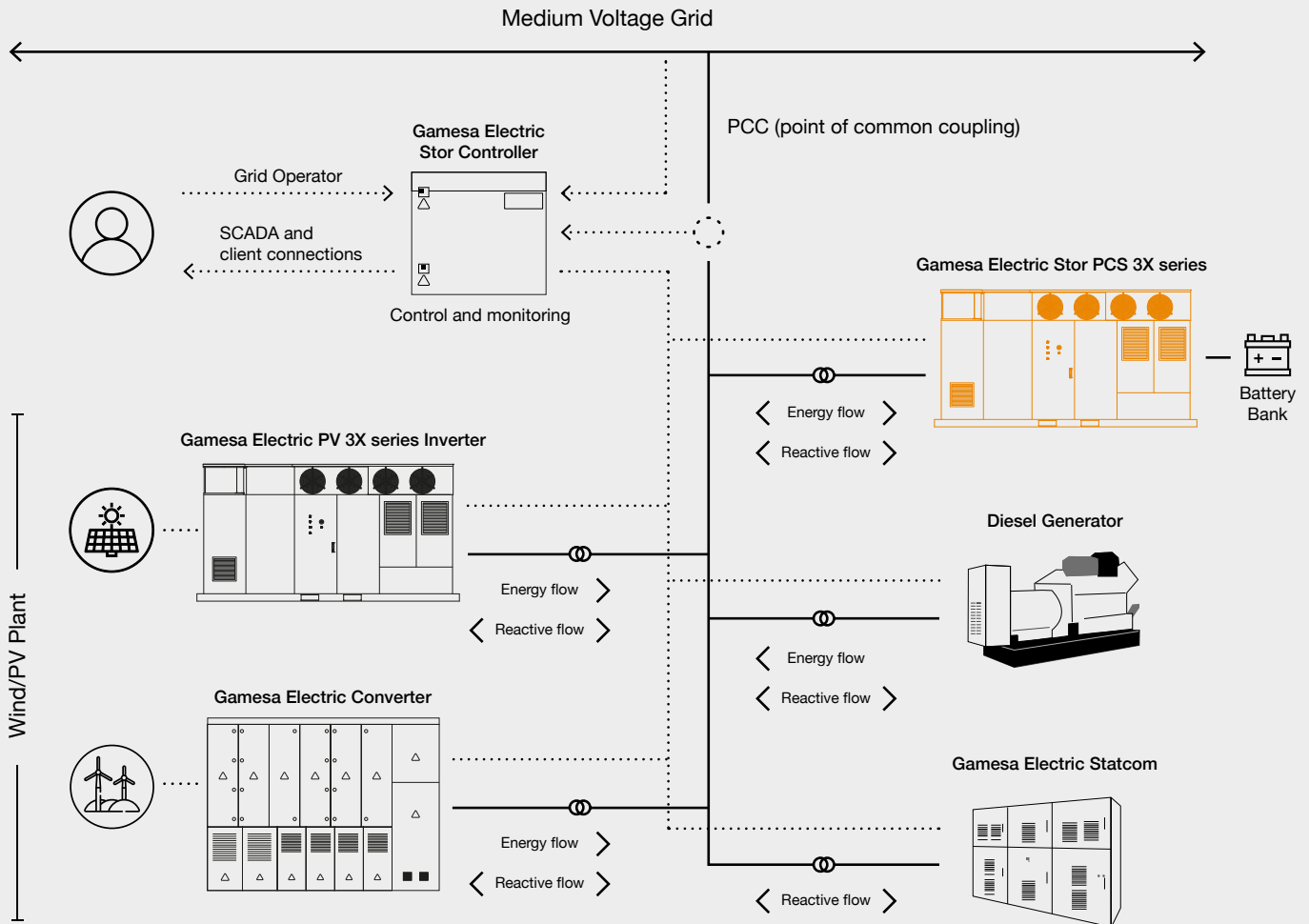




Gamesa Electric Stor 3X series – PCS Battery Inverters AEP & UEP

Maximum efficiency
for utility-scale projects





Gamesa Electric Stor 3X series – PCS Battery Inverter



High Round Trip Efficiency (RTE)

Market leading efficiency of up to 99.5% (IEC 61683), 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

