Storage

Battery inverters

Unlimited Energy

POWER ELECTRONICS

Looks clever.
Because it is.

Imagine the all storage powering the world

We manage the entire process in-house, from design and manufacturing to testing.

22 International subsidiaries

+170 GW
COMMISSIONED AC POWER

#1
WORLD STORAGE LEADER

Our vertical integration provides the flexibility and specialization needed to adapt our products to market and customer requirements, while ensuring short delivery times.

Store	Store energy during low-demand periods and supply it later during periods of high demand. This optimization of energy usage reduces electricity consumption costs by taking advantage of fluctuations in prices and energy availability at different times.
Control	Our products can monitor the point of interconnection to the grid, using different control strategies based on the available energy to ensure grid stability.
Reduce	Our storage products reduce the burden on the distribution grid and significantly increase its efficiency. The result is a flatter demand curve, avoiding the need to switch on more expensive and polluting generators.
Support	Our storage inverters provide advanced grid support, capable of controlling the voltage and frequency of the grid by managing reactive and active power.

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PCSM & Multi PCSM

Our largest utility-scale MV battery inverter. Designed to operate in all types of environments and compatible with all battery technologies.

PCSM & Multi PCSM

All-in-one

Integrated MV solution in the same enclosure. The turnkey storage solution that simplifies the installation design.

Modularity, synonymous with availability. Enables DC power redistribution when one module fails. Lower energy losses = higher availability and efficiency.

Easy maintenance. Designed for easy on-site replacement, with a safe, reliable, and fast plug-and-play assembly system. Includes 4 FRUs (Field Replaceable Units).

iCOOL 4, the most innovative cooling system. Our own air ventilation system provides a constant flow of clean air inside the equipment, our most advanced cooling system.

Three-level topology. The three-level IGBT topology reduces power-stage losses, increases inverter efficiency, and minimizes total harmonic distortion—achieving high efficiency for the lowest levelized cost of energy (LCOE).

Advanced grid support. Capable of operating on any power system, with different modes depending on the application: grid-forming or grid-following.

Adaptive capacity. Choose your model based on your specific requirements.



- Easy replaceable power modules
- Up to 5360 kVA
- Five different DC voltage windows
- Full grid support capability
- Grid-forming capability
- *Up to four independent BESS



*Only Multi PCSM

PCSK & Multi PCSK

The utility-scale battery inverters. From one independent BESS with PCSK to up to four independent BESS with Multi PCSK.

PCSK & Multi PCSK

Powerful and flexible

Easy maintenance. Designed for easy on-site replacement, with a safe, reliable, and fast plug-and-play assembly system. Includes up to four FRUs (Field Replaceable Units).

Modularity, synonymous with availability. Enables DC power redistribution when one module fails. Lower energy losses = higher availability and efficiency.

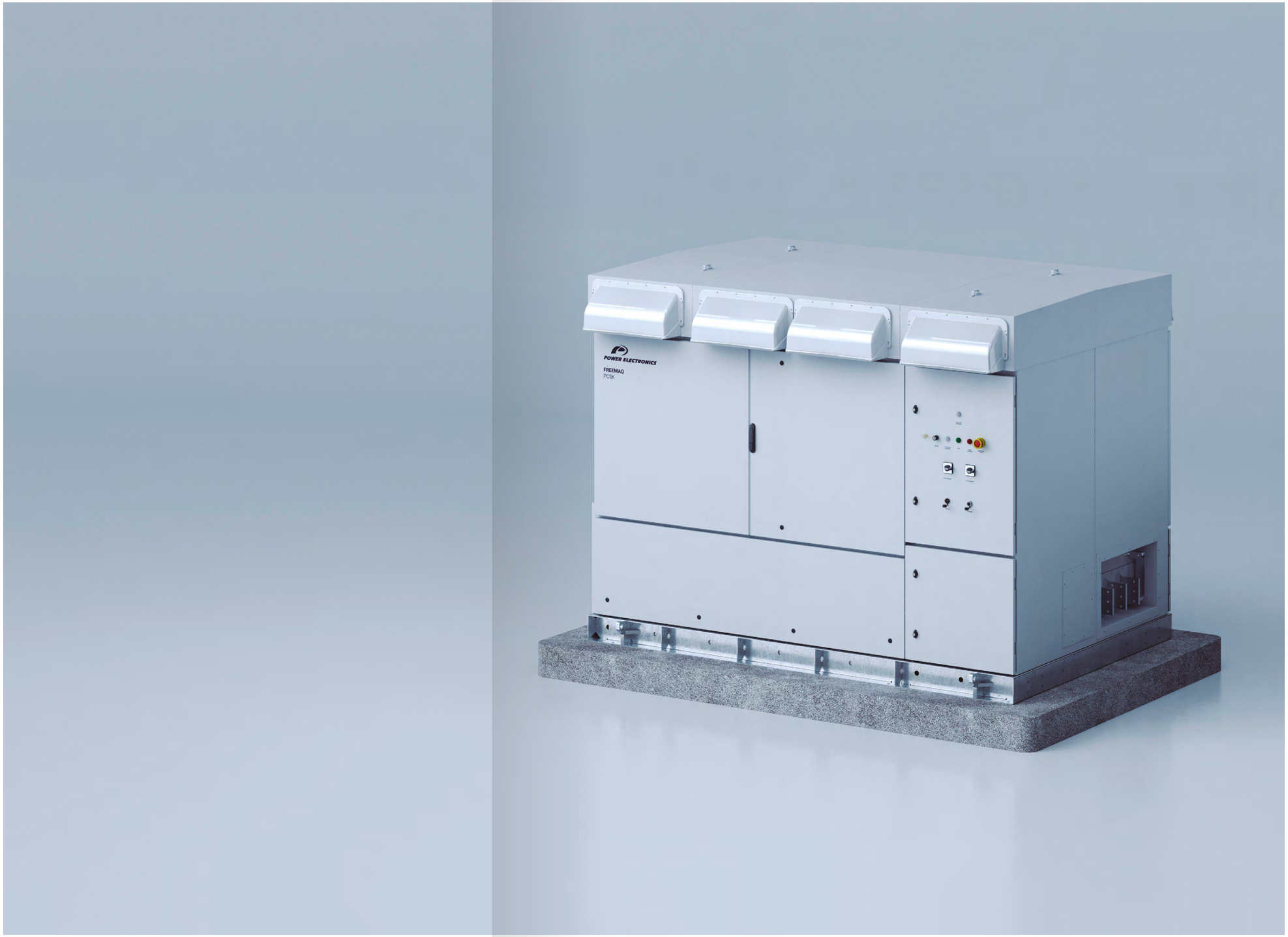
Advanced grid support. Capable of operating on any power system, with different modes depending on the application: grid-forming or grid-following.

Three-level topology. The three-level IGBT topology reduces power-stage losses, increases inverter efficiency, and minimizes total harmonic distortion—achieving high efficiency for the lowest levelized cost of energy (LCOE).

Adaptive capacity. Choose your model based on your specific requirements.



- Maximum power up to 1500 V
- Up to 5360 kVA
- Ten different voltage DC windows
- Full grid support capability
- Grid-forming capability
- *Up to four independent BESS



*Only Multi PCSK

Higher battery capacity thanks to the short-circuit withstand capability of each DC input. Up to four times more than a single input.

Multiple power references allow independent BESS control.

Higher availability since a battery fault will only remove the affected power modules from the system.

Only Multi PCSK



DC/DC Converters

Increase capacity in storage plants with our DC/DC converter. Easy to fit in any place and compatible with all battery technologies.

Freemaq DC/DC

Extend storage plant lifespan

Expand the battery capacity with our DC/DC converters, optimizing existing storage-plant resources and ensuring long-term sustainable performance.

Freemaq DC/DC converters provide an efficient solution for replacing degraded batteries and extending the lifespan of energy storage plants.

Its unique modular design offer the flexibility needed to adapt to the requested power.





The most efficient bidirectional DC/DC converter.

Modular outdoor solution

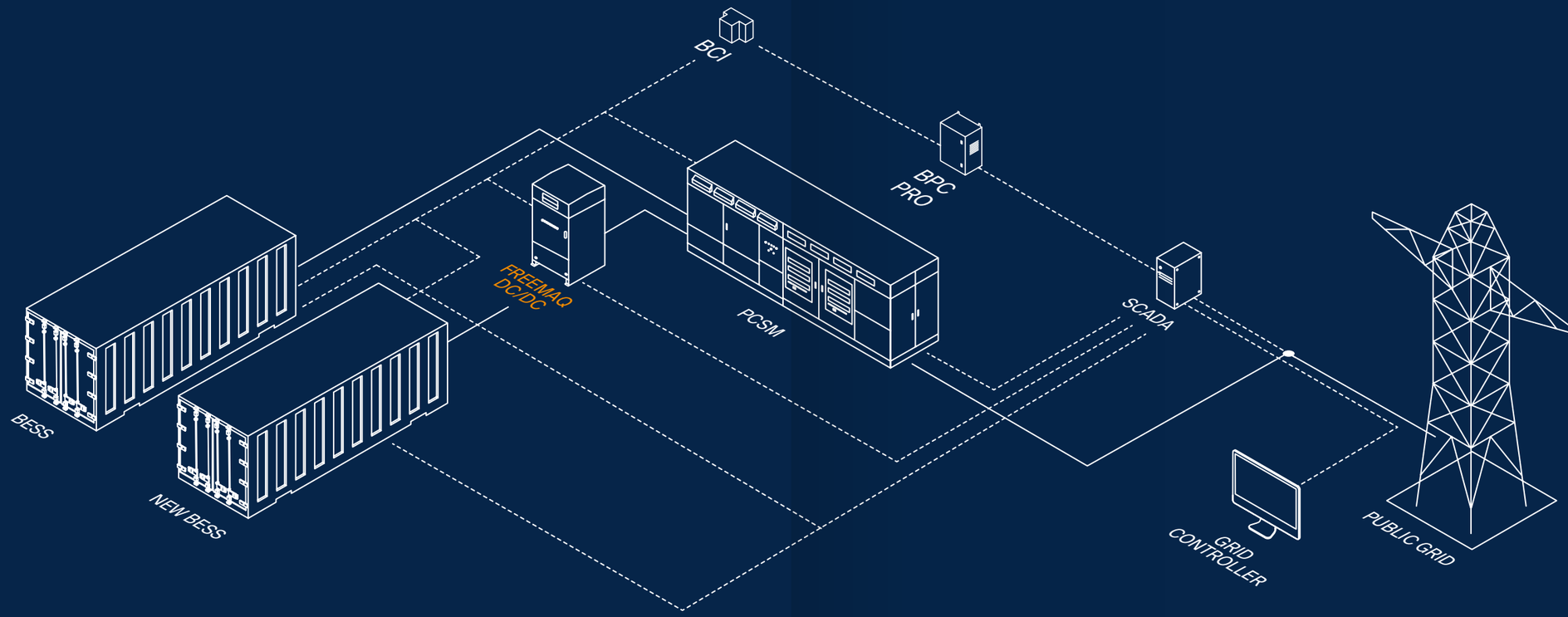
Nominal power of 1200 kW

Maximum power up to 1500 V

Avoid oversizing storage capacity with our Freemaq DC/DC. How?

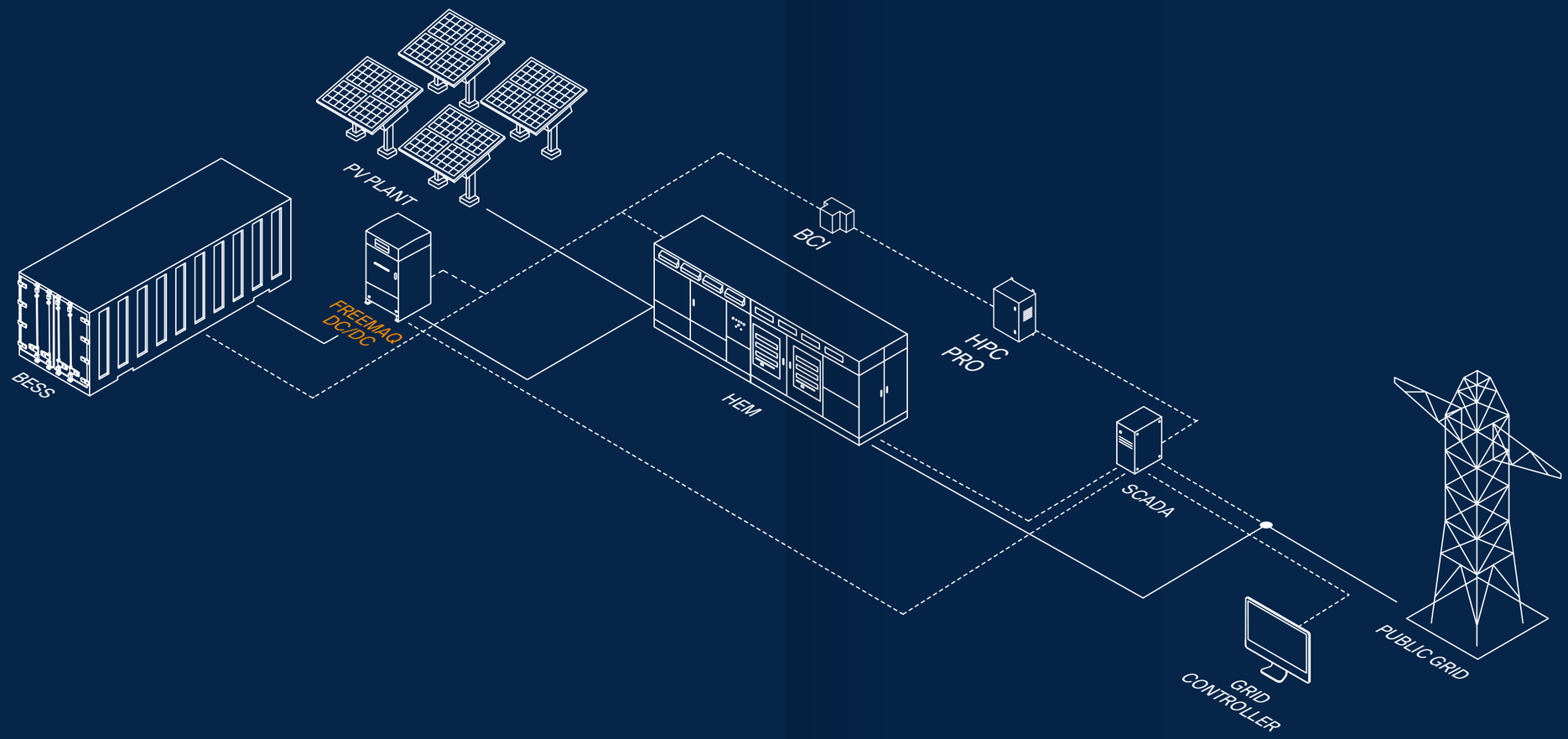
1 Batteries can be installed in different phases, using DC/DC converters to balance the voltage with the existing batteries.

