

Multi PCSM

IEC | UL

Easy maintenance.

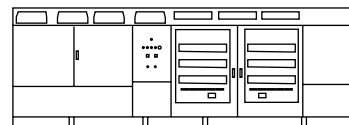
Integrated MV solution in the same enclosure.

Up to 4 independent DC inputs.

Advanced grid support.

Compatible with all battery technologies.



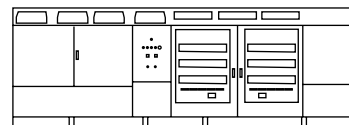


Preliminary

REFERENCES	FP5020MU2	FP5020MH2	FP5020MU4	FP5020MH4
AC	AC Output Power (kVA/kW) @35 °C ^[1]			
	5020			
	AC Output Power (kVA/kW) @40 °C ^[1]			
	4800			
	AC Output Power (kVA/kW) @50 °C ^[1]			
	4360			
	Operating Grid Voltage (kV)			
	34.5 kV ±10%			
DC	Operating Grid Frequency (Hz)			
	60 Hz			
	Current Harmonic Distortion (THDi)			
	<3% per IEEE 519			
	Power Factor (CosPhi) ^[2]			
	0.5 leading ... 0.5 lagging			
	Reactive Power Compensation			
	Four quadrant operation			
EFFICIENCY & AUX. SUPPLY	DC Voltage Range Full Power ^[3]			
	976 V – 1500 V			
	Maximum DC Voltage			
	1500 V			
	DC Voltage Ripple			
	<3%			
CABINET	Max. DC Continuous Current (A)	2624		1312
	Max. DC Short Circuit Current (kA)	500 kA with a time constant of 1 ms		
	Battery Technology	All type of batteries (BMS required)		
	Number of Separated DC Inputs	2		4
	Efficiency (Max) (η)	98.00% including MV transformer		
ENVIRONMENT	CEC (η)	97.53% including MV transformer		
	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		
CONTROL INTERFACE	Type of Ventilation	Forced air cooling		
	Degree of Protection	NEMA 3R	IP55	NEMA 3R
	Operating Temperature Range ^[4]	From -25 °C to +60 °C, >35 °C power derating		
	Operating Relative Humidity Range	From 4% to 100% non-condensing		
	Storage Temperature Range	From -40 °C to +60 °C		
PROTECTIONS	Max. Altitude (above sea level) ^[5]	1000 m		
	Communication Protocol	Modbus TCP		
	Power Plant Controller	Optional		
	Keyed ON/OFF Switch	Standard		
	Ground Fault Protection	Insulation monitoring device		
CERTIFICATIONS & STANDARDS	Humidity Control	Active heating		
	General AC Protection & Disconnection	38 kV MV switchgear (V)	36 kV MV switchgear (2L+V)	36 kV MV switchgear (2L+V)
	General DC Protection & Disconnection	High-speed fuses, Motorized DC disconnect switches ^[6]		
	Overvoltage Protection	Type 2 for AC and Type 1+2 for DC		
	Safety	UL 1741 / CSA 22.2 No.1071-16 / IEC 62109-1 / IEC 62109-2 / IEC 62477-1 / IEC 62477-2		
STANDARDS	Installation	NEC 2023		
	Utility Interconnect ^[7]	UL 1741 SA & SB / IEEE 1547.1 / 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 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.
[7] Consult Power Electronics for other applicable standards / grid codes.

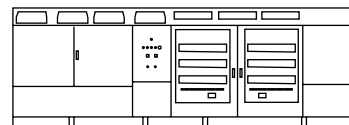


Preliminary

REFERENCES		FP5021MH2	FP5021MH4
AC	AC Output Power (kVA/kW) @35 °C ^[1]	5020	
	AC Output Power (kVA/kW) @40 °C ^[1]	4800	
	AC Output Power (kVA/kW) @50 °C ^[1]	4360	
	Operating Grid Voltage (kV)	33 kV ±10%	
	Operating Grid Frequency (Hz)	50 Hz	
	Current Harmonic Distortion (THDi)	<3% per IEEE 519	
	Power Factor (CosPhi) ^[2]	0.5 leading ... 0.5 lagging	
	Reactive Power Compensation	Four quadrant operation	
DC	DC Voltage Range Full Power ^[3]	976 V – 1500 V	
	Maximum DC Voltage	1500 V	
	DC Voltage Ripple	<3%	
	Max. DC Continuous Current (A)	2624	1312
	Max. DC Short Circuit Current (kA)	500 kA with a time constant of 1 ms	
	Battery Technology	All type of batteries (BMS required)	
EFFICIENCY & AUX. SUPPLY	Efficiency (Max) (η)	98.00% including MV transformer	
	CEC (η)	97.53% including MV transformer	
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	IP55	
	Operating Temperature Range ^[4]	From -25 °C to +60 °C, >35 °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) ^[5]	1000 m	
CONTROL INTERFACE	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 ^[6]	
	Overvoltage Protection	Type 2 for AC and Type 1+2 for DC	
	Safety	IEC 62109-1 / IEC 62109-2 / IEC 62477-1 / IEC 62477-2	
CERTIFICATIONS & STANDARDS	Utility Interconnect ^[7]	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 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.
[7] Consult Power Electronics for other applicable standards / grid codes.



Preliminary

REFERENCES		FP5022MH2	FP5022MH4
AC	AC Output Power (kVA/kW) @35 °C ^[1]	5020	
	AC Output Power (kVA/kW) @40 °C ^[1]	4800	
	AC Output Power (kVA/kW) @50 °C ^[1]	4360	
	Operating Grid Voltage (kV)	30 kV ±10%	
	Operating Grid Frequency (Hz)	50 Hz	
	Current Harmonic Distortion (THDi)	<3% per IEEE 519	
	Power Factor (CosPhi) ^[2]	0.5 leading ... 0.5 lagging	
	Reactive Power Compensation	Four quadrant operation	
DC	DC Voltage Range Full Power ^[3]	976 V – 1500 V	
	Maximum DC Voltage	1500 V	
	DC Voltage Ripple	<3%	
	Max. DC Continuous Current (A)	2624	1312
	Max. DC Short Circuit Current (kA)	500 kA with a time constant of 1 ms	
	Battery Technology	All type of batteries (BMS required)	
EFFICIENCY & AUX. SUPPLY	Efficiency (Max) (η)	98.00% including MV transformer	
	CEC (η)	97.53% including MV transformer	
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	IP55	
	Operating Temperature Range ^[4]	From -25 °C to +60 °C, >35 °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) ^[5]	1000 m	
CONTROL INTERFACE	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 ^[6]	
	Overvoltage Protection	Type 2 for AC and Type 1+2 for DC	
CERTIFICATIONS & STANDARDS	Safety	IEC 62109-1 / IEC 62109-2 / IEC 62477-1 / IEC 62477-2	
	Utility Interconnect ^[7]	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.
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- [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.
- [7] Consult Power Electronics for other applicable standards / grid codes.