

Multi PCSM

IEC

Easy maintenance.

Integrated MV solution in the same enclosure.

Up to 4 independent DC inputs.

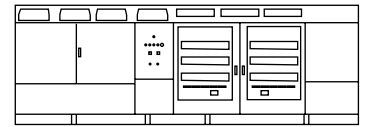
Advanced grid support.

Compatible with all battery technologies.



Freemaq Multi PCSM

IEC



COMMON FEATURES

AC	Current Harmonic Distortion (THDi)	<3% per IEEE 519
	Power Factor (cos phi) ^[2]	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	Maximum DC Voltage	1500 V
	DC Voltage Ripple	<3%
	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	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
ENVIRONMENT	Type of Ventilation	Forced air cooling
	Degree of Protection	IP55
	Operating Temperature Range ^[4]	From -25 °C to +60 °C, >40 °C power derating
	Operating Relative Humidity Range	From 4% to 100% non-condensing
CONTROL INTERFACE	Storage Temperature Range	From -40 °C to +60 °C
	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.	MV switchgear (2L+V)
	General DC Protection & Disconn.	High-speed fuses, Motorized DC disconnect switches ^[6]
CERTIFICATIONS & STANDARDS	Overvoltage Protection	Type II for AC and Type I+II for DC
	Safety	IEC 62109-1 / IEC 62109-2 / IEC 62477-2

REFERENCES	FP4200MH2	FP4203MH2	FP4207MH2	FP4200MH4	FP4203MH4	FP4207MH4	
AC	AC Output Power (kVA/kW) @40 °C ^[1]						4200
	AC Output Power (kVA/kW) @50 °C ^[1]						3900
	Operating Grid Voltage (KV)		34.5 kV ±10%	33 kV ±10%	34.5 kV ±10%	33 kV ±10%	
	Operating Grid Frequency (Hz)		60 Hz	50 Hz	60 Hz	50 Hz	
DC	DC Voltage Range ^[3]						934 V - 1500 V
	Max. DC Continuous Current per Input (A)		2295		1148		
	Number of Separate DC Inputs		2		4		
EFFICIENCY & AUX. SUPPLY	Efficiency (Max) (η) (preliminary)						97.80% including MV transformer
	Euroeta (η) (preliminary)						97.51% including MV transformer
ENVIRONMENT	Max. Altitude (above sea level) ^[5]		2000 m	1000 m	2000 m	1000 m 2000 m	

REFERENCES	FP4105MH2	FP4105MH4	
AC	AC Output Power (kVA/kW) @40 °C ^[1]		4105
	AC Output Power (kVA/kW) @50 °C ^[1]		3810
	Operating Grid Voltage (KV)		34.5 kV ±10%
	Operating Grid Frequency (Hz)		60 Hz
DC	DC Voltage Range ^[3]		913 V - 1500 V
	Max. DC Continuous Current per Input (A)		2295 1148
	Number of Separate DC Inputs		2 4
EFFICIENCY & AUX. SUPPLY	Efficiency (Max) (η) (preliminary)		97.76% including MV transformer
	Euroeta (η) (preliminary)		97.50% including MV transformer
ENVIRONMENT	Max. Altitude (above sea level) ^[5]		2000 m

REFERENCES	FP4010MH2	FP4010MH4	
AC	AC Output Power (kVA/kW) @40 °C ^[1]		4010
	AC Output Power (kVA/kW) @50 °C ^[1]		3720
	Operating Grid Voltage (KV)		34.5 kV ±10%
	Operating Grid Frequency (Hz)		60 Hz
DC	DC Voltage Range ^[3]		891 V - 1500 V
	Max. DC Continuous Current per Input (A)		2295 1148
	Number of Separate DC Inputs		2 4
EFFICIENCY & AUX. SUPPLY	Efficiency (Max) (η) (preliminary)		97.75% including MV transformer
	Euroeta (η) (preliminary)		97.48% including MV transformer
ENVIRONMENT	Max. Altitude (above sea level) ^[5]		2000 m

NOTES

[1] Values at 1.00-Vac nom and cosφ=1.
Consult Power Electronics for derating curves and overload capability in grid forming mode.

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

[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] Available from January 2027.