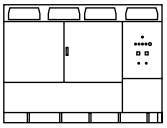
PCSK

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

Freemaq PCSK



COMMON FEATURES PCSK		FRAME 2	FRAME 3	FRAME 4
AC	Max. AC Output Current (A) @40 °C	1837	2756	3674
	Operating Grid Frequency (Hz)	50/60 Hz		
	Current Harmonic Distortion (THDi)	<3% per IEEE519		
	Power Factor (CosPhi) [1]	0.5 leading ... 0.5 lagging		
	Reactive Power Compensation	Four quadrant operation		
	Overload Capability [7]	166% - 100 ms / 150% - 5 s / 120% - 8 s / 110% - 15 s		
DC	DC Voltage Ripple	<3%		
	Max. DC Continuous Current (A)	2295	3443	4590
	Max. DC Short Circuit Current (kA)	500 kA with a time constant of 1 ms		
	Battery Technology	All type of batteries (BMS required)		
CABINET	Dimensions [WxDxH] (ft)	9.8 x 6.5 x 7.5		
	Dimensions [WxDxH] (m)	3.0 x 2.0 x 2.3		
	Weight (lbs)	8600	9700	10365
	Weight (kg)	3900	4400	4700
	Type of Ventilation	Forced air cooling		
ENVIRONMENT	Degree of Protection	NEMA 3R / IP55		
	Operating Temperature Range [2]	From -25 °C to +60 °C, >40 °C power derating		
	Operating Relative Humidity Range	From 4% to 100% non-condensing		
	Storage Temperature Range	From -40 °C to +60 °C		
	Max. Altitude (above sea level)	2000 m / >2000 m power derating (Max. 4000 m)		
CONTROL INTERFACE	Communication Protocol	Modbus TCP		
	Power Plant Controller	Optional. Third party SCADA systems supported.		
	Keyed ON/OFF Switch	Standard		
PROTECTIONS	Ground Fault Protection	Insulation monitoring device		
	Humidity Control	Active heating		
	General AC Protection & Disconn.	Circuit breaker		
	General DC Protection & Disconn. [3]	High-speed fuses, Motorized DC disconnect switches		
	Overvoltage Protection	Type II for AC and Type I+II for DC		
CERTIFICATIONS & STANDARDS	Safety	UL 1741 / CSA 22.2 No.107.1-16 / IEC 62109-1 / IEC 62109-2 / IEC 62477-1		
	Installation	NEC 2023 / IEC		
	Utility Interconnect [4]	IEEE 1547:2018 / UL 1741 SA & SB/ IEC 62116:2014		

		690 V			660 V			645 V			630 V		
FRAME		**2**	**3**	**4**	**2**	**3**	**4**	**2**	**3**	**4**	**2**	**3**	**4**
REF.		**FP2195K**	**FP3290K**	**FP4390K**	**FP2101K**	**FP3151K**	**FP4200K**	**FP2055K**	**FP3080K**	**FP4105K**	**FP2005K**	**FP3005K**	**FP4010K**
AC	AC Output Power (kVA/kW) @40 °C [5]	2195	3290	4390	2100	3150	4200	2055	3080	4105	2005	3005	4010
	AC Output Power (kVA/kW) @50 °C [5]	2035	3055	4075	1950	2925	3900	1905	2855	3810	1860	2790	3720
	Operating Grid Voltage (VAC)	690 V ±10%			660 V ±10%			645 V ±10%			630 V ±10%		
DC	DC Voltage Range [6]	976 V - 1500 V			934 V - 1500 V			913 V - 1500 V			891 V - 1500 V		
	Maximum DC Voltage	1500 V			1500 V			1500 V			1500 V		
EFFICIENCY	Efficiency (Max) (η)	98.84%	98.87%	98.94%	98.86%	98.89%	98.95%	98.85%	98.88%	98.81%	98.79%	98.82%	98.88%
	Euroeta (η)	98.34%	98.49%	98.51%	98.36%	98.51%	98.53%	98.24%	98.39%	98.41%	98.28%	98.43%	98.45%

		615 V			600 V			530 V			500 V			480 V		
FRAME		**2**	**3**	**4**	**2**	**3**	**4**	**2**	**3**	**4**	**2**	**3**	**4**	**2**	**3**	**4**
REF.		**FP1955K**	**FP2935K**	**FP3915K**	**FP1910K**	**FP2865K**	**FP3820K**	**FP1685K**	**FP2530K**	**FP3370K**	**FP1590K**	**FP2385K**	**FP3180K**	**FP1525K**	**FP2290K**	**FP3055K**
AC		1955	2935	3915	1910	2865	3820	1685	2530	3370	1590	2385	3180	1525	2290	3055
		1815	2725	3635	1775	2660	3545	1565	2350	3130	1475	2215	2955	1415	2125	2840
		615 V ±10%			600 V ±10%			530 V ±10%			500 V ±10%			480V ±10%		
DC		870 V - 1500 V			849 V - 1500 V			750 V - 1300 V			708 V - 1250 V			679 V - 1200 V		
		1500 V			1500 V			1300 V			1250 V			1200 V		
EFFICIENCY		98.75%	98.78%	98.77%	98.82%	98.85%	98.78%	98.78% (preliminary)			98.78% (preliminary)			98.78% (preliminary)		
		98.20%	98.35%	98.37%	98.18%	98.33%	98.35%	98.35% (preliminary)			98.35% (preliminary)			98.35% (preliminary)		

NOTES

[1] Consult P-Q charts available: $Q(kVAr)=\sqrt{(S(kVA)^2-P(kW)^2)}$.
[2] Optional available for temperatures below to -25 °C.
[3] Battery short circuit disconnection has to be done on the battery side.
[4] Consult Power Electronics for other applicable standards/grid codes.
[5] Values at 1.00·Vac nom and CosPhi=1. The maximum AC output power must be limited to meet the P-Q capability requirement at the inverter level of some grid codes. Consult Power Electronics for derating curves and overload capability in grid forming mode.
[6] 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.
[7] Available from January 2027.

POWER ELECTRONICS