2 Strategically planning staged installation optimizes the initial investment and prevents oversizing while ensuring plant lifespan.



Easy to integrate

Stored energy can be exported to the utility grid when the price per kWh is higher, optimizing revenue.



Easy to integrate

Freesun DC/DC

Advanced Hybrid Solution

Our advanced hybrid solution enables grid-forming operation by connecting our FREESUN DC/DC converter to the PV field and the BESS directly to our storage inverter.

Its unique modular design provides the flexibility needed to adapt to the requested power.





The most efficient bidirectional DC/DC converter.

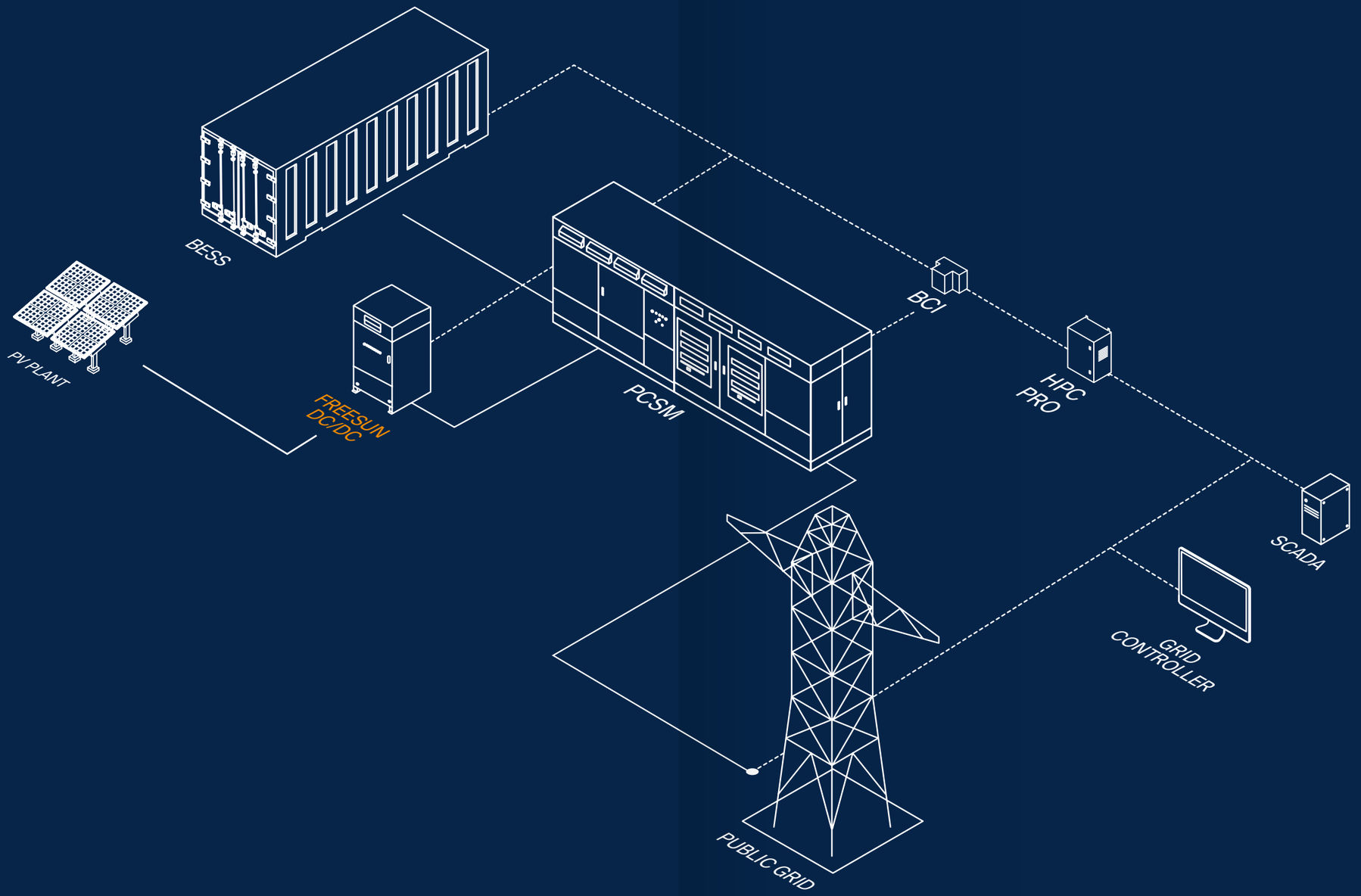
Modular outdoor solution

Nominal power of 1200 kW

Peak efficiency of 98.9%



Our advanced hybrid solution blends the equipment efficiency and cost reduction of a DC-coupled system with the powerful capabilities of an AC-coupled plant.
This unique combination enables full grid-forming operation, providing stability, flexibility, and robust performance—all while optimizing investment and simplifying system design.



Easy to integrate

MV Skid & Twin Skid

Our MV solutions are designed to combine with the PCSK and Multi PCSK in order to simplify your commissioning.

MV Skid Compact & Twin Skid Compact

Combine the Freemaq PCSK & Multi PCSK with our MV solutions.

Turnkey solution. Our medium voltage solutions facilitate the project design and reduce the installation costs.

The fastest connection with any PCSK.

Simplify your commissioning. All the medium voltage equipment is already integrated.



Easy and fast connection

MV Skid Compact



- From 6.6 kV to 36 kV in the high voltage range
- Power outputs from 1525 kVA to 5360 kVA
- From 480 V to 720 V in the low voltage range
- Choose the distribution that best fits your storage plant for one PCSK

For the largest storage plants

Twin Skid Compact



- From 11 kV to 36 kV in the high voltage range
- Power outputs from 3050 kVA to 10720 kVA
- From 480 V to 720 V in the low voltage range
- For two PCSK

Power Plant Controllers

Flexible control technology: real-time control and monitoring for advanced utility-scale applications.

BPC PRO

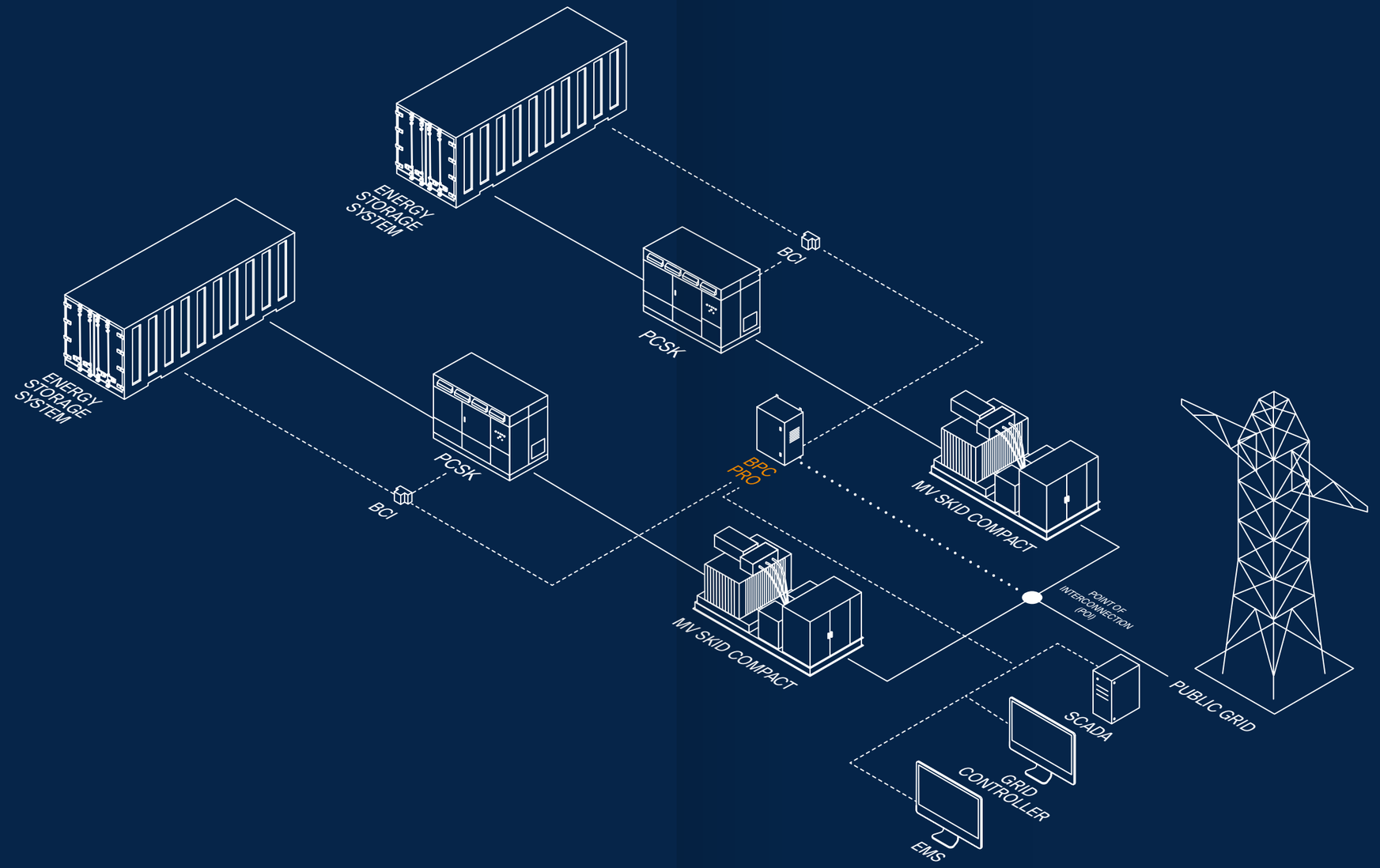
Control, wherever you are

BPC PRO ensures full coordination between storage-plant devices, adapting control strategies to battery status. It can act as the main governor of the most complex power plants by monitoring the point of interconnection (POI) and controlling the power generation. It is equipped with the latest PLC technology and advanced communication systems and regulation algorithms to comply with the most demanding grid codes.

Maximize power-block efficiency (inverter + batteries) with the Battery Control Interface (BCI).

BCI serves as the interface between the power block and the Power Plant Controller or SCADA system. It is easy to handle, requiring only basic external commands.
It enables seamless integration of any battery system and offers advanced functionalities such as SoC balancing, tapering charging, active-power distribution, and augmentation capability.





Storage plant

Advanced and reliable functionalities. BPC PRO manages power plants to comply with all utility and customer requirements, thanks to its fast and flexible control algorithms.

SoC Balancing.
This algorithm distributes active power among the different BESS units proportionally to their SoC differences.
As a result, SoC balancing minimizes the time required for each BESS to complete a charge/discharge cycle.

O&M diagnosis functions. Reports warning and fault messages and enables user management, real-time data monitoring, and more.

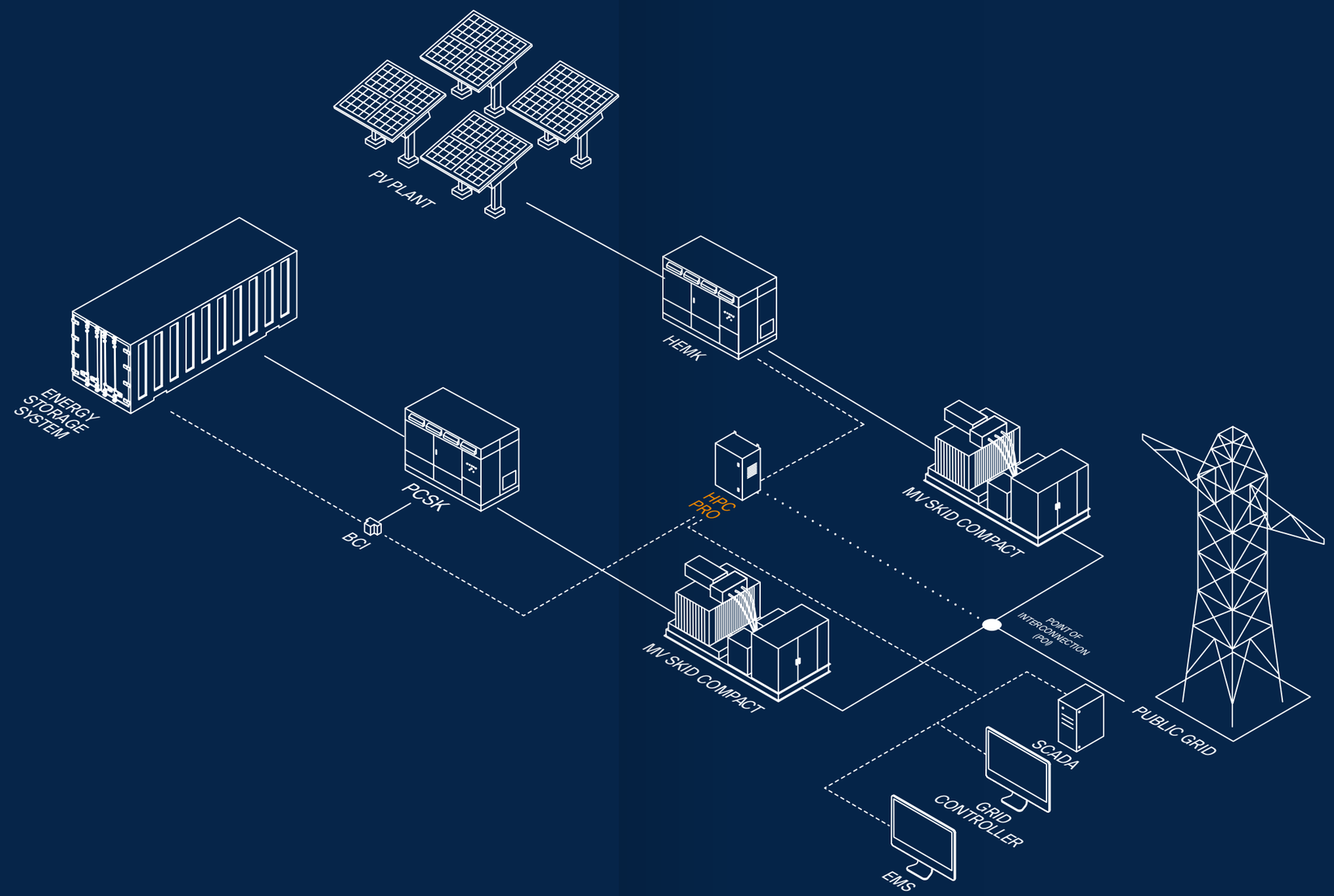
HPC PRO

Wherever you are

The HPC PRO provides an advanced control solution compatible with utility-scale hybrid plants. It offers exceptional flexibility by enabling both AC and DC coupling configurations within the plant. This functionality gives operators the ability to optimize system design according to project needs, whether prioritizing efficiency, cost, or integration with existing infrastructure. This controller plays a key role in monitoring the point of interconnection and managing power generation, especially in complex plants where efficiency and operational safety are essential. It includes grid-forming control strategies focused on delivering system stability.

