

RHINO series

Energy Storage Inverters

Industry Leading Scalable Output Flexibility with Smart Modular Inverter and Built-in PMS as a Standard Part of PCS



***dots energy PCS series* is economically designed as a modular structure by utilizing smart modular inverters, so it provides a complete solution with flexible AC and DC output models.**

dots modular PCS selects the LS Electric's smart modular inverter (MSSP) that is the proven cutting-edge technology for the performance and power density in the ESS market.

LSE MSSP with a patented technology can connect parallelly both AC and DC side, so that RHINO-20H can compose it easy targeted AC output with wide range (1400~3200kW), also it provides qualified performance that meets UL 1741SA and IEEE1547 standards for most applicable business area.

In addition, built-in PMS as an asset of ESS provide user-friendly operation modes with easy connection to the Battery BMS and safety algorithms and multiple application on the scheduler and dispatcher.

System Advantages

- Seamless transfer from grid-tied to stand-alone mode
- Applied CSC 20ft CNTR for cost reduction on oversea delivery
- Can be installed anywhere with IP65 grade

Key Technologies

- 4 Quadrant Droop Control
- Built in PMS for ESS control and operation
 - Backup during outage (UPS is applied)
 - Schedule Mode
 - Dispatcher Mode
 - Derating Mode for battery protection
 - dots Control & Easy Configure Mode
 - Dynamic Transfer by DMT (Option)

RHINO-20H Technical Specifications

Electrical	AC Input Voltage	690 / 600 / 480 / 440 / 400 / 380 V 3Ø3W											
	Grid Frequency	50 / 60 Hz											
		INV #	7	8	9	10	11	12	13	14	15	16	
	AC Power (46 Scalable Outputs)	AC Output (MW)		1.4	1.6	1.8	2.0	2.2	2.4	2.6	2.8	3.0	3.2 @690Vac
					1.4	1.6	1.8	1.9	2.1	2.3	2.5	2.7	2.8 @600Vac
						1.3	1.5	1.6	1.8	1.9	2.1	2.2	2.4 @480Vac
							1.3	1.5	1.6	1.7	1.8	2.0	2.1 @440Vac
								1.3	1.5	1.6	1.7	1.8	2.0 @400Vac
							1.3	1.4	1.5	1.6	1.8	1.9 @380Vac	
	DC Voltage Range	570-1500 Vdc @380Vac 600-1500 Vdc @400Vac 660-1500 Vdc @440Vac					720-1500 Vdc @480Vac 900-1500 Vdc @600Vac 1035-1500 Vdc @690Vac						
Rated AC/DC Current	Varied by INV# and Vac												
Power Factor	1.0 Leading to 1.0 Lagging												
Current Harmonics	< 5 % THD												
Maximum Efficiency	98 %												
Max Ramp Rate	< 16.67 ms												
Environmental	Operating Temperature	-20 to +50 °C											
	Max Elevation	1000 Meters											
	Cooling	Air Cooler (HVAC)											
	Enclosure	CSO 20ft CNTR / IP55											
	Dimension (LxWxH)	6058 x 2438 x 2896 mm											
	Weight	Max 10.5 ton											
Certifications & Standards Compliance	<ul style="list-style-type: none"> • UL1741SA including CA Rule 21 (Inverter) • IEC62477-1 • CSA22.2 • EN61800-3 • IEEE1547 												
	Hardware Protections	<ul style="list-style-type: none"> • AC SPD, AC Breaker with Shunt Trip • DC SPD, DC Fuse / DC IMD (Option) • DC Pre-Charge & Discharge 											
		Software Protections	<ul style="list-style-type: none"> • AC Over/Under Voltage, Over/Under Frequency • AC Power Derate by DC Battery SoC and Temperature • AC Power Limiting • AC Power Command Time-Out • DC Over/Under Voltage, Over Current Limiting • DC SoC & Temp Limiting • Anti-Islanding Protection 										