

Multi PCSM

UL

Easy maintenance.

Integrated MV solution in the same enclosure.

Up to 4 independent DC inputs.

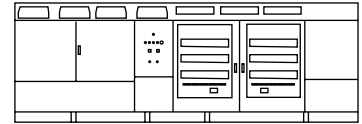
Advanced grid support.

Compatible with all battery technologies.



Freemaq Multi PCSM

UL



REFERENCES	FP5020MU2	FP5020MU4	
AC	AC Output Power (kVA/kW) @30 °C ^[1]	5240	
	AC Output Power (kVA/kW) @35 °C ^[1]	5020	
	AC Output Power (kVA/kW) @40 °C ^[1]	4800	
	AC Output Power (kVA/kW) @50 °C ^[1]	4360	
	Operating Grid Voltage (kV)	34.5 kV ±10%	
	Operating Grid Frequency (Hz)	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 Full Power ^[3]	976 V - 1500 V	
	Maximum DC Voltage	1500 V	
	DC Voltage Ripple	<3%	
	Max. DC Continuous Current (A)	2740	1370
	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)	
EFFICIENCY & AUX. SUPPLY	Efficiency (Max) (η)	98.00% including MV transformer	
	CEC (η)	97.53% including MV transformer	
CABINET	Dimensions [WxDxH] (ft)	21.3 x 6.5 x 7.5	
	Dimensions [WxDxH] (m)	6.5 x 2.0 x 2.3	
	Weight (lbs)	30865	
	Weight (kg)	14000	
	Type of Ventilation	Forced air cooling	
ENVIRONMENT	Degree of Protection	NEMA 3R	NEMA 3R
	Operating Temperature Range ^[4]	From -25 °C to +60 °C, >30 °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) ^[5]	2000 m	
CONTROL INTERFACE	Communication Protocol	Modbus TCP	
	Power Plant Controller	Optional	
	Keyed ON/OFF Switch	Standard	
PROTECTIONS	Ground Fault Protection	Insulation monitoring device	
	Humidity Control	Active heating	
	General AC Protection & Disconnection	38 kV MV switchgear (V)	38 kV MV switchgear (V)
	General DC Protection & Disconnection	High-speed fuses, Motorized DC disconnect switches ^[6]	
	Overvoltage Protection	Type 2 for AC and Type 1+2 for DC	
CERTIFICATIONS & STANDARDS	Safety	UL 1741 / CSA 22.2 No.1071-16	
	Installation	NEC 2023	
	Utility Interconnect ^[7]	UL 1741 SA & SB / IEEE 1547.1	

NOTES

- [1] Values at 1.00-Vac nom and CosPhi=1.
 Consult Power Electronics for derating curves and overload capability in grid forming mode.
 [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 to -25 °C.
 [5] Consult Power Electronics for altitudes above 1000 m.
 [6] Battery short circuit disconnection must be done on the battery side.
 [7] Consult Power Electronics for other applicable standards / grid codes.