Maximize power-block efficiency (inverter + batteries or inverter + DC/DC + batteries) with the Battery Control Interface (BCI).





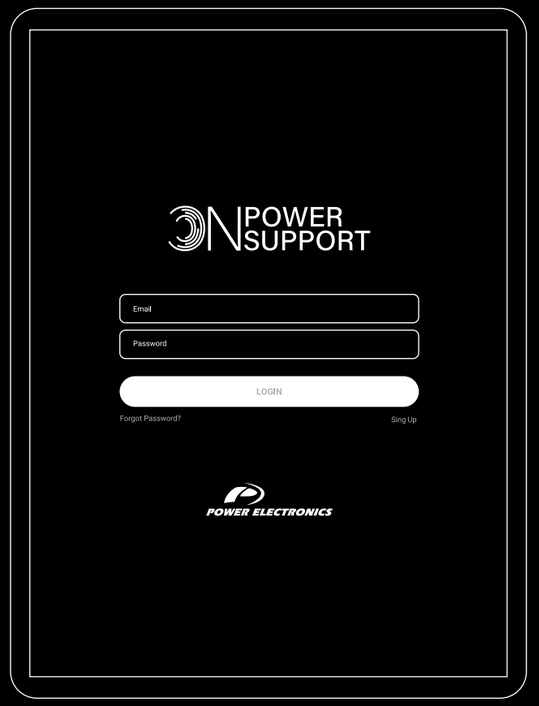
Hybrid plant

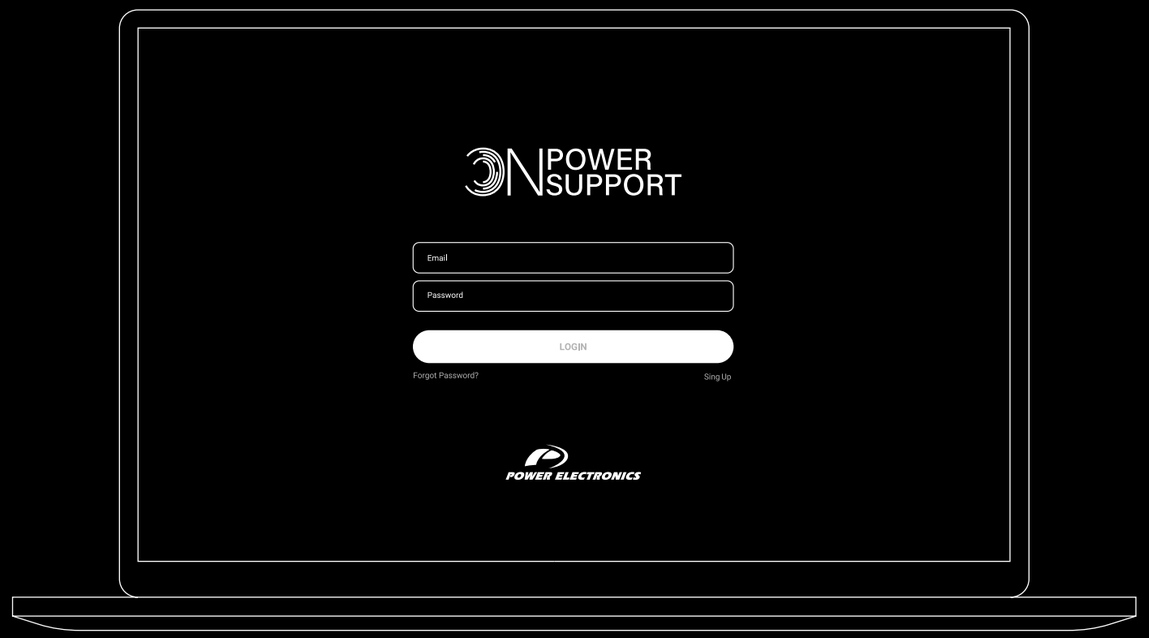
Our secret. The key to our success for more than 37 years: our 24/7 after-sales service, Power On Support.

Power ON Support



Download Power On Support from any device and easily access all your equipment information. Request assistance through the app and our team will respond within 48 hours. Stay updated on your assistance details and review your full service history.





We take care of the legacy generations. Each new generation of **inverters** requires adapting our manufacturing lines to optimize production. Power Electronics has facilities dedicated to producing previous-generation units, manufacturing ongoing subcomponents adapted to equipment no longer in production—extending their operational life.

Long-Term Service. We repair subcomponents or even manufacture equivalent units in our Dedicated Service Factory near our Production Plant. Power Electronics has experience repowering old photovoltaic plants, supplying state-of-the-art equipment adapted to existing electrical configurations while providing all the advantages of the latest generation of **inverters.**

We are here to help you

Vertical Integration throughout the entire process

Vertical integration is one of our core values. We manage the entire value chain, from design to the on-site commissioning, ensuring precise development of all the power electronics inside our **inverters.**

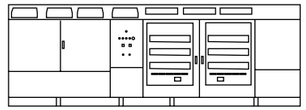
BEFORE COMMISSIONING	– Technical application & design requirement review. – Dedicated Project Management Support. – Hands-on functional & safety product training.
DURING COMMISSIONING	– Dedicated commissioning teams. – Rigorous execution through site operation.
AFTER COMMISSIONING	– Support 24/7, 365 days a year. – Full warranty coverage with extension options and preventative maintenance packages. – Advanced remote monitoring, detailed performance reporting, and interactive portals for tracking metrics directly with Power Electronics.

Datasheets

Find all the specifications of our products here.



Freemaq PCSM
UL

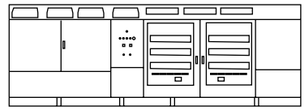


REFERENCES		FP4010M	FP4105M
AC	AC Output Power (kVA/kW) @40°C [6]	4010	4105
	AC Output Power (kVA/kW) @50°C [6]	3720	3810
	Operating Grid Voltage (kV)	34.5 kV ±10%	
DC	DC Voltage Range [7]	891 V - 1500 V	913 V - 1500 V
EFFICIENCY	Efficiency (Max) (η)	97.91% including MV transformer	97.93% including MV transformer
	CEC (η)	97.49% including MV transformer	97.50% including MV transformer
COMMON FEATURES			
AC	Operating Grid Frequency (Hz)	60 Hz	
	Current Harmonic Distortion (THDi)	< 3% per IEEE519	
	Power Factor (CosPhi) [1]	0.5 leading ... 0.5 lagging	
	Reactive Power Compensation	Four quadrant operation	
	Overload Capability [8]	166% - 100 ms / 150% - 5 s / 120% - 8 s / 110% - 15 s	
DC	Maximum DC Voltage	1500 V	
	DC Voltage Ripple	< 3%	
	Max. DC Continuous Current (A)	4590	
	Max. DC Short Circuit Current (kA)	500 kA with a time constant of 1 ms	
	Battery Technology	All type of batteries (BMS required)	
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 [2]	From -40 °C to +60 °C, >40°C power derating	
	Operating Relative Humidity Range	From 4% to 100%	
	Storage Temperature Range	From -40 °C to +60 °C	
	Max. Altitude (above sea level) [3]	2000m	
CONTROL	Communication Protocol	Modbus TCP	
	Power Plant Controller	Optional. Third party SCADA systems supported.	
	Keyed ON/OFF Switch	Standard	
PROTECTIONS	Ground Fault Protection	Insulation monitoring device	
	Humidity Control	Active heating	
	General AC Protection & Disconn.	38 kV MV switchgear (V)	
	General DC Protection & Disconn. [4]	High-speed fuses, Motorized DC disconnect switches	
	Overvoltage Protection	Type II for AC and Type I+II for DC	
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	

NOTES

[1] Consult P-Q charts available: $Q(kVAr)=\sqrt{(S(kVA)^2-P(kW)^2)}$.
[2] Optional available for temperatures below -25 °C.
[3] Consult Power Electronics for altitudes above 1000m.
[4] Battery short circuit disconnection must be done on the battery side.
[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 derating curves. In the event of overvoltage in the grid, the minimum DC voltage will vary proportionally with the AC voltage.
[8] Available from January 2027.

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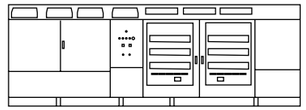


REFERENCES		FP4200M	FP4201M	FP4204M
AC	AC Output Power (kVA/kW) @40°C [6]	4200		
	AC Output Power (kVA/kW) @50°C [6]	3900		
	Operating Grid Voltage (kV)	34.5 kV ±10%	13.8 kV ±10%	12.47 kV ±10%
DC	DC Voltage Range [7]	934 V - 1500 V		
EFFICIENCY	Efficiency (Max) (η)	98.00% including MV transformer		
	CEC (η)	97.53% including MV transformer		
COMMON FEATURES				
AC	Operating Grid Frequency (Hz)	60 Hz		
	Current Harmonic Distortion (THDi)	< 3% per IEEE519		
	Power Factor (CosPhi) [1]	0.5 leading ... 0.5 lagging		
	Reactive Power Compensation	Four quadrant operation		
	Overload Capability [8]	166% - 100 ms / 150% - 5 s / 120% - 8 s / 110% - 15 s		
DC	Maximum DC Voltage	1500 V		
	DC Voltage Ripple	< 3%		
	Max. DC Continuous Current (A)	4590		
	Max. DC Short Circuit Current (kA)	500 kA with a time constant of 1 ms		
	Battery Technology	All type of batteries (BMS required)		
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 [2]	From -40 °C to +60 °C, >40°C power derating		
	Operating Relative Humidity Range	From 4% to 100%		
	Storage Temperature Range	From -40°C to +60°C		
	Max. Altitude (above sea level) [3]	2000m		
CONTROL	Communication Protocol	Modbus TCP		
	Power Plant Controller	Optional. Third party SCADA systems supported.		
	Keyed ON/OFF Switch	Standard		
PROTECTIONS	Ground Fault Protection	Insulation monitoring device		
	Humidity Control	Active heating		
	General AC Protection & Disconn.	38 kV MV switchgear (V)	15.5 kV SF6 Free MV switchgear (V)	
	General DC Protection & Disconn. [4]	High-speed fuses, Motorized DC disconnect switches		
	Overvoltage Protection	Type II for AC and Type I+II for DC		
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		

NOTES

[1] Consult P-Q charts available: $Q(kVAr)=\sqrt{(S(kVA)^2-P(kW)^2)}$.
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[4] Battery short circuit disconnection must be done on the battery side.
[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 derating curves. In the event of overvoltage in the grid, the minimum DC voltage will vary proportionally with the AC voltage.
[8] Available from January 2027.

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IEC

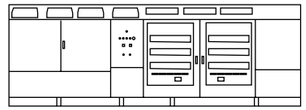


REFERENCES		FP4010MH	FP4105MH
AC	AC Output Power (kVA/kW) @40 °C [1]	4010	4105
	AC Output Power (kVA/kW) @50 °C [1]	3720	3810
	Operating Grid Voltage (kV)	34.5 kV ±10%	
	Operating Grid Frequency (Hz)	60 Hz	
DC	DC Voltage Range [3]	891 V - 1500 V	913 V - 1500 V
EFFICIENCY & AUX. SUPPLY	Efficiency (Max) (η) (preliminary)	97.75% including MV transformer	97.76% including MV transformer
	Euroeta (η) (preliminary)	97.48% including MV transformer	97.50% including MV transformer
ENVIRONMENT	Max. Altitude (above sea level) [5]	2000 m	
COMMON FEATURES			
AC	Current Harmonic Distortion (THDi)	<3% per IEEE 519	
	Power Factor (cos phi) [2]	0.5 leading ... 0.5 lagging	
	Reactive Power Compensation	Four quadrant operation	
	Overload Capability [7]	166% - 100 ms / 150% - 5 s / 120% - 8 s / 110% - 15 s	
DC	Maximum DC Voltage	1500 V	
	DC Voltage Ripple	<3%	
	Max. DC Continuous Current (A)	4590	
	Max. DC Short Circuit Current (kA)	500 kA with a time constant of 1 ms	
	Battery Technology	All type of batteries (BMS required)	
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 -40 °C to +60 °C, >40 °C power derating	
	Operating Relative Humidity Range	From 4% to 100%	
	Storage Temperature Range	From -40 °C to +60 °C	
CONTROL	Communication Protocol	Modbus TCP	
	Power Plant Controller	Optional. Third party SCADA systems supported.	
	Keyed ON/OFF Switch	Standard	
PROTECTIONS	Ground Fault Protection	Insulation monitoring device	
	Humidity Control	Active heating	
	General AC Protection & Disconn.	36 kV MV switchgear (2L+V)	
	General DC Protection & Disconn.	High-speed fuses, Motorized DC disconnect switches [6]	
	Overvoltage Protection	Type II for AC and Type I+II for DC	
STANDARDS	Safety	IEC 62109-1 / IEC 62109-2 / IEC 62477-2	

NOTES

[1] Values at 1.00·Vac nom and cosφ=1. Consult Power Electronics for derating curves.
[2] Consult P-Q charts available: Q(kVAr)=√(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 below -25 °C.
[5] Consult Power Electronics for altitudes above 1000 m.
[6] Battery short circuit disconnection must be done on the battery side.
[7] Available from January 2027.