AEP and UEP product variant for maximum plant power output



Grid connection

Four quadrant operation for full active and reactive power support to comply with the most demanding grid codes

Fast frequency control mode with a response time below 150 ms

Weak grid and micro-grid configuration with a seamless transition and black start capabilities



Battery oriented

Safety centered design with instantaneous controls and monitoring both hard-wired and through communication protocols

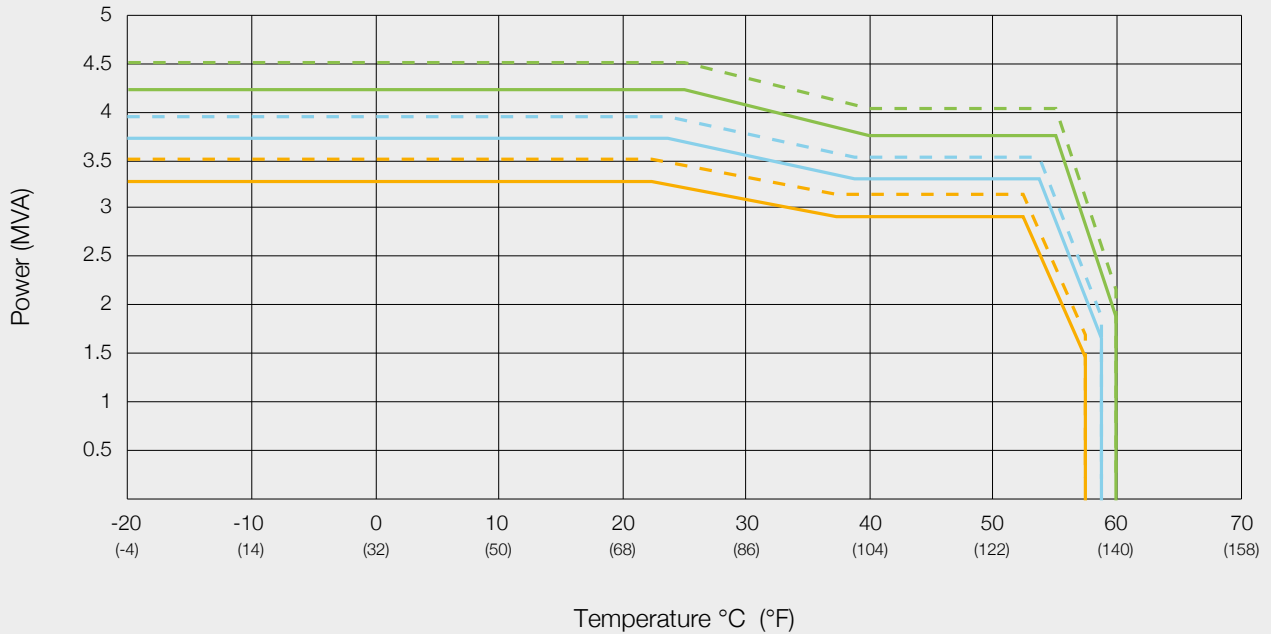
Double power module topology for two independent battery connections allowing for much lower DC short-circuit currents and increased system availability

Battery agnostic design to accommodate different battery technologies, including: li-ion, lead-acid, flow and others

AEP - up to
4.2 MVA @
660 Vrms

UEP - up to
4.5 MVA @
660 Vrms

- AEP 2000 masl
- - - UEP 2000 masl
- AEP 3000 masl
- - - UEP 3000 masl
- AEP 4000 masl
- - - UEP 4000 masl



