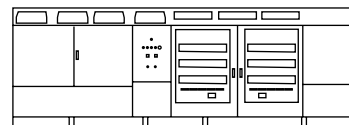

Easy maintenance.
Integrated MV solution in the same enclosure.
Advanced grid support.
Compatible with all battery technologies.

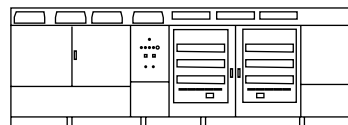




REFERENCES	FP4999MH	FP5020MH	FP5021MH	
AC	AC Output Power @30 °C ^[1]	4999 kVA / kW	5240 kVA / kW	
	AC Output Power @35 °C ^[1]	4999 kVA / kW	5020 kVA / kW	
	AC Output Power @40 °C ^[1]	4800 kVA / kW	4800 kVA / kW	
	AC Output Power @50 °C ^[1]	4360 kVA / kW	4360 kVA / kW	
	Operating Grid Voltage	33 kV ±10%	34.5 kV ±10%	33 kV ±10%
	Rated Impulse Withstand Voltage	150 kV	145 kV	150 kV
	Operating Grid Frequency	50 Hz	60 Hz	50 Hz
	Current Harmonic Distortion (THDi)	<3% per IEEE 519		
	Power Factor (CosPhi) ^[2]	0.5 leading ... 0.5 lagging		
	Overload Capability	166% - 100 ms / 150% - 5 s / 120% - 8 s / 110% - 15 s		
DC	DC Voltage Range ^[3]	976 V – 1500 V		
	Maximum DC Voltage	1500 V		
	DC Voltage Ripple	<3%		
	Max. DC Continuous Current	5221 A	5473 A	
	Max. DC Short Circuit Current	500 kA with a time constant of 1 ms		
	Battery Technology	All type of batteries (BMS required)		
EFFICIENCY & AUX. SUPPLY	Efficiency (Max) (η)	98.09% including MV transformer		
	Euroeta (η)	97.21% including MV transformer		
CABINET	Footprint dimensions [WxDxH]	21.3 x 6.5 x 7.5 ft		
	Footprint dimensions [WxDxH]	6.5 x 2.0 x 2.3 m		
	Weight	30865 lbs		
	Weight	14000 kg		
	Type of Ventilation	Forced air cooling		
	ENVIRONMENT	Degree of Protection	IP55	
Operating Temperature Range		From -40 °C to +60 °C, >30 °C power derating (optional below -25 °C)		
Operating Relative Humidity Range		From 4% to 100%		
Storage Temperature Range		From -40 °C to +60 °C		
Max. Altitude (above sea level) ^[4]		1000 m	2000 m	1000 m
CONTROL		Communication Protocol	Modbus TCP	
	Grid Forming (VISMA) / Black Start Capable	Standard		
PROTECTIONS	Ground Fault Protection	Insulation monitoring device		
	Humidity Control	Active heating		
	General AC Protection & Disconnection	36 kV MV switchgear (2L+V)		
	General DC Protection & Disconnection	High-speed fuses, Motorized DC disconnect switches ^[5]		
	Overvoltage Protection	Type II for AC and Type I+II for DC		
	STANDARDS	Safety	IEC 62109-1 / IEC 62109-2 / IEC 62477-1 / IEC 62477-2	
Utility Interconnect ^[6]		IEC 62116 / G99 / VDE 4110-4120-4130 / CEI 0-16 / NTS 2.1 / EN 50549		

NOTES

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



REFERENCES	FP5022MH	FP5023MH	FP5026MH	
AC	AC Output Power @30 °C ^[1]			5240 kVA / kW
	AC Output Power @35 °C ^[1]			5020 kVA / kW
	AC Output Power @40 °C ^[1]			4800 kVA / kW
	AC Output Power @50 °C ^[1]			4360 kVA / kW
	Operating Grid Voltage	30 kV ±10%	20 kV ±10%	33 kV ±10%
	Rated Impulse Withstand Voltage	145 kV	125 kV	150 kV
	Operating Grid Frequency	50 Hz		60 Hz
	Current Harmonic Distortion (THDi)	<3% per IEEE 519		
	Power Factor (CosPhi) ^[2]	0.5 leading ... 0.5 lagging		
	Overload Capability	166% - 100 ms / 150% - 5 s / 120% - 8 s / 110% - 15 s		
DC	DC Voltage Range ^[3]			976 V – 1500 V
	Maximum DC Voltage			1500 V
	DC Voltage Ripple			<3%
	Max. DC Continuous Current			5473 A
	Max. DC Short Circuit Current			500 kA with a time constant of 1 ms
	Battery Technology			All type of batteries (BMS required)
EFFICIENCY & AUX. SUPPLY	Efficiency (Max) (η)			98.09% including MV transformer
	Euroeta (η)			97.21% including MV transformer
CABINET	Footprint dimensions [WxDxH]			21.3 x 6.5 x 7.5 ft
	Footprint dimensions [WxDxH]			6.5 x 2.0 x 2.3 m
	Weight			30865 lbs
	Weight			14000 kg
	Type of Ventilation			Forced air cooling
ENVIRONMENT	Degree of Protection			IP55
	Operating Temperature Range			From -40 °C to +60 °C, >30 °C power derating (optional below -25 °C)
	Operating Relative Humidity Range			From 4% to 100%
	Storage Temperature Range			From -40 °C to +60 °C
	Max. Altitude (above sea level) ^[4]	1000 m		2000 m
CONTROL	Communication Protocol			Modbus TCP
	Grid Forming (VISMA) / Black Start Capable			Standard
PROTECTIONS	Ground Fault Protection			Insulation monitoring device
	Humidity Control			Active heating
	General AC Protection & Disconnection	36 kV MV switchgear (2L+V)	24 kV SF6 Free MV switchgear (2L+V)	36 kV MV switchgear (2L+V)
	General DC Protection & Disconnection			High-speed fuses, Motorized DC disconnect switches ^[5]
	Overvoltage Protection			Type II for AC and Type I+II for DC
STANDARDS	Safety			IEC 62109-1 / IEC 62109-2 / IEC 62477-1 / IEC 62477-2
	Utility Interconnect ^[6]			IEC 62116 / G99 / VDE 4110-4120-4130 / CEI 0-16 / NTS 2.1 / EN 50549

NOTES

- [1] Values at 1.00-Vac nom and CosPhi=1. Consult Power Electronics for derating curves.
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[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.
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