

# Multi PCSK

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**Modularity.**

**Easy maintenance.**

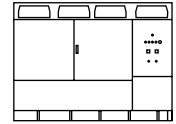
**Up to 4 independent DC inputs.**

**Advanced grid support.**

**Compatible with all battery technologies.**



# Freemaq Multi PCSK



COMMON FEATURES MULTI 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) <sup>[1]</sup>	0.5 leading... 0.5 lagging			
	Reactive Power Compensation	Four quadrant operation			
	Overload Capability <sup>[5]</sup>	166% - 100 ms / 150% - 5 s / 120% - 8 s / 110% - 15 s			
DC	DC Voltage Ripple	<3%			
	Max. DC Continuous Current per Input (A)	1148	1148	2295	1148
	Max. DC Short Circuit Current per Input (kA)	500 kA with a time constant of 1 ms			
	Battery Technology	All type of batteries (BMS required)			
CABINET	Number of Separate DC Inputs	2	3	2	4
	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 <sup>[2]</sup>	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)	2000m / >2000m power derating (Max. 4000m)			
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. <sup>[3]</sup>	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.1071-16 / IEC 62109-1 / IEC 62109-2 / IEC 62477-1			
	Installation	NEC 2023			
	Utility Interconnect <sup>[4]</sup>	IEEE 1547:2018 / UL 1741 SA & SB/ IEC 62116:2014			

## NOTES

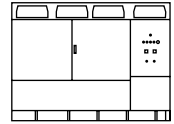
[1] Consult P-Q charts available:  $Q(kVA) = \sqrt{(S(kVA))^2 - P(kW)^2}$ .

[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] Available from January 2027.

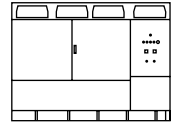


<b>690 V</b>		<b>FRAME 2</b>	<b>FRAME 3</b>	<b>FRAME 4</b>	
<b>REFERENCES</b>		<b>FP2195K2</b>	<b>FP3290K3</b>	<b>FP4390K2</b>	<b>FP4390K4</b>
AC	AC Output Power (kVA/kW) @40 °C [1]	2195	3290	4390	
	AC Output Power (kVA/kW) @50 °C [1]	2035	3055	4075	
Operating Grid Voltage (VAC)		690 V ±10%			
DC Voltage Range [2]		976 V - 1500 V			
DC	Maximum DC Voltage	1500 V			
	Number of Separate DC Inputs	2	3	2	4
EFFICIENCY	Efficiency (Max) (η)	98.84%	98.87%	98.94%	
	Euroeta (η)	98.34%	98.49%	98.51%	
<b>660 V</b>		<b>FRAME 2</b>	<b>FRAME 3</b>	<b>FRAME 4</b>	
<b>REFERENCES</b>		<b>FP2101K2</b>	<b>FP3151K3</b>	<b>FP4200K2</b>	<b>FP4200K4</b>
AC	AC Output Power (kVA/kW) @40 °C [1]	2100	3150	4200	
	AC Output Power (kVA/kW) @50 °C [1]	1950	2925	3900	
Operating Grid Voltage (VAC)		660 V ±10%			
DC Voltage Range [2]		934 V - 1500 V			
DC	Maximum DC Voltage	1500 V			
	Number of Separate DC Inputs	2	3	2	4
EFFICIENCY	Efficiency (Max) (η)	98.86%	98.89%	98.95%	
	Euroeta (η)	98.36%	98.51%	98.53%	
<b>645 V</b>		<b>FRAME 2</b>	<b>FRAME 3</b>	<b>FRAME 4</b>	
<b>REFERENCES</b>		<b>FP2055K2</b>	<b>FP3080K3</b>	<b>FP4105K2</b>	<b>FP4105K4</b>
AC	AC Output Power (kVA/kW) @40 °C [1]	2055	3080	4105	
	AC Output Power (kVA/kW) @50 °C [1]	1905	2855	3810	
Operating Grid Voltage (VAC)		645 V ±10%			
DC Voltage Range [2]		913 V - 1500 V			
DC	Maximum DC Voltage	1500 V			
	Number of Separate DC Inputs	2	3	2	4
EFFICIENCY	Efficiency (Max) (η)	98.85%	98.88%	98.81%	
	Euroeta (η)	98.24%	98.39%	98.41%	
<b>630 V</b>		<b>FRAME 2</b>	<b>FRAME 3</b>	<b>FRAME 4</b>	
<b>REFERENCES</b>		<b>FP2005K2</b>	<b>FP3005K3</b>	<b>FP4010K2</b>	<b>FP4010K4</b>
AC	AC Output Power (kVA/kW) @40 °C [1]	2005	3005	4010	
	AC Output Power (kVA/kW) @50 °C [1]	1860	2790	3720	
Operating Grid Voltage (VAC)		630 V ±10%			
DC Voltage Range [2]		891 V - 1500 V			
DC	Maximum DC Voltage	1500 V			
	Number of Separate DC Inputs	2	3	2	4
EFFICIENCY	Efficiency (Max) (η)	98.79%	98.82%	98.88%	
	Euroeta (η)	98.28%	98.43%	98.45%	
<b>615 V</b>		<b>FRAME 2</b>	<b>FRAME 3</b>	<b>FRAME 4</b>	
<b>REFERENCES</b>		<b>FP1955K2</b>	<b>FP2935K3</b>	<b>FP3915K2</b>	<b>FP3915K4</b>
AC	AC Output Power (kVA/kW) @40 °C [1]	1955	2935	3915	
	AC Output Power (kVA/kW) @50 °C [1]	1815	2725	3635	
Operating Grid Voltage (VAC)		615 V ±10%			
DC Voltage Range [2]		870 V - 1500 V			
DC	Maximum DC Voltage	1500 V			
	Number of Separate DC Inputs	2	3	2	4
EFFICIENCY	Efficiency (Max) (η)	98.75%	98.78%	98.77%	
	Euroeta (η)	98.20%	98.35%	98.37%	

