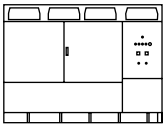
PCSK

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]	5020 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 @30 °C	4384 A	4182 A	4384 A
	Operating Grid Voltage	690 V ±10%		
	Operating Grid Frequency	60 Hz	50 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	5177 A		5427 A
	Max. DC Short Circuit Current	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%		
	Euroeta (η)	98.50%		
CABINET	Footprint dimensions [WxDxH]	9.8 x 6.5 x 7.5 ft		
	Footprint dimensions [WxDxH]	3.0 x 2.0 x 2.3 m		
	Weight	10365 lbs		
	Weight	4700 kg		
	Type of Ventilation	Forced air cooling		
ENVIRONMENT	Degree of Protection	NEMA 3R / IP55		
	Operating Temperature Range	From -40 °C to +60 °C, >30 °C power derating (optional below -25 °C)		
	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 [4]		
	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 [5]	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] Battery short circuit disconnection must be done on the battery side.
[5] Consult Power Electronics for other applicable standards / grid codes.

The content of this document is periodically updated. Power Electronics reserves the right to modify all or part of this document without prior notice.

V. 2.0.5 20261022

POWER ELECTRONICS