



Gamesa Electric Stor 3X series PCS Stations

Maximum efficiency and compactness for utility scale energy storage projects



2021 | Datasheet



Gamesa Electric Stor 3X series PCS Station

High Round Trip Efficiency (RTE)

Grid

connection

\$

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

Weak grid and micro-grid configuration with a seamless transition and black start capabilities Enhanced temperature derating: keeping full power up to 40°C [104°F]

Fast frequency control mode



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

Four quadrant operation for

support to comply with the

most demanding grid codes

full active and reactive power

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

	Gamesa Electric Stor PCS Station 3X series				
Number of PCSs	1 x Stor PCS 4100	1 x Stor PCS 4300	1 x Stor PCS 4500	1 x 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 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 PCS	Up to 6+ & 6-				
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 PCS @40°C [104°F]	3940 Arms				
Nominal AC Voltage*	< 34.5 kV				
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 (capac	itive)			
Protection Devices					
DC Connection	Motorized disconnectors, Overvoltage protection (Type 1 + 2 SPD), reverse polarity detection, DC ground fault and insulation detection				
AC Connection	Motorized AC circuit breakers, Overvoltage protection (Type 1 + 2 SPD), Anti-islanding, Voltage failure, Frequency failure				
Components Stor PCS Station					
PCS	1 x Stor PCS 4100	1 x Stor PCS 4300	1 x Stor PCS 4500	1 x Stor PCS 4700	
Transformer* (1)	Dyn KNAN / ONAN				
Switchgear* (1)	0L1V / 1L1V / 2L1V up to	0 36 kV			
Custom Auxiliary Transformer	Optional				
Others	Auxilliary cabinet				
Communications					

Control* Monitoring*

Webserver

Modbus TCP / IP (Profinet, CAN upon request)
Modbus TCP / IP
Included





Other Features						
LVRT	Yes					
HVRT	Yes					
Working Ambient Temperature**	-20°C / +60°C [-4°F / +140°F], Option -40°C [-40°F]					
Relative Humidity	100% (without condensation)					
Maximum Altitude (without derating)***	2,000 m [6,561 ft]					
Dimensions W x H x D (IEC / UL version) ⁽²⁾	11800 x 2600 x 2100 mm / 30 x 8,5 x 8,6 ft					
Protection	IP54					
Cooling System	Liquid & forced air					
Main Standards	Optionals					
IEC62109	-40°C Low Temperature Kit	Custom Auxiliary Transformer	Custom Auxiliary Transformer			
UL1741-SA	UPS	Seismic Reinforcement				
UL62109	Motorized MV Switchgear	High Corrosion Protection Kit				
NEC	DC Fuses					