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IEC

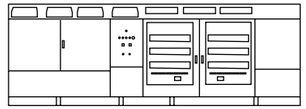


REFERENCES		FP4200MH	FP4203MH	FP4207MH
AC	AC Output Power (kVA/kW) @40 °C [1]	4200		
	AC Output Power (kVA/kW) @50 °C [1]	3900		
	Operating Grid Voltage (kV)	34.5 kV ±10%	33 kV ±10%	
	Operating Grid Frequency (Hz)	60 Hz	50 Hz	
DC	DC Voltage Range [3]	934 V - 1500 V		
EFFICIENCY & AUX. SUPPLY	Efficiency (Max) (η) (preliminary)	97.80% including MV transformer		
	Euroeta (η) (preliminary)	97.51% including MV transformer		
ENVIRONMENT	Max. Altitude (above sea level) [5]	2000 m	1000 m	2000 m
COMMON FEATURES				
AC	Current Harmonic Distortion (THDi)	<3% per IEEE 519		
	Power Factor (cos phi) [2]	0.5 leading ... 0.5 lagging		
	Reactive Power Compensation	Four quadrant operation		
	Overload Capability [7]	166% - 100 ms / 150% - 5 s / 120% - 8 s / 110% - 15 s		
DC	Maximum DC Voltage	1500 V		
	DC Voltage Ripple	<3%		
	Max. DC Continuous Current (A)	4590		
	Max. DC Short Circuit Current (kA)	500 kA with a time constant of 1 ms		
	Battery Technology	All type of batteries (BMS required)		
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 -40 °C to +60 °C, >40 °C power derating		
	Operating Relative Humidity Range	From 4% to 100%		
	Storage Temperature Range	From -40 °C to +60 °C		
CONTROL	Communication Protocol	Modbus TCP		
	Power Plant Controller	Optional. Third party SCADA systems supported.		
	Keyed ON/OFF Switch	Standard		
PROTECTIONS	Ground Fault Protection	Insulation monitoring device		
	Humidity Control	Active heating		
	General AC Protection & Disconn.	36 kV MV switchgear (2L+V)		
	General DC Protection & Disconn.	High-speed fuses, Motorized DC disconnect switches [6]		
	Overvoltage Protection	Type II for AC and Type I+II for DC		
STANDARDS	Safety	IEC 62109-1 / IEC 62109-2 / IEC 62477-2		

NOTES

[1] Values at 1.00·Vac nom and cosφ=1. Consult Power Electronics for derating curves.
[2] Consult P-Q charts available: Q(kVAr)=√(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 below -25 °C.
[5] Consult Power Electronics for altitudes above 1000 m.
[6] Battery short circuit disconnection must be done on the battery side.
[7] Available from January 2027.

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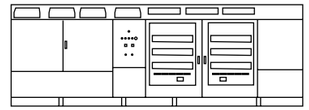
REFERENCES		FP4997MU	FP5020MU
AC	AC Output Power (kVA/kW) @30 °C [1]	4999	5240
	AC Output Power (kVA/kW) @35 °C [1]	4999	5020
	AC Output Power (kVA/kW) @40 °C [1]	4800	
	AC Output Power (kVA/kW) @50 °C [1]	4360	
	Operating Grid Voltage (kV)	34.5 kV ±10%	
	Rated Impulse Withstand Voltage	150 kV	
	Operating Grid Frequency (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 (A)	5478	
	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	NEMA 3R	
	Operating Temperature Range [4]	From -40 °C to +60 °C, >30 °C power derating	
	Operating Relative Humidity Range	From 4% to 100%	
	Storage Temperature Range	From -40 °C to +60 °C	
	Max. Altitude (above sea level) [5]	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	38 kV MV switchgear (V)	
	General DC Protection & Disconnection	High-speed fuses, Motorized DC disconnect switches [6]	
	Overvoltage Protection	Type II for AC and Type I+II for DC	
STANDARDS	Safety	UL 1741 / CSA 22.2 No.107.1-16	
	Installation	NEC 2023	
	Utility Interconnect [7]	UL 1741 SA & SB / IEEE 1547.1 / IEEE 2800	

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] Optional available for temperatures below -25 °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.

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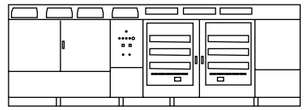
REFERENCES		FP4998MU	FP5150MU
AC	AC Output Power (kVA/kW) @30 °C [1]	4999	5360
	AC Output Power (kVA/kW) @35 °C [1]	4999	5150
	AC Output Power (kVA/kW) @40 °C [1]	4800	4940
	AC Output Power (kVA/kW) @50 °C [1]	4360	4520
	Operating Grid Voltage (kV)	34.5 kV ±10%	
	Rated Impulse Withstand Voltage	150 kV	
	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	
	Overload Capability	166% - 100 ms / 150% - 5 s / 120% - 8 s / 110% - 15 s	
DC	DC Voltage Range [3]	1019 V – 1500 V	
	Maximum DC Voltage	1500 V	
	DC Voltage Ripple	<3%	
	Max. DC Continuous Current (A)	5367	
	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	NEMA 3R	
	Operating Temperature Range [4]	From -40 °C to +60 °C, >30 °C power derating	
	Operating Relative Humidity Range	From 4% to 100%	
	Storage Temperature Range	From -40 °C to +60 °C	
	Max. Altitude (above sea level) [5]	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	38 kV MV switchgear (V)	
	General DC Protection & Disconnection	High-speed fuses, Motorized DC disconnect switches [6]	
	Overvoltage Protection	Type II for AC and Type I+II for DC	
STANDARDS	Safety	UL 1741 / CSA 22.2 No.107.1-16	
	Installation	NEC 2023	
	Utility Interconnect [7]	UL 1741 SA & SB / IEEE 1547.1 / IEEE 2800	

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] Optional available for temperatures below -25 °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.

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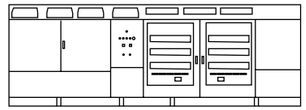
REFERENCES		FP5020MH	FP5021MH	FP5022MH	FP5026MH
AC	AC Output Power (kVA/kW) @30 °C [1]	5240			
	AC Output Power (kVA/kW) @35 °C [1]	5020			
	AC Output Power (kVA/kW) @40 °C [1]	4800			
	AC Output Power (kVA/kW) @50 °C [1]	4360			
	Operating Grid Voltage (kV)	34.5 kV ±10%	33 kV ±10%	30 kV ±10%	33 kV ±10%
	Rated Impulse Withstand Voltage	145 kV	150 kV	145 kV	150 kV
	Operating Grid Frequency (Hz)	60 Hz	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 (A)	5478			
	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 -40 °C to +60 °C, >30 °C power derating			
	Operating Relative Humidity Range	From 4% to 100%			
	Storage Temperature Range	From -40 °C to +60 °C			
	Max. Altitude (above sea level) [5]	2000 m	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)			
	General DC Protection & Disconnection	High-speed fuses, Motorized DC disconnect switches [6]			
	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 [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.
[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 below -25 °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.

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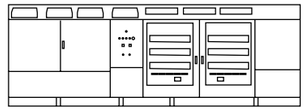
REFERENCES		FP5150MH	FP5151MH	FP5152MH	FP5156MH
AC	AC Output Power (kVA/kW) @30 °C [1]	5360			
	AC Output Power (kVA/kW) @35 °C [1]	5150			
	AC Output Power (kVA/kW) @40 °C [1]	4940			
	AC Output Power (kVA/kW) @50 °C [1]	4520			
	Operating Grid Voltage (kV)	34.5 kV ±10%	33 kV ±10%	30 kV ±10%	33 kV ±10%
	Rated Impulse Withstand Voltage	145 kV	150 kV	145 kV	150 kV
	Operating Grid Frequency (Hz)	60 Hz	50 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			
	Overload Capability	166% - 100 ms / 150% - 5 s / 120% - 8 s / 110% - 15 s			
DC	DC Voltage Range [3]	1019 V – 1500 V			
	Maximum DC Voltage	1500 V			
	DC Voltage Ripple	<3%			
	Max. DC Continuous Current (A)	5367			
	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 -40 °C to +60 °C, >30 °C power derating			
	Operating Relative Humidity Range	From 4% to 100%			
	Storage Temperature Range	From -40 °C to +60 °C			
	Max. Altitude (above sea level) [5]	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 [6]			
	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 [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.
[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 below -25 °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.

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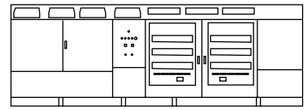


REFERENCES		FP4010M2	FP4010M4	FP4105M2	FP4105M4
AC	AC Output Power (kVA/kW) @40°C [5]	4010		4105	
	AC Output Power (kVA/kW) @50°C [5]	3720		3810	
	Operating Grid Voltage (kV)	34.5 kV ±10%			
DC	DC Voltage Range [6]	891 V - 1500 V		913 V - 1500 V	
	Max. DC Continuous Current per Input (A)	2295	1148	2295	1148
	Number of Separate DC Inputs	2	4	2	4
EFFICIENCY	Efficiency (Max) (η)	97.91% including MV transformer		97.93% including MV transformer	
	CEC (η)	97.49% including MV transformer		97.50% including MV transformer	
COMMON FEATURES					
AC	Operating Grid Frequency (Hz)	60 Hz			
	Current Harmonic Distortion (THDi)	< 3% per IEEE519			
	Power Factor (CosPhi) [1]	0.5 leading ... 0.5 lagging			
	Reactive Power Compensation	Four quadrant operation			
	Overload Capability [7]	166% - 100 ms / 150% - 5 s / 120% - 8 s / 110% - 15 s			
DC	Maximum DC Voltage	1500 V			
	DC Voltage Ripple	< 3%			
	Max. DC Short Circuit Current per Input (kA)	500 kA with a time constant of 1 ms			
	Battery Technology	All type of batteries (BMS required)			
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 [2]	From -40 °C to +60 °C, >40 °C power derating			
	Operating Relative Humidity Range	From 4% to 100%			
	Storage Temperature Range	From -40 °C to +60 °C			
	Max. Altitude (above sea level)	2000 m			
CONTROL	Communication Protocol	Modbus TCP			
	Power Plant Controller	Optional. Third party SCADA systems supported.			
	Keyed ON/OFF Switch	Standard			
PROTECTIONS	Ground Fault Protection	Insulation monitoring device			
	Humidity Control	Active heating			
	General AC Protection & Disconn.	38 kV MV switchgear (V)			
	General DC Protection & Disconn. [3]	High-speed fuses, Motorized DC disconnect switches			
	Overvoltage Protection	Type II for AC and Type I+II for DC			
STANDARDS	Safety	UL 1741 / CSA 22.2 No.107.1-16			
	Installation	NEC 2023			
	Utility Interconnect [4]	UL 1741 SA & SB / RULE 21 / RULE 14H / IEEE 1547.1:2020			

NOTES

[1] Consult P-Q charts available: $Q(kVAr)=\sqrt{(S(kVA)^2-P(kW)^2)}$.
[2] Optional available for temperatures below -25 °C.
[3] Battery short circuit disconnection must be done on the battery side.
[4] Consult Power Electronics for other applicable standards / grid codes.
[5] Values at 1.00·Vac nom and CosPhi=1. Consult Power Electronics for derating curves.
[6] 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.
[7] Available from January 2027.

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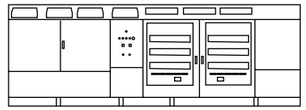


REFERENCES		FP4200M2	FP4200M4	FP4201M2	FP4201M4
AC	AC Output Power (kVA/kW) @40°C [5]	4200			
	AC Output Power (kVA/kW) @50°C [5]	3900			
	Operating Grid Voltage (kV)	34.5 kV ±10%		13.8 kV ±10%	
DC	DC Voltage Range [6]	934 V - 1500 V			
	Max. DC Continuous Current per Input (A)	2295	1148	2295	1148
	Number of Separate DC Inputs	2	4	2	4
EFFICIENCY	Efficiency (Max) (η)	98.00% including MV transformer			
	CEC (η)	97.53% including MV transformer			
COMMON FEATURES					
AC	Operating Grid Frequency (Hz)	60 Hz			
	Current Harmonic Distortion (THDi)	< 3% per IEEE519			
	Power Factor (CosPhi) [1]	0.5 leading ... 0.5 lagging			
	Reactive Power Compensation	Four quadrant operation			
	Overload Capability [7]	166% - 100 ms / 150% - 5 s / 120% - 8 s / 110% - 15 s			
DC	Maximum DC Voltage	1500 V			
	DC Voltage Ripple	< 3%			
	Max. DC Short Circuit Current per Input (kA)	500 kA with a time constant of 1 ms			
	Battery Technology	All type of batteries (BMS required)			
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 [2]	From -40 °C to +60 °C, >40 °C power derating			
	Operating Relative Humidity Range	From 4% to 100%			
	Storage Temperature Range	From -40 °C to +60 °C			
	Max. Altitude (above sea level)	2000 m			
CONTROL	Communication Protocol	Modbus TCP			
	Power Plant Controller	Optional. Third party SCADA systems supported.			
	Keyed ON/OFF Switch	Standard			
PROTECTIONS	Ground Fault Protection	Insulation monitoring device			
	Humidity Control	Active heating			
	General AC Protection & Disconn.	38 kV MV switchgear (V)		15.5 kV SF6 Free MV switchgear (V)	
	General DC Protection & Disconn. [3]	High-speed fuses, Motorized DC disconnect switches			
	Overvoltage Protection	Type II for AC and Type I+II for DC			
STANDARDS	Safety	UL 1741 / CSA 22.2 No.107.1-16			
	Installation	NEC 2023			
	Utility Interconnect [4]	UL 1741 SA & SB / RULE 21 / RULE 14H / IEEE 1547.1:2020			

NOTES

[1] Consult P-Q charts available: $Q(kVAr)=\sqrt{(S(kVA)^2-P(kW)^2)}$.
[2] Optional available for temperatures below -25 °C.
[3] Battery short circuit disconnection must be done on the battery side.
[4] Consult Power Electronics for other applicable standards / grid codes.
[5] Values at 1.00·Vac nom and CosPhi=1. Consult Power Electronics for derating curves.
[6] 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.
[7] Available from January 2027.

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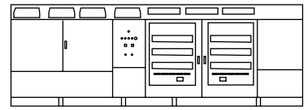


REFERENCES		FP4204M2	FP4204M4
AC	AC Output Power (kVA/kW) @40°C [5]	4200	
	AC Output Power (kVA/kW) @50°C [5]	3900	
	Operating Grid Voltage (kV)	12.47 kV ±10%	
DC	DC Voltage Range [6]	934 V - 1500 V	
	Max. DC Continuous Current per Input (A)	2295	1148
	Number of Separate DC Inputs	2	4
EFFICIENCY	Efficiency (Max) (η)	98.00% including MV transformer	
	CEC (η)	97.53% including MV transformer	
COMMON FEATURES			
AC	Operating Grid Frequency (Hz)	60 Hz	
	Current Harmonic Distortion (THDi)	< 3% per IEEE519	
	Power Factor (CosPhi) [1]	0.5 leading ... 0.5 lagging	
	Reactive Power Compensation	Four quadrant operation	
	Overload Capability [7]	166% - 100 ms / 150% - 5 s / 120% - 8 s / 110% - 15 s	
DC	Maximum DC Voltage	1500 V	
	DC Voltage Ripple	< 3%	
	Max. DC Short Circuit Current per Input (kA)	500 kA with a time constant of 1 ms	
	Battery Technology	All type of batteries (BMS required)	
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 [2]	From -40 °C to +60 °C, >40 °C power derating	
	Operating Relative Humidity Range	From 4% to 100%	
	Storage Temperature Range	From -40 °C to +60 °C	
	Max. Altitude (above sea level)	2000 m	
CONTROL	Communication Protocol	Modbus TCP	
	Power Plant Controller	Optional. Third party SCADA systems supported.	
	Keyed ON/OFF Switch	Standard	
PROTECTIONS	Ground Fault Protection	Insulation monitoring device	
	Humidity Control	Active heating	
	General AC Protection & Disconn.	15.5 kV SF6 Free MV switchgear (V)	
	General DC Protection & Disconn. [3]	High-speed fuses, Motorized DC disconnect switches	
	Overvoltage Protection	Type II for AC and Type I+II for DC	
STANDARDS	Safety	UL 1741 / CSA 22.2 No.107.1-16	
	Installation	NEC 2023	
	Utility Interconnect [4]	UL 1741 SA & SB / RULE 21 / RULE 14H / IEEE 1547.1:2020	

NOTES

[1] Consult P-Q charts available: $Q(kVAr)=\sqrt{(S(kVA)^2-P(kW)^2)}$.
[2] Optional available for temperatures below -25 °C.
[3] Battery short circuit disconnection must be done on the battery side.
[4] Consult Power Electronics for other applicable standards / grid codes.
[5] Values at 1.00·Vac nom and CosPhi=1. Consult Power Electronics for derating curves.
[6] 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.
[7] Available from January 2027.

