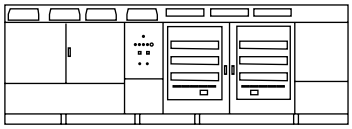
PCSM

IEC

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



Freemaq PCSM
IEC



Preliminary

REFERENCES		FP5231MH
AC	AC Output Power @40°C [1]	5230 kVA / kW
	AC Output Power @50°C [1]	4790 kVA / kW
	Operating Grid Voltage	33 kV ±10%
	Operating Grid Frequency	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	5468 A
	Max. DC Short Circuit Current	500 kA with a time constant of 1 ms
	Battery Technology	All types of batteries (BMS required)
EFFICIENCY & AUX. SUPPLY	Efficiency (Max) (η)	98.00% including MV transformer
	Euroeta (η)	97.53% including MV transformer
CABINET	Dimensions [WxDxH]	23.5 x 6.5 x 7.2 ft
	Dimensions [WxDxH]	7.15 x 2.0 x 2.2 m
	Weight	32628 lbs
	Weight	14800 kg
	Type of Ventilation	Forced air cooling
ENVIRONMENT	Degree of Protection	IP55
	Operating Temperature Range	From -40 °C to +60 °C, >40 °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)	1000 m
CONTROL	Communication Protocol	Modbus TCP
	Power Plant Controller	Optional
	Keyed ON/OFF Switch	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 [4]
	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 [5]	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] Battery short circuit disconnection must be done on the battery side.
[5] Consult Power Electronics for other applicable standards / grid codes.

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