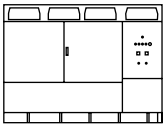
PCSK

Modularity.
Easy maintenance.
Advanced grid support.
Compatible with all battery technologies.



Freemaq PCSK



690 V

REFERENCES		FP4997K	FP4999K	FP5020K
AC	AC Output Power @30 °C [1]	5240 kVA / 4999 kW	4999 kVA / kW	5240 kVA / kW
	AC Output Power @35 °C [1]	5240 kVA / 4999 kW	4999 kVA / kW	5020 kVA / kW
	AC Output Power @40 °C [1]	4800 kVA / kW		
	AC Output Power @50 °C [1]	4360 kVA / kW		
	Max. AC Output Current (A) @30 °C	4384	4182	4384
	Operating Grid Voltage (V)	690 V ±10%		
	Operating Grid Frequency (Hz)	50 / 60 Hz		
	Current Harmonic Distortion (THDi)	<3% per IEEE 519		
	Power Factor (CosPhi) [2]	0.5 leading... 0.5 lagging		
	Reactive Power Compensation	Four quadrant operation		
	Overload Capability	166% - 100 ms / 150% - 5 s / 120% - 8 s / 110% - 15 s		
DC	DC Voltage Range [3]	976 V – 1500 V		
	Maximum DC Voltage	1500 V		
	DC Voltage Ripple	<3%		
	Max. DC Continuous Current (A)	5478		
	Max. DC Short Circuit Current (kA)	500 kA with a time constant of 1 ms		
	Battery Technology	All type of batteries (BMS required)		
EFFICIENCY & AUX. SUPPLY	Efficiency (Max) (η)	98.94%		
	CEC (η)	98.51%		
CABINET	Foot print [WxDxH] (ft)	9.8 x 6.5 x 7.5		
	Foot print [WxDxH] (m)	3.0 x 2.0 x 2.3		
	Weight (lbs)	10365		
	Weight (kg)	4700		
	Type of Ventilation	Forced air cooling		
ENVIRONMENT	Degree of Protection	NEMA 3R / IP55		
	Operating Temperature Range [4]	From -40 °C to +60 °C, >30 °C power derating		
	Operating Relative Humidity Range	From 4% to 100%		
	Storage Temperature Range	From -40 °C to +60 °C		
	Max. Altitude (above sea level)	2000 m / >2000 m power derating (max. 4000 m)		
CONTROL	Communication Protocol	Modbus TCP		
	Grid Forming (VISMA) / Black Start Capable	Standard		
PROTECTIONS	Ground Fault Protection	Insulation monitoring device		
	Humidity Control	Active heating		
	General AC Protection & Disconnection	Circuit breaker		
	General DC Protection & Disconnection	High-speed fuses, Motorized DC disconnect switches [5]		
	Overvoltage Protection	Type II for AC and Type I+II for DC		
STANDARDS	Safety	UL 1741 / CSA 22.2 No.107.1-16 / IEC 62109-1 / IEC 62109-2 / IEC 62477-1		
	Installation	NEC 2023		
	Utility Interconnect [6]	UL 1741 SA & SB / IEEE 1547.1 / IEC 62116 / G99 / VDE 4110-4120-4130 / CEI 0-16 / NTS 2.1 / EN 50549 / IEEE 2800		

NOTES

[1] Values at 1.00·Vac nom and CosPhi=1. Consult Power Electronics for derating curves.
[2] Consult P-Q charts available: $Q(kVAr)=\sqrt{(S(kVA)^2-P(kW)^2)}$.
[3] Consult Power Electronics for derating curves. In the event of overvoltage in the grid, the minimum DC voltage will vary proportionally with the AC voltage.
[4] Optional available for temperatures below -25 °C.
[5] Battery short circuit disconnection must be done on the battery side.
[6] Consult Power Electronics for other applicable standards / grid codes.

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