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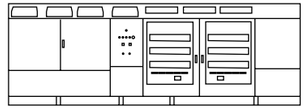


REFERENCES		FP4010MH2	FP4010MH4	FP4105MH2	FP4105MH4
AC	AC Output Power (kVA/kW) @40 °C [1]	4010		4105	
	AC Output Power (kVA/kW) @50 °C [1]	3720		3810	
	Operating Grid Voltage (kV)	34.5 kV ±10%			
	Operating Grid Frequency (Hz)	60 Hz			
DC	DC Voltage Range [3]	891 V - 1500 V		913 V - 1500 V	
	Max. DC Continuous Current per Input (A)	2295	1148	2295	1148
	Number of Separate DC Inputs	2	4	2	4
EFFICIENCY & AUX. SUPPLY	Efficiency (Max) (η) (preliminary)	97.75% including MV transformer		97.76% including MV transformer	
	Euroeta (η) (preliminary)	97.48% including MV transformer		97.50% including MV transformer	
ENVIRONMENT	Max. Altitude (above sea level)	2000 m			
COMMON FEATURES					
AC	Current Harmonic Distortion (THDi)	<3% per IEEE 519			
	Power Factor (cos phi) [2]	0.5 leading ... 0.5 lagging			
	Reactive Power Compensation	Four quadrant operation			
	Overload Capability [7]	166% - 100 ms / 150% - 5 s / 120% - 8 s / 110% - 15 s			
DC	Maximum DC Voltage	1500 V			
	DC Voltage Ripple	<3%			
	Max. DC Short Circuit Current per Input (kA)	500 kA with a time constant of 1 ms			
	Battery Technology	All type of batteries (BMS required)			
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 -40 °C to +60 °C, >40 °C power derating			
	Operating Relative Humidity Range	From 4% to 100%			
	Storage Temperature Range	From -40 °C to +60 °C			
CONTROL	Communication Protocol	Modbus TCP			
	Power Plant Controller	Optional. Third party SCADA systems supported.			
	Keyed ON/OFF Switch	Standard			
PROTECTIONS	Ground Fault Protection	Insulation monitoring device			
	Humidity Control	Active heating			
	General AC Protection & Disconn.	36 kV MV switchgear (2L+V)			
	General DC Protection & Disconn.	High-speed fuses, Motorized DC disconnect switches [6]			
	Overvoltage Protection	Type II for AC and Type I+II for DC			
STANDARDS	Safety	IEC 62109-1 / IEC 62109-2 / IEC 62477-2			

NOTES

[1] Values at 1.00·Vac nom and cosφ=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] Optional available for temperatures below -25 °C.
[5] Consult Power Electronics for altitudes above 1000 m.
[6] Battery short circuit disconnection must be done on the battery side.
[7] Available from January 2027.

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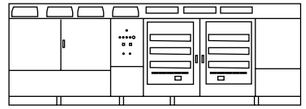


REFERENCES		FP4200MH2	FP4200MH4	FP4203MH2	FP4203MH4
AC	AC Output Power (kVA/kW) @40 °C [1]	4200			
	AC Output Power (kVA/kW) @50 °C [1]	3900			
	Operating Grid Voltage (kV)	34.5 kV ±10%		33 kV ±10%	
	Operating Grid Frequency (Hz)	60 Hz		50 Hz	
DC	DC Voltage Range [3]	934 V - 1500 V			
	Max. DC Continuous Current per Input (A)	2295	1148	2295	1148
	Number of Separate DC Inputs	2	4	2	4
EFFICIENCY & AUX. SUPPLY	Efficiency (Max) (η) (preliminary)	97.80% including MV transformer			
	Euroeta (η) (preliminary)	97.51% including MV transformer			
ENVIRONMENT	Max. Altitude (above sea level) [5]	2000 m		1000 m	
COMMON FEATURES					
AC	Current Harmonic Distortion (THDi)	<3% per IEEE 519			
	Power Factor (cos phi) [2]	0.5 leading ... 0.5 lagging			
	Reactive Power Compensation	Four quadrant operation			
	Overload Capability [7]	166% - 100 ms / 150% - 5 s / 120% - 8 s / 110% - 15 s			
DC	Maximum DC Voltage	1500 V			
	DC Voltage Ripple	<3%			
	Max. DC Short Circuit Current per Input (kA)	500 kA with a time constant of 1 ms			
	Battery Technology	All type of batteries (BMS required)			
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 -40 °C to +60 °C, >40 °C power derating			
	Operating Relative Humidity Range	From 4% to 100%			
	Storage Temperature Range	From -40 °C to +60 °C			
CONTROL	Communication Protocol	Modbus TCP			
	Power Plant Controller	Optional. Third party SCADA systems supported.			
	Keyed ON/OFF Switch	Standard			
PROTECTIONS	Ground Fault Protection	Insulation monitoring device			
	Humidity Control	Active heating			
	General AC Protection & Disconn.	36 kV MV switchgear (2L+V)			
	General DC Protection & Disconn.	High-speed fuses, Motorized DC disconnect switches [6]			
	Overvoltage Protection	Type II for AC and Type I+II for DC			
STANDARDS	Safety	IEC 62109-1 / IEC 62109-2 / IEC 62477-2			

NOTES

[1] Values at 1.00·Vac nom and cosφ=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] Optional available for temperatures below -25 °C.
[5] Consult Power Electronics for altitudes above 1000 m.
[6] Battery short circuit disconnection must be done on the battery side.
[7] Available from January 2027.

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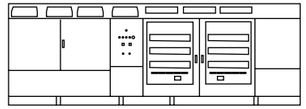


REFERENCES		FP4207MH2	FP4207MH4
AC	AC Output Power (kVA/kW) @40 °C [1]	4200	
	AC Output Power (kVA/kW) @50 °C [1]	3900	
	Operating Grid Voltage (kV)	33 kV ±10%	
	Operating Grid Frequency (Hz)	50 Hz	
DC	DC Voltage Range [3]	934 V - 1500 V	
	Max. DC Continuous Current per Input (A)	2295	1148
	Number of Separate DC Inputs	2	4
EFFICIENCY & AUX. SUPPLY	Efficiency (Max) (η) (preliminary)	97.80% including MV transformer	
	Euroeta (η) (preliminary)	97.51% including MV transformer	
ENVIRONMENT	Max. Altitude (above sea level) [5]	2000 m	
COMMON FEATURES			
AC	Current Harmonic Distortion (THDi)	<3% per IEEE 519	
	Power Factor (cos phi) [2]	0.5 leading ... 0.5 lagging	
	Reactive Power Compensation	Four quadrant operation	
	Overload Capability [7]	166% - 100 ms / 150% - 5 s / 120% - 8 s / 110% - 15 s	
DC	Maximum DC Voltage	1500 V	
	DC Voltage Ripple	<3%	
	Max. DC Short Circuit Current per Input (kA)	500 kA with a time constant of 1 ms	
	Battery Technology	All type of batteries (BMS required)	
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 -40 °C to +60 °C, >40 °C power derating	
	Operating Relative Humidity Range	From 4% to 100%	
	Storage Temperature Range	From -40 °C to +60 °C	
CONTROL	Communication Protocol	Modbus TCP	
	Power Plant Controller	Optional. Third party SCADA systems supported.	
	Keyed ON/OFF Switch	Standard	
PROTECTIONS	Ground Fault Protection	Insulation monitoring device	
	Humidity Control	Active heating	
	General AC Protection & Disconn.	36 kV MV switchgear (2L+V)	
	General DC Protection & Disconn.	High-speed fuses, Motorized DC disconnect switches [6]	
	Overvoltage Protection	Type II for AC and Type I+II for DC	
STANDARDS	Safety	IEC 62109-1 / IEC 62109-2 / IEC 62477-2	

NOTES

[1] Values at 1.00·Vac nom and cosφ=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] Optional available for temperatures below -25 °C.
[5] Consult Power Electronics for altitudes above 1000 m.
[6] Battery short circuit disconnection must be done on the battery side.
[7] Available from January 2027.

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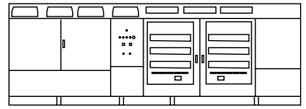
REFERENCES		FP5020MU2	FP5020MU4
AC	AC Output Power (kVA/kW) @30 °C [1]	5240	
	AC Output Power (kVA/kW) @35 °C [1]	5020	
	AC Output Power (kVA/kW) @40 °C [1]	4800	
	AC Output Power (kVA/kW) @50 °C [1]	4360	
	Operating Grid Voltage (kV)	34.5 kV ±10%	
	Rated Impulse Withstand Voltage	150 kV	
	Operating 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	
	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 (A)	2740	1370
	Max. DC Short Circuit Current per Input (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 & 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	NEMA 3R	
	Operating Temperature Range [4]	From -40 °C to +60 °C, >30 °C power derating	
	Operating Relative Humidity Range	From 4% to 100%	
	Storage Temperature Range	From -40 °C to +60 °C	
	Max. Altitude (above sea level) [5]	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	38 kV MV switchgear (V)	
	General DC Protection & Disconnection	High-speed fuses, Motorized DC disconnect switches [6]	
	Overvoltage Protection	Type II for AC and Type I+II for DC	
STANDARDS	Safety	UL 1741 / CSA 22.2 No.107.1-16	
	Installation	NEC 2023	
	Utility Interconnect [7]	UL 1741 SA & SB / IEEE 1547.1 / IEEE 2800	

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] Optional available for temperatures below -25 °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.

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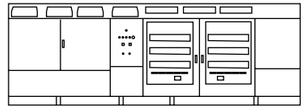
REFERENCES		FP5150MU2	FP5150MU4
AC	AC Output Power (kVA/kW) @30 °C [1]	5360	
	AC Output Power (kVA/kW) @35 °C [1]	5150	
	AC Output Power (kVA/kW) @40 °C [1]	4940	
	AC Output Power (kVA/kW) @50 °C [1]	4520	
	Operating Grid Voltage (kV)	34.5 kV ±10%	
	Rated Impulse Withstand Voltage	150 kV	
	Operating 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	
	Overload Capability	166% - 100 ms / 150% - 5 s / 120% - 8 s / 110% - 15 s	
DC	DC Voltage Range [3]	1019 V – 1500 V	
	Maximum DC Voltage	1500 V	
	DC Voltage Ripple	< 3%	
	Max. DC Continuous Current (A)	2684	1342
	Max. DC Short Circuit Current per Input (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 & 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	NEMA 3R	
	Operating Temperature Range [4]	From -40 °C to +60 °C, >30 °C power derating	
	Operating Relative Humidity Range	From 4% to 100%	
	Storage Temperature Range	From -40 °C to +60 °C	
	Max. Altitude (above sea level) [5]	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	38 kV MV switchgear (V)	
	General DC Protection & Disconnection	High-speed fuses, Motorized DC disconnect switches [6]	
	Overvoltage Protection	Type II for AC and Type I+II for DC	
STANDARDS	Safety	UL 1741 / CSA 22.2 No.107.1-16	
	Installation	NEC 2023	
	Utility Interconnect [7]	UL 1741 SA & SB / IEEE 1547.1 / IEEE 2800	

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] Optional available for temperatures below -25 °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.

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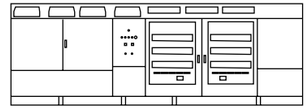
REFERENCES		FP4999MH2	FP4999MH4	FP5020MH2	FP5020MH4
AC	AC Output Power (kVA/kW) @30 °C [1]	4999		5240	
	AC Output Power (kVA/kW) @35 °C [1]	4999		5020	
	AC Output Power (kVA/kW) @40 °C [1]	4800			
	AC Output Power (kVA/kW) @50 °C [1]	4360			
	Operating Grid Voltage (kV)	33 kV ±10%		34.5 kV ±10%	
	Rated Impulse Withstand Voltage	150 kV		145 kV	
	Operating Grid Frequency (Hz)	50 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			
	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 (A)	2740	1370	2740	1370
	Max. DC Short Circuit Current per Input (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	2	4
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 -40 °C to +60 °C, >30 °C power derating			
	Operating Relative Humidity Range	From 4% to 100%			
	Storage Temperature Range	From -40 °C to +60 °C			
	Max. Altitude (above sea level) [5]	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)			
	General DC Protection & Disconnection	High-speed fuses, Motorized DC disconnect switches [6]			
	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 [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.
[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 below -25 °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.

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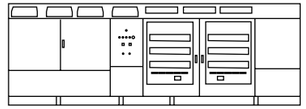
REFERENCES		FP5021MH2	FP5021MH4	FP5022MH2	FP5022MH4
AC	AC Output Power (kVA/kW) @30 °C [1]	5240			
	AC Output Power (kVA/kW) @35 °C [1]	5020			
	AC Output Power (kVA/kW) @40 °C [1]	4800			
	AC Output Power (kVA/kW) @50 °C [1]	4360			
	Operating Grid Voltage (kV)	33 kV ±10%		30 kV ±10%	
	Rated Impulse Withstand Voltage	150 kV		145 kV	
	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			
	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 (A)	2740	1370	2740	1370
	Max. DC Short Circuit Current per Input (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	2	4
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 -40 °C to +60 °C, >30 °C power derating			
	Operating Relative Humidity Range	From 4% to 100%			
	Storage Temperature Range	From -40 °C to +60 °C			
	Max. Altitude (above sea level) [5]	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)			
	General DC Protection & Disconnection	High-speed fuses, Motorized DC disconnect switches [6]			
	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 [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.
[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 below -25 °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.

