

## TECHNICAL CHARACTERISTICS

## HEM HYBRID

REFERENCE	FS3190M2	FS3190M4	FS3190M6	
<b>OUTPUT</b>	AC Output Power (kVA/kW) @50°C <sup>[1]</sup>		3190	
	AC Output Power (kVA/kW) @40°C <sup>[1]</sup>		3300	
	Operating Grid Voltage		34.5 kV ±10 %	
	Operating Grid Frequency		60Hz	
	Current Harmonic Distortion (THDi)		< 3% per IEEE 519	
	Power Factor (cosine phi) <sup>[2]</sup>		0.5 leading ... 0.5 lagging adjustable / Reactive Power injection at night	
<b>INPUT</b>	MPPt @full power		849V - 1310V	
	Maximum DC voltage		1500V	
	Number of PV inputs <sup>[3]</sup>		Up to 36	
	Number of Freemaq DC/DC	2	4	6
	Freemaq DC/DC Power (kW) @50°C	1000	2000	3000
	DC ESS Voltage range <sup>[4]</sup>		700V - 1500V	
	Max. DC continuous current (A) <sup>[5]</sup>		6200	
	Max. DC short circuit current (A) <sup>[5]</sup>		12000	
<b>EFFICIENCY &amp; AUXILIARY SUPPLY</b>	Max. PV Inverter Efficiency PAC, nom (η)		97.68% including MV transformer (preliminary)	
	CEC PV Inverter Efficiency (η)		97.47% including MV transformer (preliminary)	
	Max. Power Consumption (kVA)		30	
<b>CABINET</b>	Dimensions [WxDxH] (ft)		30.38 x 7 x 7 (preliminary)	
	Dimensions [WxDxH] (m)		9.26 x 2.2 x 2.2 (preliminary)	
	Weight (lb)		< 41888	
	Weight (kg)		< 19000	
	Type of ventilation		Forced air cooling	
<b>ENVIRONMENT</b>	Degree of protection		NEMA 3R	
	Permissible Ambient Temperature		-35°C to +60°C / > 50°C Active Power derating	
	Relative Humidity		4 % to 100 % non condensing	
	Max. Altitude (above sea level) <sup>[6]</sup>		2000 m	
	Noise level <sup>[7]</sup>		< 79 dBA	
<b>CONTROL INTERFACE</b>	Communication protocol		Modbus TCP	
	Plant Controller Communication		Optional	
	Keyed ON/OFF switch		Standard	
<b>PROTECTIONS</b>	Ground Fault Protection		GFDI and isolation monitoring device	
	General AC Protection		MV switchgear (configurable)	
	General DC Protection		Fuses	
	Overvoltage Protection		Type 2	
<b>CERTIFICATIONS</b>	Safety		UL 1741, CSA 22.2 No.107.1-16	
	Compliance		NEC 2017	
	Utility interconnect		IEEE 1547.1-2005 / UL 1741 SA - Feb. 2018	

[1] Values at 1.00•Vac nom and cos Φ= 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 other configurations.

[4] Consult Power Electronics for derating curves.

[5] Consult Power Electronics for higher currents.

[6] Consult Power Electronics for other altitudes.

[7] Readings taken 1 meter from the back of the unit.