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



	Stor PCS 2550 AEP	Stor PCS 2970 AEP	Stor PCS 3510 AEP	Stor PCS 3830 AEP	Stor PCS 4220 AEP
DC Input					
DC Minimum Voltage*	620 V	715 V	845 V	925 V	1015 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 @25°C [77°F]	2 x 2362 A				
Max. DC Current @50°C [122°F]	2 x 2100 A				
Max. DC Current @55°C [131°F]	2 x 2100 A				
Max. DC Current @60°C [140°F]	2 x 1050 A				
Number of Fused DC Inputs per Power Module/Total*	Up to 3+ & 3- / 6+ & 6-				
AC Output					
Number of Phases	Three-phase w/o neutral point				
Nominal AC Power Total @25°C [77°F]	2557 kVA	2973 kVA	3516 kVA	3836 kVA	4220 kVA
Nominal AC Power Total @40°C [104°F]	2272 kVA	2641 kVA	3124 kVA	3408 kVA	3749 kVA
Nominal AC Power Total @55°C [131°F]	2272 kVA	2641 kVA	3124 kVA	3408 kVA	3749 kVA
Nominal AC Power Total @60°C [140°F]	1135 kVA	1320 kVA	1561 kVA	1703 kVA	1873 kVA
Maximum AC Current per Power Module/Total @25°C [77°F]	1846 Arms / 3692 Arms				
Nominal AC Voltage*	400 Vrms	465 Vrms	550 Vrms	600 Vrms	660 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	98,7%	99,0%	99,2%	99,3%	99,5%
Euro-Efficiency	98.4%	98,7%	98.9%	99,0%	99.2%
Stand-by Power Consumption	< 200 W				
General Data					
Temperature Range - Operation**	-20°C / +60°C [-4°F / +140°F]				
Maximum Altitude***	< 2,000 m [6,561 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)	4,325 x 2,250 x 1,022 mm [170.3" x 88.5" x 40.2"]				
Weight	3,945 kg [8,697 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 Short-circuit Protection	DC fast fuses				
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				
Webserver	Included				
Optionals					
	Standards / Directives				
Low Temperature Kit up to -40 °C [-40°F]	IEC 62109-1	IEC 62116	CSA C22.2		
DC Input Current Monitoring	IEC 62109-2	IEC 61683	UL 62109-1		
DC Ground Connection Kit	IEC 61000-6-2	IEEE 519	NEC		
	IEC 61000-6-4	IEC 60529	Rule 21		
	EN 55011	IEC 61727	Rule 14		
	IEC 62920	PO12.2	PRC 024		
	EN 50530	UL 1741-SA			

* Consult Gamesa Electric for a specific configuration

** With derating from 25°C / 77°F

*** Up to 4,000 m [13,123 ft] with derating as optional

**** Consult Gamesa Electric for other Standards / Directives

	Stor PCS 2720 UEP	Stor PCS 3170 UEP	Stor PCS 3750 UEP	Stor PCS 4090 UEP	Stor PCS 4500 UEP
DC Input					
DC Minimum Voltage*	620 V	715 V	845 V	925 V	1015 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 @25°C [77°F]	2 x 2500 A				
Max. DC Current @50°C [122°F]	2 x 2220 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-				
AC Output					
Number of Phases	Three-phase w/o neutral point				
Nominal AC Power Total @25°C [77°F]	2729 kVA	3173 kVA	3753 kVA	4094 kVA	4503 kVA
Nominal AC Power Total @40°C [104°F]	2424 kVA	2818 kVA	3334 kVA	3637 kVA	4000 kVA
Nominal AC Power Total @55°C [131°F]	2424 kVA	2818 kVA	3334 kVA	3637 kVA	4000 kVA
Nominal AC Power Total @60°C [140°F]	1212 kVA	1409 kVA	1667 kVA	1819 kVA	2000 kVA
Maximum AC Current per Power Module/Total @25°C [77°F]	1970 Arms / 3940 Arms				
Nominal AC Voltage*	400 Vrms	465 Vrms	550 Vrms	600 Vrms	660 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	98,6%	98,8%	99,0%	99,2%	99,4%
Euro-Efficiency	98,3%	98,5%	98,7%	98,9%	99,1%
Stand-by Power Consumption	< 200 W				
General Data					
Temperature Range - Operation**	-20°C / +60°C [-4°F / +140°F]				
Maximum Altitude***	< 2,000 m [6,561 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)	4,325 x 2,250 x 1,022 mm [170.3" x 88.5" x 40.2"]				
Weight	4,045 kg [8,918 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 Short-circuit Protection	DC fast fuses				
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				
Websserver	Included				
Optionals					
	Standards / Directives				
Low Temperature Kit up to -40 °C [-40°F]	IEC 62109-1	IEC 62116	CSA C22.2		* Consult Gamesa Electric for a specific configuration
DC Input Current Monitoring	IEC 62109-2	IEC 61683	UL 62109-1		** With derating from 25°C / 77°F
DC Ground Connection Kit	IEC 61000-6-2	IEEE 519	NEC		*** Up to 4,000 m [13,123 ft] with derating as optional
	IEC 61000-6-4	IEC 60529	Rule 21		**** Consult Gamesa Electric for other Standards / Directives
	EN 55011	IEC 61727	Rule 14		
	IEC 62920	PO12.2	PRC 024		
	EN 50530	UL 1741-SA			