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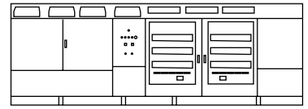
REFERENCES		FP5023MH	FP5023MH2	FP5023MH4
AC	AC Output Power (kVA/kW) @30 °C [1]		5240	5360
	AC Output Power (kVA/kW) @35 °C [1]		5020	5150
	AC Output Power (kVA/kW) @40 °C [1]		4800	4940
	AC Output Power (kVA/kW) @50 °C [1]		4360	4520
	Operating Grid Voltage (kV)		20 kV ±10%	
	Rated Impulse Withstand Voltage		125 kV	
	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	
	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 (A)	5478	2740	1370
	Max. DC Short Circuit Current per Input (kA)		500 kA with a time constant of 1 ms	
	Battery Technology		All type of batteries (BMS required)	
	Number of Separated DC Inputs	1	2	4
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 -40 °C to +60 °C, >30 °C power derating	
	Operating Relative Humidity Range		From 4% to 100%	
	Storage Temperature Range		From -40 °C to +60 °C	
	Max. Altitude (above sea level) [5]		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		24 kV SF6 Free MV switchgear (2L+V)	
	General DC Protection & Disconnection		High-speed fuses, Motorized DC disconnect switches [6]	
	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 [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.
[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 below -25 °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.

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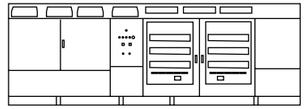
REFERENCES		FP5026MH2	FP5026MH4
AC	AC Output Power (kVA/kW) @30 °C [1]	5240	
	AC Output Power (kVA/kW) @35 °C [1]	5020	
	AC Output Power (kVA/kW) @40 °C [1]	4800	
	AC Output Power (kVA/kW) @50 °C [1]	4360	
	Operating Grid Voltage (kV)	33 kV ±10%	
	Rated Impulse Withstand Voltage	150 kV	
	Operating Grid 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	
	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 (A)	2740	1370
	Max. DC Short Circuit Current per Input (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 & 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 -40 °C to +60 °C, >30 °C power derating	
	Operating Relative Humidity Range	From 4% to 100%	
	Storage Temperature Range	From -40 °C to +60 °C	
	Max. Altitude (above sea level) [5]	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)	
	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.
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[5] Consult Power Electronics for altitudes above 1000 m.
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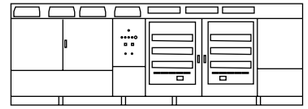
REFERENCES		FP5150MH2	FP5150MH4	FP5151MH2	FP5151MH4
AC	AC Output Power (kVA/kW) @30 °C [1]	5360			
	AC Output Power (kVA/kW) @35 °C [1]	5150			
	AC Output Power (kVA/kW) @40 °C [1]	4940			
	AC Output Power (kVA/kW) @50 °C [1]	4520			
	Operating Grid Voltage (kV)	34.5 kV ±10%		33 kV ±10%	
	Rated Impulse Withstand Voltage	145 kV		150 kV	
	Operating Grid Frequency (Hz)	60 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			
	Overload Capability	166% - 100 ms / 150% - 5 s / 120% - 8 s / 110% - 15 s			
DC	DC Voltage Range [3]	1019 V – 1500 V			
	Maximum DC Voltage	1500 V			
	DC Voltage Ripple	< 3%			
	Max. DC Continuous Current (A)	2684	1342	2684	1342
	Max. DC Short Circuit Current per Input (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	2	4
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 -40 °C to +60 °C, >30 °C power derating			
	Operating Relative Humidity Range	From 4% to 100%			
	Storage Temperature Range	From -40 °C to +60 °C			
	Max. Altitude (above sea level) [5]	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)			
	General DC Protection & Disconnection	High-speed fuses, Motorized DC disconnect switches [6]			
	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 [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.
[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 below -25 °C.
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[7] Consult Power Electronics for other applicable standards / grid codes.

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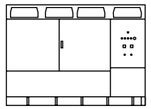
REFERENCES		FP5152MH2	FP5152MH4	FP5156MH2	FP5156MH4
AC	AC Output Power (kVA/kW) @30 °C [1]	5360			
	AC Output Power (kVA/kW) @35 °C [1]	5150			
	AC Output Power (kVA/kW) @40 °C [1]	4940			
	AC Output Power (kVA/kW) @50 °C [1]	4520			
	Operating Grid Voltage (kV)	30 kV ±10%		33 kV ±10%	
	Rated Impulse Withstand Voltage	145 kV		150 kV	
	Operating Grid Frequency (Hz)	50 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			
	Overload Capability	166% - 100 ms / 150% - 5 s / 120% - 8 s / 110% - 15 s			
DC	DC Voltage Range [3]	1019 V – 1500 V			
	Maximum DC Voltage	1500 V			
	DC Voltage Ripple	< 3%			
	Max. DC Continuous Current (A)	2684	1342	2684	1342
	Max. DC Short Circuit Current per Input (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	2	4
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 -40 °C to +60 °C, >30 °C power derating			
	Operating Relative Humidity Range	From 4% to 100%			
	Storage Temperature Range	From -40 °C to +60 °C			
	Max. Altitude (above sea level) [5]	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)			
	General DC Protection & Disconnection	High-speed fuses, Motorized DC disconnect switches [6]			
	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 [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.
[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 below -25 °C.
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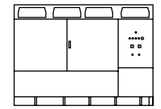
		690 V			660 V			645 V			630 V		
FRAME		**2**	**3**	**4**	**2**	**3**	**4**	**2**	**3**	**4**	**2**	**3**	**4**
REF.		**FP2195K**	**FP3290K**	**FP4390K**	**FP2101K**	**FP3151K**	**FP4200K**	**FP2055K**	**FP3080K**	**FP4105K**	**FP2005K**	**FP3005K**	**FP4010K**
AC	AC Output Power (kVA/kW) @40 °C [5]	2195	3290	4390	2100	3150	4200	2055	3080	4105	2005	3005	4010
	AC Output Power (kVA/kW) @50 °C [5]	2035	3055	4075	1950	2925	3900	1905	2855	3810	1860	2790	3720
	Operating Grid Voltage (VAC)	690 V ±10%			660 V ±10%			645 V ±10%			630 V ±10%		
DC	DC Voltage Range [6]	976 V - 1500 V			934 V - 1500 V			913 V - 1500 V			891 V - 1500 V		
	Maximum DC Voltage	1500 V			1500 V			1500 V			1500 V		
EFFICIENCY	Efficiency (Max) (η)	98.84%	98.87%	98.94%	98.86%	98.89%	98.95%	98.85%	98.88%	98.81%	98.79%	98.82%	98.88%
	Euroeta (η)	98.34%	98.49%	98.51%	98.36%	98.51%	98.53%	98.24%	98.39%	98.41%	98.28%	98.43%	98.45%

		615 V			600 V			530 V			500 V			480 V		
FRAME		**2**	**3**	**4**	**2**	**3**	**4**	**2**	**3**	**4**	**2**	**3**	**4**	**2**	**3**	**4**
REF.		**FP1955K**	**FP2935K**	**FP3915K**	**FP1910K**	**FP2865K**	**FP3820K**	**FP1685K**	**FP2530K**	**FP3370K**	**FP1590K**	**FP2385K**	**FP3180K**	**FP1525K**	**FP2290K**	**FP3055K**
AC		1955	2935	3915	1910	2865	3820	1685	2530	3370	1590	2385	3180	1525	2290	3055
		1815	2725	3635	1775	2660	3545	1565	2350	3130	1475	2215	2955	1415	2125	2840
		615 V ±10%			600 V ±10%			530 V ±10%			500 V ±10%			480V ±10%		
DC		870 V - 1500 V			849 V - 1500 V			750 V - 1500 V			708 V - 1500 V			679 V - 1500 V		
		1500 V			1500 V			1500 V			1500 V			1500 V		
EFFICIENCY		98.75%	98.78%	98.77%	98.82%	98.85%	98.78%	98.78% (preliminary)			98.78% (preliminary)			98.78% (preliminary)		
		98.20%	98.35%	98.37%	98.18%	98.33%	98.35%	98.35% (preliminary)			98.35% (preliminary)			98.35% (preliminary)		

NOTES

[1] Consult P-Q charts available: $Q(kVAr)=\sqrt{(S(kVA)^2-P(kW)^2)}$.
[2] Optional available for temperatures below -25 °C.
[3] Battery short circuit disconnection has to be done on the battery side.
[4] Consult Power Electronics for other applicable standards/grid codes.
[5] Values at 1.00·Vac nom and CosPhi=1. The maximum AC output power must be limited to meet the P-Q capability requirement at the inverter level of some grid codes. Consult Power Electronics for derating curves.
[6] 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.
[7] Available from January 2027.

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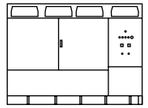


COMMON FEATURES		**FRAME 2**	**FRAME 3**	**FRAME 4**
AC	Max. AC Output Current (A) @40 °C	1837	2756	3674
	Operating Grid Frequency (Hz)	50/60 Hz		
	Current Harmonic Distortion (THDi)	<3% per IEEE519		
	Power Factor (CosPhi) [1]	0.5 leading ... 0.5 lagging		
	Reactive Power Compensation	Four quadrant operation		
	Overload Capability [7]	166% - 100 ms / 150% - 5 s / 120% - 8 s / 110% - 15 s		
DC	DC Voltage Ripple	<3%		
	Max. DC Continuous Current (A)	2295	3443	4590
	Max. DC Short Circuit Current (kA)	500 kA with a time constant of 1 ms		
	Battery Technology	All type of batteries (BMS required)		
CABINET	Dimensions [WxDxH] (ft)	9.8 x 6.5 x 7.5		
	Dimensions [WxDxH] (m)	3.0 x 2.0 x 2.3		
	Weight (lbs)	8600	9700	10365
	Weight (kg)	3900	4400	4700
	Type of Ventilation	Forced air cooling		
ENVIRONMENT	Degree of Protection	NEMA 3R / IP55		
	Operating Temperature Range [2]	From -40 °C to +60 °C, >40 °C power derating		
	Operating Relative Humidity Range	From 4% to 100%		
	Storage Temperature Range	From -40 °C to +60 °C		
	Max. Altitude (above sea level)	2000 m / >2000 m power derating (Max. 4000 m)		
CONTROL	Communication Protocol	Modbus TCP		
	Power Plant Controller	Optional. Third party SCADA systems supported.		
	Keyed ON/OFF Switch	Standard		
PROTECTIONS	Ground Fault Protection	Insulation monitoring device		
	Humidity Control	Active heating		
	General AC Protection & Disconn.	Circuit breaker		
	General DC Protection & Disconn. [3]	High-speed fuses, Motorized DC disconnect switches		
	Overvoltage Protection	Type II for AC and Type I+II for DC		
STANDARDS	Safety	UL 1741 / CSA 22.2 No.107.1-16 / IEC 62109-1 / IEC 62109-2 / IEC 62477-1		
	Installation	NEC 2023		
	Utility Interconnect [4]	IEEE 1547:2018 / UL 1741 SA & SB/ IEC 62116:2014		

NOTES

[1] Consult P-Q charts available: $Q(kVAr)=\sqrt{(S(kVA)^2-P(kW)^2)}$.
[2] Optional available for temperatures below -25 °C.
[3] Battery short circuit disconnection has to be done on the battery side.
[4] Consult Power Electronics for other applicable standards/grid codes.
[5] Values at 1.00·Vac nom and CosPhi=1. The maximum AC output power must be limited to meet the P-Q capability requirement at the inverter level of some grid codes. Consult Power Electronics for derating curves.
[6] 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.
[7] Available from January 2027.

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690 V

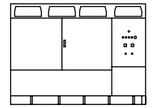
REFERENCES		FP4997K	FP4999K	FP5020K
AC	AC Output Power @30 °C [1]	5240 kVA / 4999 kW	4999 kVA / kW	5240 kVA / kW
	AC Output Power @35 °C [1]	5240 kVA / 4999 kW	4999 kVA / kW	5020 kVA / kW
	AC Output Power @40 °C [1]	4800 kVA / kW		
	AC Output Power @50 °C [1]	4360 kVA / kW		
	Max. AC Output Current (A) @30 °C	4384	4182	4384
	Operating Grid Voltage (V)	690 V ±10%		
	Operating Grid Frequency (Hz)	50 / 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		
	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 (A)	5478		
	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)	98.94%		
	CEC (η)	98.51%		
CABINET	Foot print [WxDxH] (ft)	9.8 x 6.5 x 7.5		
	Foot print [WxDxH] (m)	3.0 x 2.0 x 2.3		
	Weight (lbs)	10365		
	Weight (kg)	4700		
	Type of Ventilation	Forced air cooling		
ENVIRONMENT	Degree of Protection	NEMA 3R / IP55		
	Operating Temperature Range [4]	From -40 °C to +60 °C, >30 °C power derating		
	Operating Relative Humidity Range	From 4% to 100%		
	Storage Temperature Range	From -40 °C to +60 °C		
	Max. Altitude (above sea level)	2000 m / >2000 m power derating (max. 4000 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	Circuit breaker		
	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	UL 1741 / CSA 22.2 No.107.1-16 / IEC 62109-1 / IEC 62109-2 / IEC 62477-1		
	Installation	NEC 2023		
	Utility Interconnect [6]	UL 1741 SA & SB / IEEE 1547.1 / IEC 62116 / G99 / VDE 4110-4120-4130 / CEI 0-16 / NTS 2.1 / EN 50549 / IEEE 2800		

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] Optional available for temperatures below -25 °C.
[5] Battery short circuit disconnection must be done on the battery side.
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720 V

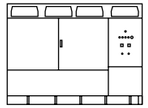
REFERENCES		FP4998K	FP5150K
AC	AC Output Power @30 °C [1]	5360 kVA / 4999 kW	5360 kVA / kW
	AC Output Power @35 °C [1]	5360 kVA / 4999 kW	5150 kVA / kW
	AC Output Power @40 °C [1]	4940 kVA / kW	
	AC Output Power @50 °C [1]	4520 kVA / kW	
	Max. AC Output Current (A) @30 °C	4298	
	Operating Grid Voltage (V)	720 V ±10%	
	Operating Grid Frequency (Hz)	50 / 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	
	Overload Capability	166% - 100 ms / 150% - 5 s / 120% - 8 s / 110% - 15 s	
DC	DC Voltage Range [3]	1019 V – 1500 V	
	Maximum DC Voltage	1500 V	
	DC Voltage Ripple	<3%	
	Max. DC Continuous Current (A)	5367	
	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)	98.94%	
	CEC (η)	98.51%	
CABINET	Foot print [WxDxH] (ft)	9.8 x 6.5 x 7.5	
	Foot print [WxDxH] (m)	3.0 x 2.0 x 2.3	
	Weight (lbs)	10365	
	Weight (kg)	4700	
	Type of Ventilation	Forced air cooling	
ENVIRONMENT	Degree of Protection	NEMA 3R / IP55	
	Operating Temperature Range [4]	From -40 °C to +60 °C, >30 °C power derating	
	Operating Relative Humidity Range	From 4% to 100%	
	Storage Temperature Range	From -40 °C to +60 °C	
	Max. Altitude (above sea level)	2000 m / >2000 m power derating (max. 4000 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	Circuit breaker	
	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	UL 1741 / CSA 22.2 No.107.1-16 / IEC 62109-1 / IEC 62109-2 / IEC 62477-1	
	Installation	NEC 2023	
	Utility Interconnect [6]	UL 1741 SA & SB / IEEE 1547.1 / IEC 62116 / G99 / VDE 4110-4120-4130 / CEI 0-16 / NTS 2.1 / EN 50549 / IEEE 2800	

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] Optional available for temperatures below -25 °C.
[5] Battery short circuit disconnection must be done on the battery side.
[6] Consult Power Electronics for other applicable standards / grid codes.

