

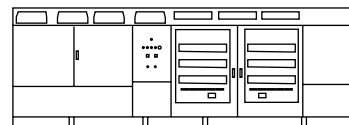


PCSM

IEC

Easy maintenance.
Integrated MV solution in the same enclosure.
Advanced grid support.
Compatible with all battery technologies.





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	
DC	Maximum DC Voltage	1500 V	
	DC Voltage Ripple	<3%	
	Max. DC Continuous Current (A)	4590	
	Max. DC Short Circuit Current (kA)	500 kA with a time constant of 1 ms	
CABINET	Battery Technology	All type of batteries (BMS required)	
	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	
	Storage Temperature Range	From -40 °C to +60 °C	
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.	MV switchgear (2L+V)	
	General DC Protection & Disconn.	High-speed fuses, Motorized DC disconnect switches ^[6]	
	Overvoltage Protection	Type II for AC and Type I+II for DC	
CERTIFICATIONS & STANDARDS	Safety	IEC 62109-1 / IEC 62109-2 / IEC 62477-2	

REFERENCES		FP4200MH	FP4203MH	FP4207MH
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%	
	Operating Grid Frequency (Hz)	60 Hz	50 Hz	
DC	DC Voltage Range ^[3]	934 V - 1500 V		
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
REFERENCES		FP4105MH		
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		
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		FP4010MH		
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		
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: $Q(kVar)=\sqrt{(S(kVA))^2-P(kW)^2}$.
[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 down to -35 °C.
[5] Consult Power Electronics for altitudes above 1000 m.
[6] Battery short circuit disconnection must be done on the battery side.