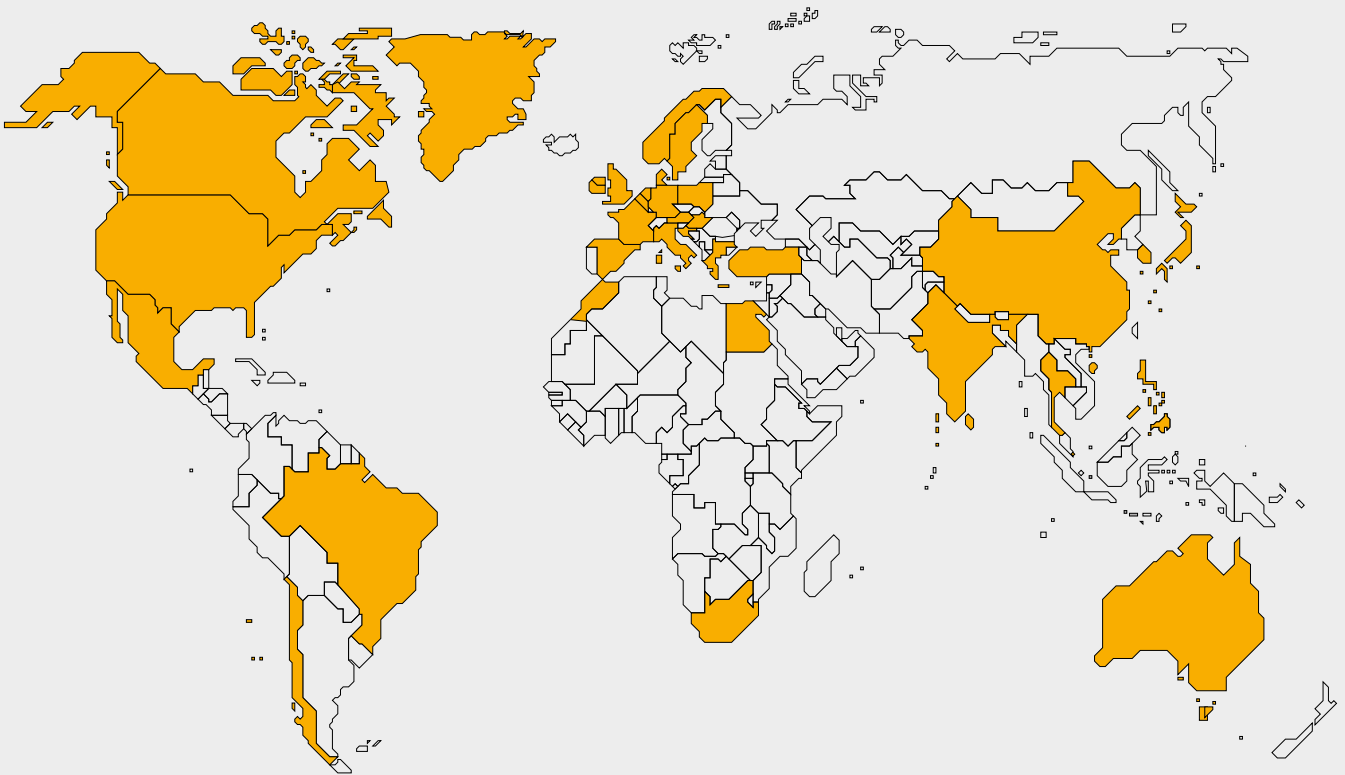
+2.7 GW
SOLAR ENERGY



+100 GW
WIND POWER



+90
COUNTRIES



Worldwide presence

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Canada

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China
Croatia
Denmark
Egypt

France
Germany
Greece
Hong Kong
Hungary

India
Ireland
Italy
Japan
Korea

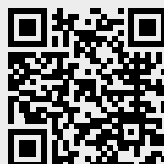
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