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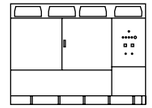


690 V		**FRAME 2**	**FRAME 3**	**FRAME 4**	
REFERENCES		**FP2195K2**	**FP3290K3**	**FP4390K2**	**FP4390K4**
AC	AC Output Power (kVA/kW) @40 °C [1]	2195	3290	4390	
	AC Output Power (kVA/kW) @50 °C [1]	2035	3055	4075	
	Operating Grid Voltage (VAC)		690 V ±10%		
DC	DC Voltage Range [2]		976 V - 1500 V		
	Maximum DC Voltage		1500 V		
	Number of Separate DC Inputs	2	3	2	4
EFFICIENCY	Efficiency (Max) (η)	98.84%	98.87%	98.94%	
	Euroeta (η)	98.34%	98.49%	98.51%	
660 V		**FRAME 2**	**FRAME 3**	**FRAME 4**	
REFERENCES		**FP2101K2**	**FP3151K3**	**FP4200K2**	**FP4200K4**
AC	AC Output Power (kVA/kW) @40 °C [1]	2100	3150	4200	
	AC Output Power (kVA/kW) @50 °C [1]	1950	2925	3900	
	Operating Grid Voltage (VAC)		660 V ±10%		
DC	DC Voltage Range [2]		934 V - 1500 V		
	Maximum DC Voltage		1500 V		
	Number of Separate DC Inputs	2	3	2	4
EFFICIENCY	Efficiency (Max) (η)	98.86%	98.89%	98.95%	
	Euroeta (η)	98.36%	98.51%	98.53%	
645 V		**FRAME 2**	**FRAME 3**	**FRAME 4**	
REFERENCES		**FP2055K2**	**FP3080K3**	**FP4105K2**	**FP4105K4**
AC	AC Output Power (kVA/kW) @40 °C [1]	2055	3080	4105	
	AC Output Power (kVA/kW) @50 °C [1]	1905	2855	3810	
	Operating Grid Voltage (VAC)		645 V ±10%		
DC	DC Voltage Range [2]		913 V - 1500 V		
	Maximum DC Voltage		1500 V		
	Number of Separate DC Inputs	2	3	2	4
EFFICIENCY	Efficiency (Max) (η)	98.85%	98.88%	98.81%	
	Euroeta (η)	98.24%	98.39%	98.41%	
630 V		**FRAME 2**	**FRAME 3**	**FRAME 4**	
REFERENCES		**FP2005K2**	**FP3005K3**	**FP4010K2**	**FP4010K4**
AC	AC Output Power (kVA/kW) @40 °C [1]	2005	3005	4010	
	AC Output Power (kVA/kW) @50 °C [1]	1860	2790	3720	
	Operating Grid Voltage (VAC)		630 V ±10%		
DC	DC Voltage Range [2]		891 V - 1500 V		
	Maximum DC Voltage		1500 V		
	Number of Separate DC Inputs	2	3	2	4
EFFICIENCY	Efficiency (Max) (η)	98.79%	98.82%	98.88%	
	Euroeta (η)	98.28%	98.43%	98.45%	
615 V		**FRAME 2**	**FRAME 3**	**FRAME 4**	
REFERENCES		**FP1955K2**	**FP2935K3**	**FP3915K2**	**FP3915K4**
AC	AC Output Power (kVA/kW) @40 °C [1]	1955	2935	3915	
	AC Output Power (kVA/kW) @50 °C [1]	1815	2725	3635	
	Operating Grid Voltage (VAC)		615 V ±10%		
DC	DC Voltage Range [2]		870 V - 1500 V		
	Maximum DC Voltage		1500 V		
	Number of Separate DC Inputs	2	3	2	4
EFFICIENCY	Efficiency (Max) (η)	98.75%	98.78%	98.77%	
	Euroeta (η)	98.20%	98.35%	98.37%	

NOTES

[1] Values at 1.00·Vac nom and CosPhi=1. The maximum AC output power must be limited to meet the P-Q capability requirement at the inverter level of some grid codes. Consult Power Electronics for derating curves.
[2] 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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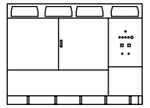


600 V		**FRAME 2**	**FRAME 3**	**FRAME 4**	
REFERENCES		**FP1910K2**	**FP2865K3**	**FP3820K2**	**FP3820K4**
AC	AC Output Power (kVA/kW) @40 °C [1]	1910	2865	3820	
	AC Output Power (kVA/kW) @50 °C [1]	1775	2660	3545	
	Operating Grid Voltage (VAC)		600 V ±10%		
DC	DC Voltage Range [2]		849 V - 1500 V		
	Maximum DC Voltage		1500 V		
	Number of Separate DC Inputs	2	3	2	4
EFFICIENCY	Efficiency (Max) (η)	98.82%	98.85%	98.78%	
	Euroeta (η)	98.18%	98.33%	98.35%	
530 V		**FRAME 2**	**FRAME 3**	**FRAME 4**	
REFERENCES		**FP1685K2**	**FP2530K3**	**FP3370K2**	**FP3370K4**
AC	AC Output Power (kVA/kW) @40 °C [1]	1685	2530	3370	
	AC Output Power (kVA/kW) @50 °C [1]	1565	2350	3130	
	Operating Grid Voltage (VAC)		530 V ±10%		
DC	DC Voltage Range [2]		750 V - 1500 V		
	Maximum DC Voltage		1500 V		
	Number of Separate DC Inputs	2	3	2	4
EFFICIENCY	Efficiency (Max) (η) (preliminary)		98.78%		
	Euroeta (η) (preliminary)		98.35%		
500 V		**FRAME 2**	**FRAME 3**	**FRAME 4**	
REFERENCES		**FP1590K2**	**FP2385K3**	**FP3180K2**	**FP3180K4**
AC	AC Output Power (kVA/kW) @40 °C [1]	1590	2385	3180	
	AC Output Power (kVA/kW) @50 °C [1]	1475	2215	2955	
	Operating Grid Voltage (VAC)		500 V ±10%		
DC	DC Voltage Range [2]		708 V - 1500 V		
	Maximum DC Voltage		1500 V		
	Number of Separate DC Inputs	2	3	2	4
EFFICIENCY	Efficiency (Max) (η) (preliminary)		98.78%		
	Euroeta (η) (preliminary)		98.35%		
480 V		**FRAME 2**	**FRAME 3**	**FRAME 4**	
REFERENCES		**FP1525K2**	**FP2290K3**	**FP3055K2**	**FP3055K4**
AC	AC Output Power (kVA/kW) @40 °C [1]	1525	2290	3055	
	AC Output Power (kVA/kW) @50 °C [1]	1415	2125	2840	
	Operating Grid Voltage (VAC)		480 V ±10%		
DC	DC Voltage Range [2]		679 V - 1500 V		
	Maximum DC Voltage		1500 V		
	Number of Separate DC Inputs	2	3	2	4
EFFICIENCY	Efficiency (Max) (η) (preliminary)		98.78%		
	Euroeta (η) (preliminary)		98.35%		

NOTES

[1] Values at 1.00·Vac nom and CosPhi=1. The maximum AC output power must be limited to meet the P-Q capability requirement at the inverter level of some grid codes. Consult Power Electronics for derating curves.
[2] 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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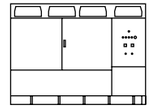


COMMON FEATURES		FRAME 2	FRAME 3	FRAME 4	
AC	Max. AC Output Current (A) @40 °C	1837	2756	3674	
	Operating Grid Frequency (Hz)	50/60 Hz			
	Current Harmonic Distortion (THDi)	<3% per IEEE519			
	Power Factor (CosPhi) [1]	0.5 leading... 0.5 lagging			
	Reactive Power Compensation	Four quadrant operation			
	Overload Capability [5]	166% - 100 ms / 150% - 5 s / 120% - 8 s / 110% - 15 s			
DC	DC Voltage Ripple	<3%			
	Max. DC Continuous Current per Input (A)	1148	1148	2295	1148
	Max. DC Short Circuit Current per Input (kA)	500 kA with a time constant of 1 ms			
	Battery Technology	All type of batteries (BMS required)			
	Number of Separate DC Inputs	2	3	2	4
CABINET	Dimensions [WxDxH] (ft)	9.8 x 6.5 x 7.5			
	Dimensions [WxDxH] (m)	3.0 x 2.0 x 2.3			
	Weight (lbs)	8600	9700	10365	
	Weight (kg)	3900	4400	4700	
	Type of Ventilation	Forced air cooling			
ENVIRONMENT	Degree of Protection	NEMA 3R / IP55			
	Operating Temperature Range [2]	From -40 °C to +60 °C, >40 °C power derating			
	Operating Relative Humidity Range	From 4% to 100%			
	Storage Temperature Range	From -40 °C to +60 °C			
	Max. Altitude (above sea level)	2000m / >2000m power derating (Max. 4000m)			
CONTROL	Communication Protocol	Modbus TCP			
	Power Plant Controller	Optional. Third party SCADA systems supported			
	Keyed ON/OFF Switch	Standard			
PROTECTIONS	Ground Fault Protection	Insulation monitoring device			
	Humidity Control	Active heating			
	General AC Protection & Disconn.	Circuit breaker			
	General DC Protection & Disconn. [3]	High-speed fuses, Motorized DC disconnect switches			
	Overvoltage Protection	Type II for AC and Type I+II for DC			
STANDARDS	Safety	UL 1741 / CSA 22.2 No.107.1-16 / IEC 62109-1 / IEC 62109-2 / IEC 62477-1			
	Installation	NEC 2023			
	Utility Interconnect [4]	IEEE 1547:2018 / UL 1741 SA & SB/ IEC 62116:2014			

NOTES

[1] Consult P-Q charts available: $Q(kVAr)=\sqrt{(S(kVA)^2-P(kW)^2)}$.
[2] Optional available for temperatures below -25 °C.
[3] Battery short circuit disconnection has to be done on the battery side.
[4] Consult Power Electronics for other applicable standards/grid codes.
[5] Available from January 2027.

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690 V

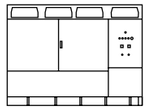
REFERENCES		FP4997K2	FP4997K4	FP4999K2
AC	AC Output Power @30 °C [1]	5240 kVA / 4999 kW		4999 kVA / kW
	AC Output Power @35 °C [1]	5240 kVA / 4999 kW		4999 kVA / kW
	AC Output Power @40 °C [1]	4800 kVA / kW		
	AC Output Power @50 °C [1]	4360 kVA / kW		
	Max. AC Output Current (A) @30 °C	4384		
	Operating Grid Voltage (V)	690 V ±10%		
	Operating Grid Frequency (Hz)	50 / 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		
	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 (A)	2740	1370	2740
	Max. DC Short Circuit Current per Input (kA)	500 kA with a time constant of 1 ms		
	Battery Technology	All type of batteries (BMS required)		
EFFICIENCY & AUX. SUPPLY	Efficiency (Max) (η)	98.94%		
	CEC (η)	98.51%		
CABINET	Foot print [WxDxH] (ft)	9.8 x 6.5 x 7.5		
	Foot print [WxDxH] (m)	3.0 x 2.0 x 2.3		
	Weight (lbs)	10365		
	Weight (kg)	4700		
	Type of Ventilation	Forced air cooling		
ENVIRONMENT	Degree of Protection	NEMA 3R / IP55		
	Operating Temperature Range [4]	From -40 °C to +60 °C, >30 °C power derating		
	Operating Relative Humidity Range	From 4% to 100%		
	Storage Temperature Range	From -40 °C to +60 °C		
	Max. Altitude (above sea level)	2000 m / >2000 m power derating (max. 4000 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	Circuit breaker		
	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	UL 1741 / CSA 22.2 No.107.1-16 / IEC 62109-1 / IEC 62109-2 / IEC 62477-1		
	Installation	NEC 2023		
	Utility Interconnect [6]	UL 1741 SA & SB / IEEE 1547.1 / IEC 62116 / G99 / VDE 4110-4120-4130 / CEI 0-16 / NTS 2.1 / EN 50549 / IEEE 2800		

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] Optional available for temperatures below -25 °C.
[5] Battery short circuit disconnection must be done on the battery side.
[6] Consult Power Electronics for other applicable standards / grid codes.

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690 V

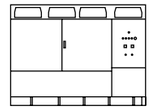
REFERENCES		FP4999K4	FP5020K2	FP5020K4
AC	AC Output Power @30 °C [1]	4999 kVA / kW	5240 kVA / kW	
	AC Output Power @35 °C [1]	4999 kVA / kW	5020 kVA / kW	
	AC Output Power @40 °C [1]	4800 kVA / kW		
	AC Output Power @50 °C [1]	4360 kVA / kW		
	Max. AC Output Current (A) @30 °C	4384	4385	
	Operating Grid Voltage (V)	690 V ±10%		
	Operating Grid Frequency (Hz)	50 / 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		
	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 (A)	1370	2740	1370
	Max. DC Short Circuit Current per Input (kA)	500 kA with a time constant of 1 ms		
	Battery Technology	All type of batteries (BMS required)		
EFFICIENCY & AUX. SUPPLY	Efficiency (Max) (η)	98.94%		
	CEC (η)	98.51%		
CABINET	Foot print [WxDxH] (ft)	9.8 x 6.5 x 7.5		
	Foot print [WxDxH] (m)	3.0 x 2.0 x 2.3		
	Weight (lbs)	10365		
	Weight (kg)	4700		
	Type of Ventilation	Forced air cooling		
ENVIRONMENT	Degree of Protection	NEMA 3R / IP55		
	Operating Temperature Range [4]	From -40 °C to +60 °C, >30 °C power derating		
	Operating Relative Humidity Range	From 4% to 100%		
	Storage Temperature Range	From -40 °C to +60 °C		
	Max. Altitude (above sea level)	2000 m / >2000 m power derating (max. 4000 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	Circuit breaker		
	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	UL 1741 / CSA 22.2 No.107.1-16 / IEC 62109-1 / IEC 62109-2 / IEC 62477-1		
	Installation	NEC 2023		
	Utility Interconnect [6]	UL 1741 SA & SB / IEEE 1547.1 / IEC 62116 / G99 / VDE 4110-4120-4130 / CEI 0-16 / NTS 2.1 / EN 50549 / IEEE 2800		

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] Optional available for temperatures below -25 °C.
[5] Battery short circuit disconnection must be done on the battery side.
[6] Consult Power Electronics for other applicable standards / grid codes.