	Gamesa Electric Stor PCS Station 3X series				
Number of PCSs	2 x Stor PCS 4100	2 x Stor PCS 4300	2 x Stor PCS 4500	2 x Stor PCS 4700	
DC Connection			2 X 01011 00 4000		
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 Modules per PCS / Total	2/4				
Max_DC Current @40°C [104°F]	4 x 2500 A				
Max_DC Current @50°C [122°F]	4 x 2313 A				
Max_DC Current @55°C [131°F]	4 x 2220 A				
Max, DC Current @60°C [140°F]	4 x 1110 A				
Number of Fused DC Inputs per PCS / Total	Up to 6+ & 6- / 12+ & 12-	-			
AC Connection					
Nominal AC Power Total @40°C [104°F]	8190 k\/A	8598 k\/A	9008 k\/A	9418 kVA	
Nominal AC Power Total @50°C [102°F]	7580 kV/A	7958 kV/A	8338 kVA	8178 k\/A	
Nominal AC Power Total @55°C [131°E]	7274 k\/A	7638 kV/A	8002 kVA	8366 k\/A	
Nominal AC Power Total @60°C [140°E]	3638 k\/A	3820 kV/A			
Maximum AC Current por PCS / Total @40°C [104°E]	3040 Arms / 2 x 3040 Arm	0020 KVA	4002 NVA		
		115			
Nominal Voltage Allowance Penge*	< 04.0 KV				
	+/-10%				
THE state of the comment	47.5 - 53 / 57 - 63 HZ				
Provension Sector Provension	< 1% @Sn	141			
Power Factor Hange	0 (reactive) - 1 - 0 (capac	luve)			
Protection Devices					
DC Connection	Motorized disconnectors DC ground fault and insu	, Overvoltage protection (Type 1 lation detection	+ 2 SPD), reverse polarity deter	ction,	
AC Connection	Motorized AC circuit brea	akers, Overvoltage protection (T	/pe 1 + 2 SPD), Anti-islanding, V	oltage failure, Frequency failure	
Components Stor PCS Station					
PCS	2 x Stor PCS 4100	2 x Stor PCS 4300	2 x Stor PCS 4500	2 x Stor PCS 4700	
Transformer* (1)	Dvnvn KNAN / ONAN		2 X 0101 1 00 4000		
Switchgear ^{* (1)}	0 1V / 1 1V / 2 1V up to 36 kV				
Custom Auxiliary Transformer	Ontional				
Others	Auxilliary cabinet				
Communications					
Communications Control*	Modbus TCP / IP (Profine	et, CAN upon request)			
Communications Control* Monitoring*	Modbus TCP / IP (Profine Modbus TCP / IP	et, CAN upon request)			
Communications Control* Monitoring* Webserver	Modbus TCP / IP (Profine Modbus TCP / IP Included	et, CAN upon request)			
Communications Control* Monitoring* Webserver Webserver	Modbus TCP / IP (Profine Modbus TCP / IP Included	et, CAN upon request)	 UL version: Padmounte UL variant only available Consult Gamesa Electri With derating from 40°C With due on (13 123 4) 	d Dyn (without external switchgea e for 1-PCS based configuration c for a specific configuration 2 [104°F] t) with derating as optional	
Communications Control* Monitoring* Webserver Webserver IEC version 2 x PCS Other Features	Modbus TCP / IP (Profine Modbus TCP / IP Included	et, CAN upon request)	 UL version: Padmounte UL variant only available Consult Gamesa Electri With derating from 40°C Up to 4,000 m (13,123 from 10,123 from	d Dyn (without external switchges e for 1-PCS based configuration c for a specific configuration ≿[104°F] t) with derating as optional	
Communications Control* Monitoring* Webserver Webserver IEC version 2 x PCS Other Features LVRT	Modbus TCP / IP (Profine Modbus TCP / IP Included	et, CAN upon request)	 UL version: Padmounte UL variant only available Consult Gamesa Electri With derating from 40°C Up to 4,000 m (13,123 from 10,123 from	d Dyn (without external switchge e for 1-PCS based configuration c for a specific configuration C [104°F] t) with derating as optional	
Communications Control* Monitoring* Webserver Webserver EC version 2 x PCS Other Features LVRT HVRT	Modbus TCP / IP (Profine Modbus TCP / IP Included	et, CAN upon request)	 ⁽¹⁾ UL version: Padmounte ⁽²⁾ UL variant only availabl [*] Consult Gamesa Electri ^{**} With derating from 40°C ^{***} Up to 4,000 m (13,123 from 10,123 fr	d Dyn (without external switchge e for 1-PCS based configuration c for a specific configuration c [104°F] t) with derating as optional	
Communications Control* Monitoring* Webserver Webserver EC version 2 x PCS Other Features LVRT HVRT Working Ambient Temperature**	Modbus TCP / IP (Profine Modbus TCP / IP Included	20, CAN upon request)	 ⁽¹⁾ UL version: Padmounte ⁽²⁾ UL variant only available [*] Consult Gamesa Electri ^{**} With derating from 40°C ^{***} Up to 4,000 m (13,123 from 10,123 f	d Dyn (without external switchge: e for 1-PCS based configuration c for a specific configuration 2 [104°F] t) with derating as optional	
Communications Control* Monitoring* Webserver Image: Control to the server Image:	Modbus TCP / IP (Profine Modbus TCP / IP Included	et, CAN upon request) 40°F], Option -40°C [-40°F]	 ⁽¹⁾ UL version: Padmounte ⁽²⁾ UL variant only availabl [*] Consult Gamesa Electri ^{**} With derating from 40°C ^{***} Up to 4,000 m (13,123 from 100 m) 	d Dyn (without external switchgee e for 1-PCS based configuration c for a specific configuration c [104°F] t) with derating as optional	
Communications Control* Monitoring* Webserver Image: Control*	Modbus TCP / IP (Profine Modbus TCP / IP Included	et, CAN upon request) 40°F], Option -40°C [-40°F] tion)	 ⁽¹⁾ UL version: Padmounte ⁽²⁾ UL variant only availabl [*] Consult Gamesa Electri ^{**} With derating from 40°C ^{***} Up to 4,000 m (13,123 from 40°C) 	d Dyn (without external switchgea e for 1-PCS based configuration c for a specific configuration 2 [104°F] t) with derating as optional	

Protection

NEC

Cooling System

Main Standards
IEC62109
UL1741-SA
UL62109

Optionals

Liquid & forced air

-40°C Low Temperature Kit Custom Auxiliary Transformer Seismic Reinforcement Motorized MV Switchgear High Corrosion Protection Kit

DC Fuses

IP54

UPS



Shaping new energy





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Canada

Egypt



Hungary

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