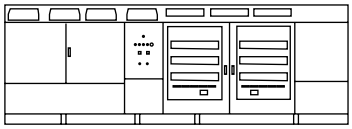
HEM
UL

Easy maintenance.
Advanced grid support.
Integrated MV solution in the same enclosure.
Econ Mode. Remove no-load losses.
Bus Plus. Combines Solar and Storage.

HEM
UL



COMMON FEATURES				
AC	Operating Grid Frequency (Hz)	60Hz		
	Current Harmonic Distortion (THDi)	< 3% per IEEE519		
	Power Factor (CosPhi) [1]	0.5 leading ... 0.5 lagging adjustable / Reactive power injection at night		
DC	Maximum DC Voltage	1500V		
	Number of Inputs	Up to 40		
	Max. DC Continuous Current (A) [2]	4590		
	Max. DC Short Circuit Current (A) [2]	6940		
	Number of Freemaq DC/DC [2]	Up to 4		
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		
	Operating Temperature Range [3]	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) [4]	2000m		
CONTROL INTERFACE	Communication Protocol	Modbus TCP		
	Power Plant Controller	Optional		
	Keyed ON/OFF Switch	Standard		
PROTECTIONS	Ground Fault Protection	GFDI and isolation monitoring device		
	Humidity Control	Active heating		
	General AC Protection & Disconn.	38 kV MV switchgear (20 or 25 kA)		
	General DC Protection & Disconn.	Fuses, Motorized DC disconnect switches		
	Overvoltage Protection	Type 2 protection for AC and DC		
CERTIFICATIONS & STANDARDS	Safety	UL 1741 / CSA 22.2 No.107.1-16		
	Installation	NEC 2023		
	Utility Interconnect [5]	UL 1741 SA & SB / RULE 21 / RULE 14H / IEEE 1547.1:2020		
REFERENCES		**FS4200M**	**FS4201M**	**FS4204M**
AC	AC Output Power (kVA/kW) @40°C [6]	4200		
	AC Output Power (kVA/kW) @50°C [6]	3900		
	Operating Grid Voltage (kV) [7]	34.5kV ±10%	13.8kV ±10%	12.47 kV ±10%
DC	DC Voltage Range [8]	934V - 1500V		
EFFICIENCY	Efficiency (Max) (η)	98.00% including MV transformer		
	CEC (η)	97.53% including MV transformer		
REFERENCES		**FS4105M**		
AC	AC Output Power (kVA/kW) @40°C [6]	4105		
	AC Output Power (kVA/kW) @50°C [6]	3810		
	Operating Grid Voltage (kV) [7]	34.5kV ±10%		
DC	DC Voltage Range [8]	913V - 1500V		
EFFICIENCY	Efficiency (Max) (η)	97.93% including MV transformer		
	CEC (η)	97.50% including MV transformer		
REFERENCES		**FS4010M**		
AC	AC Output Power (kVA/kW) @40°C [6]	4010		
	AC Output Power (kVA/kW) @50°C [6]	3720		
	Operating Grid Voltage (kV) [7]	34.5kV ±10%		
DC	DC Voltage Range [8]	891V - 1500V		
EFFICIENCY	Efficiency (Max) (η)	97.91% including MV transformer		
	CEC (η)	97.49% including MV transformer		

NOTES

[1] Consult P-Q charts available: $Q(kVAr)=\sqrt{(S(kVA)^2-P(kW)^2)}$.
[2] Consult Power Electronics for Freemaq DC/DC connection configurations.
[3] Optional available for temperatures below -25 °C.
[4] Consult Power Electronics for altitudes above 1000m.
[5] Consult Power Electronics for other applicable standards / grid codes.
[6] Values at 1.00·Vac nom and CosPhi=1. Consult Power Electronics for derating curves.
[7] Consult Power Electronics for other configurations.
[8] 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.

POWER ELECTRONICS