NOTES

[1] 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.

[2] 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.



<b>600 V</b>		<b>FRAME 2</b>	<b>FRAME 3</b>	<b>FRAME 4</b>	
<b>REFERENCES</b>		<b>FP1910K2</b>	<b>FP2865K3</b>	<b>FP3820K2</b>	<b>FP3820K4</b>
AC	AC Output Power (kVA/kW) @40 °C [1]	1910	2865	3820	
	AC Output Power (kVA/kW) @50 °C [1]	1775	2660	3545	
	Operating Grid Voltage (VAC)	600 V ±10%			
DC	DC Voltage Range [2]	849 V - 1500 V			
	Maximum DC Voltage	1500 V			
	Number of Separate DC Inputs	2	3	2	4
EFFICIENCY	Efficiency (Max) (η)	98.82%	98.85%	98.78%	
	Euroeta (η)	98.18%	98.33%	98.35%	
<b>530 V</b>		<b>FRAME 2</b>	<b>FRAME 3</b>	<b>FRAME 4</b>	
<b>REFERENCES</b>		<b>FP1685K2</b>	<b>FP2530K3</b>	<b>FP3370K2</b>	<b>FP3370K4</b>
AC	AC Output Power (kVA/kW) @40 °C [1]	1685	2530	3370	
	AC Output Power (kVA/kW) @50 °C [1]	1565	2350	3130	
	Operating Grid Voltage (VAC)	530 V ±10%			
DC	DC Voltage Range [2]	750 V - 1300 V			
	Maximum DC Voltage	1300 V			
	Number of Separate DC Inputs	2	3	2	4
EFFICIENCY	Efficiency (Max) (η) (preliminary)	98.78%			
	Euroeta (η) (preliminary)	98.35%			
<b>500 V</b>		<b>FRAME 2</b>	<b>FRAME 3</b>	<b>FRAME 4</b>	
<b>REFERENCES</b>		<b>FP1590K2</b>	<b>FP2385K3</b>	<b>FP3180K2</b>	<b>FP3180K4</b>
AC	AC Output Power (kVA/kW) @40 °C [1]	1590	2385	3180	
	AC Output Power (kVA/kW) @50 °C [1]	1475	2215	2955	
	Operating Grid Voltage (VAC)	500 V ±10%			
DC	DC Voltage Range [2]	708 V - 1250 V			
	Maximum DC Voltage	1250 V			
	Number of Separate DC Inputs	2	3	2	4
EFFICIENCY	Efficiency (Max) (η) (preliminary)	98.78%			
	Euroeta (η) (preliminary)	98.35%			
<b>480 V</b>		<b>FRAME 2</b>	<b>FRAME 3</b>	<b>FRAME 4</b>	
<b>REFERENCES</b>		<b>FP1525K2</b>	<b>FP2290K3</b>	<b>FP3055K2</b>	<b>FP3055K4</b>
AC	AC Output Power (kVA/kW) @40 °C [1]	1525	2290	3055	
	AC Output Power (kVA/kW) @50 °C [1]	1415	2125	2840	
	Operating Grid Voltage (VAC)	480 V ±10%			
DC	DC Voltage Range [2]	679 V - 1200 V			
	Maximum DC Voltage	1200 V			
	Number of Separate DC Inputs	2	3	2	4
EFFICIENCY	Efficiency (Max) (η) (preliminary)	98.78%			
	Euroeta (η) (preliminary)	98.35%			

NOTES

[1] 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.

[2] 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.