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720 V

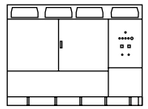
REFERENCES		FP4998K2	FP4998K4
AC	AC Output Power @30 °C [1]	5360 kVA / 4999 kW	
	AC Output Power @35 °C [1]	5360 kVA / 4999 kW	
	AC Output Power @40 °C [1]	4940 kVA / kW	
	AC Output Power @50 °C [1]	4520 kVA / kW	
	Max. AC Output Current (A) @30 °C	4298	
	Operating Grid Voltage (V)	720 V ±10%	
	Operating Grid Frequency (Hz)	50 / 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	
	Overload Capability	166% - 100 ms / 150% - 5 s / 120% - 8 s / 110% - 15 s	
DC	DC Voltage Range [3]	1019 V – 1500 V	
	Maximum DC Voltage	1500 V	
	DC Voltage Ripple	<3%	
	Max. DC Continuous Current (A)	2684	1342
	Max. DC Short Circuit Current per Input (kA)	500 kA with a time constant of 1 ms	
	Battery Technology	All type of batteries (BMS required)	
EFFICIENCY & AUX. SUPPLY	Efficiency (Max) (η)	98.94%	
	CEC (η)	98.51%	
CABINET	Foot print [WxDxH] (ft)	9.8 x 6.5 x 7.5	
	Foot print [WxDxH] (m)	3.0 x 2.0 x 2.3	
	Weight (lbs)	10365	
	Weight (kg)	4700	
	Type of Ventilation	Forced air cooling	
ENVIRONMENT	Degree of Protection	NEMA 3R / IP55	
	Operating Temperature Range [4]	From -40 °C to +60 °C, >30 °C power derating	
	Operating Relative Humidity Range	From 4% to 100%	
	Storage Temperature Range	From -40 °C to +60 °C	
	Max. Altitude (above sea level)	2000 m / >2000 m power derating (max. 4000 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	Circuit breaker	
	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	UL 1741 / CSA 22.2 No.107.1-16 / IEC 62109-1 / IEC 62109-2 / IEC 62477-1	
	Installation	NEC 2023	
	Utility Interconnect [6]	UL 1741 SA & SB / IEEE 1547.1 / IEC 62116 / G99 / VDE 4110-4120-4130 / CEI 0-16 / NTS 2.1 / EN 50549 / IEEE 2800	

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] Optional available for temperatures below -25 °C.
[5] Battery short circuit disconnection must be done on the battery side.
[6] Consult Power Electronics for other applicable standards / grid codes.

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Freemaq Multi PCSK



720 V

REFERENCES		FP5150K2	FP5150K4
AC	AC Output Power @30 °C [1]	5360 kVA / kW	
	AC Output Power @35 °C [1]	5150 kVA / kW	
	AC Output Power @40 °C [1]	4940 kVA / kW	
	AC Output Power @50 °C [1]	4520 kVA / kW	
	Max. AC Output Current (A) @30 °C	4298	
	Operating Grid Voltage (V)	720 V ±10%	
	Operating Grid Frequency (Hz)	50 / 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	
	Overload Capability	166% - 100 ms / 150% - 5 s / 120% - 8 s / 110% - 15 s	
DC	DC Voltage Range [3]	1019 V – 1500 V	
	Maximum DC Voltage	1500 V	
	DC Voltage Ripple	<3%	
	Max. DC Continuous Current (A)	2684	1342
	Max. DC Short Circuit Current per Input (kA)	500 kA with a time constant of 1 ms	
	Battery Technology	All type of batteries (BMS required)	
EFFICIENCY & AUX. SUPPLY	Efficiency (Max) (η)	98.94%	
	CEC (η)	98.51%	
CABINET	Foot print [WxDxH] (ft)	9.8 x 6.5 x 7.5	
	Foot print [WxDxH] (m)	3.0 x 2.0 x 2.3	
	Weight (lbs)	10365	
	Weight (kg)	4700	
	Type of Ventilation	Forced air cooling	
ENVIRONMENT	Degree of Protection	NEMA 3R / IP55	
	Operating Temperature Range [4]	From -40 °C to +60 °C, >30 °C power derating	
	Operating Relative Humidity Range	From 4% to 100%	
	Storage Temperature Range	From -40 °C to +60 °C	
	Max. Altitude (above sea level)	2000 m / >2000 m power derating (max. 4000 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	Circuit breaker	
	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	UL 1741 / CSA 22.2 No.107.1-16 / IEC 62109-1 / IEC 62109-2 / IEC 62477-1	
	Installation	NEC 2023	
	Utility Interconnect [6]	UL 1741 SA & SB / IEEE 1547.1 / IEC 62116 / G99 / VDE 4110-4120-4130 / CEI 0-16 / NTS 2.1 / EN 50549 / IEEE 2800	

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] Optional available for temperatures below -25 °C.
[5] Battery short circuit disconnection must be done on the battery side.
[6] Consult Power Electronics for other applicable standards / grid codes.

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Freemaq DC/DC



REFERENCES		FD1200
DC INPUT & OUTPUT	DC Rated Power (kW) @ 30 °C	1200
	DC Rated Power (kW) @ 40 °C	1120
	DC Rated Power (kW) @ 50 °C	1040
	Max. DC Output Current (A) @ 30 °C	1200
	Max. DC Output Current (A) @ 40 °C	1120
	Max. DC Output Current (A) @ 50 °C	1040
	DC Coupling Bus Voltage Range (Vdc) [1]	720 - 1500
	DC ESS Voltage Range (Vdc) [1]	720 - 1500
	Maximum DC PV Input Voltage (Vdc)	1500
	DC Voltage Ripple	<3%
	Max. DC Short Circuit Current ESS (kA)	500 kA with a time constant of 1 ms
	Max. DC Short Circuit Current PV (kA)	14
	Battery Technology	Compatible with all battery technologies
EFFICIENCY	Efficiency (Max)	99.18%
CABINET	Dimensions [WxDxH] (ft)	3.94 x 5.90 x 7.56
	Dimensions [WxDxH] (m)	1.20 x 1.80 x 2.30
	Cooling	Forced air
	Enclosure Protection Degree	NEMA 3R / IP54
CONNECTIONS	Number of PV connections	4 negative / 4 positive
	Number of Connections from Inverter (BESS)	4 positive / 4 negative
ENVIRONMENT	Operating Temperature Range [2]	From -25 °C to +60 °C, >30 °C power derating
	Relative Humidity	From 4% to 100%
	Max. Altitude (above sea level)	4000 m (> 2000 m power derating)
CONTROL	Interfaces	Emergency stop pushbutton and indicator lights
	Communications Protocol	Modbus TCP
PROTECTIONS	Inverter side [3]	Motorized DC disconnect switch
	BESS side [4]	Motorized DC disconnect switch and ultra-fast fuses
STANDARDS	Safety	UL1741, IEC 62109-1

NOTES

[1] Consult Power Electronics for derating curves.
[2] Consult Power Electronics for temperatures below -25 °C.
[3] In case of augmentation application, ultra-fast fuses are included on the inverter side.
[4] Battery short circuit disconnection must be done on the battery side.

Freesun DC/DC

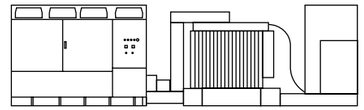


REFERENCES		FD1200R
DC INPUT & OUTPUT	DC Rated Power (kW) @ 30 °C	1200
	DC Rated Power (kW) @ 40 °C	1120
	DC Rated Power (kW) @ 50 °C	1040
	Max. DC Output Current (A) @ 30 °C	1200
	Max. DC Output Current (A) @ 40 °C	1120
	Max. DC Output Current (A) @ 50 °C	1040
	DC PV Voltage Range (Vdc) [1]	720 - 1500
	DC ESS Voltage Range (Vdc) [1]	720 - 1500
	Maximum DC PV Input Voltage (Vdc)	1500
	DC Voltage Ripple	<3%
	Max. DC Short Circuit Current ESS (kA)	500 kA with a time constant of 1 ms
	Max. DC Short Circuit Current PV (kA)	3
EFFICIENCY	Efficiency (Max)	99.18%
CABINET	Dimensions [WxDxH] (ft)	3.94 x 5.90 x 7.56
	Dimensions [WxDxH] (m)	1.20 x 1.80 x 2.30
	Cooling	Forced air
	Enclosure Protection Degree	NEMA 3R / IP54
CONNECTIONS	Number of PV connections	6 negative / 6 positive
	Number of Connections from Inverter (BESS)	3 positive / 3 negative
ENVIRONMENT	Operating Temperature Range [2]	From -25 °C to +60 °C, >30 °C power derating
	Relative Humidity	From 4% to 100%
	Max. Altitude (above sea level)	4000 m (> 2000 m power derating)
CONTROL	Interfaces	Emergency stop pushbutton and indicator lights
	Communications Protocol	Modbus TCP
PROTECTIONS	PV Side	PV fuses and motorized DC disconnect switch
	Inverter Side	Ultra-fast fuses and motorized DC disconnect switch
STANDARDS	Safety	UL1741, IEC 62109-1

NOTES

[1] Consult Power Electronics for derating curves.
[2] Consult Power Electronics for temperatures below -25 °C.

MV Skid Compact

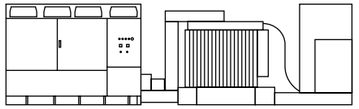


REFERENCES		MVS04200H100	MVS04200H080	MVS04200H050	MVS04200H040
RATINGS	Rated power @ 40 °C	4200 kVA			
	Operating Grid Frequency	50 Hz			
MEDIUM VOLTAGE EQUIPMENT	MV rated voltage	20 kV	22 kV	30 kV	33 kV
	LV rated voltage	660 V			
	Transformer cooling	ONAN (KNAN optional)			
	Transformer vector group	Dy11			
	Transformer protection	Protection relay for pressure, temperature (two levels) and gassing / dielectric level PT100			
	Transformer index of protection	IP54			
	Transformer losses	IEC standard (IEC Tier-2 optional)			
	Oil retention tank (Optional)	Galvanized steel. Integrated with hydrocarbon filter.			
	Switchgear configuration [3]	Double feeder (2L)			
	Switchgear protection [3]	Circuit breaker (V)			
	Switchgear short circuit rating [1]	16 kA / 1 s (optionally: 20 kA / 1 s, 20 kA / 3 s or 25 kA / 1 s)			
	Switchgear IAC [1]	A-FLR 16 kA / 1 s (optionally 20 kA or 25 kA)			
	Rated impulse withstand voltage	125 kV		170 kV	
CONNECTIONS	MV connections	Close-coupled plug & play solution			
	MV AC wiring	MV bridge between transformer and protection switchgear prewired			
ENVIRONMENT	Ambient temperature range [2]	From -25 °C to +60 °C, >40 °C power derating			
	Maximum altitude (above sea level) [1]	1000 m (optionally up to 4000 m)			
	Relative humidity	4% to 95%			
AUXILIARY SERVICES	User Cabinet (Optional)	LV cabinet in the skid			
	UPS System (Optional) [4]	3 kVA / 3 kW			
OTHER EQUIPMENT	Safety mechanism (Optional)	Interlocking system			
	Fire suppression system (Optional)	Accessory for transformer oil retention tank			
STANDARDS	Compliance	IEC 62271-212, IEC 62271-200, IEC 60076, IEC 61439-1			

NOTES

[1] Consult with Power Electronics for other options.
[2] For lower temperatures, consult with Power Electronics.
[3] SF6 free optional available.
[4] Consult with Power Electronics for UPS autonomy.

MV Skid Compact

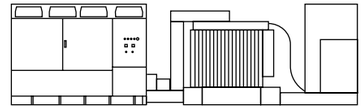


REFERENCES		MVS04390H100	MVS04390H080	MVS04390H050	MVS04390H040	MVS04390H031
RATINGS	Rated power @ 40 °C	4390 kVA				
	Operating Grid Frequency	50 Hz				60 Hz
MEDIUM VOLTAGE EQUIPMENT	MV rated voltage	20 kV	22 kV	30 kV	33 kV	34.5 kV
	LV rated voltage	690 V				
	Transformer cooling	ONAN (KNAN optional)				
	Transformer vector group	Dy11				
	Transformer protection	Protection relay for pressure, temperature (two levels) and gassing / dielectric level				
		PT100				
	Transformer index of protection	IP54				
	Transformer losses	IEC standard (IEC Tier-2 optional)				
	Oil retention tank (Optional)	Galvanized steel. Integrated with hydrocarbon filter.				
	Switchgear configuration [3]	Double feeder (2L)				
	Switchgear protection [3]	Circuit breaker (V)				
	Switchgear short circuit rating [1]	16 kA / 1 s (optionally: 20 kA / 1 s, 20 kA / 3 s or 25 kA / 1 s)				
	Switchgear IAC [1]	A-FLR 16 kA / 1 s (optionally 20 kA or 25 kA)				
	Rated impulse withstand voltage	125 kV		170 kV		
CONNECTIONS	MV connections	Close-coupled plug & play solution				
	MV AC wiring	MV bridge between transformer and protection switchgear prewired				
ENVIRONMENT	Ambient temperature range [2]	From -25 °C to +60 °C, >40 °C power derating				
	Maximum altitude (above sea level) [1]	1000 m (optionally up to 4000 m)				
	Relative humidity	4% to 95%				
AUXILIARY SERVICES	User Cabinet (Optional)	LV cabinet in the skid				
	UPS System (Optional) [4]	3 kVA / 3 kW				
OTHER EQUIPMENT	Safety mechanism (Optional)	Interlocking system				
	Fire suppression system (Optional)	Accessory for transformer oil retention tank				
STANDARDS	Compliance	IEC 62271-212, IEC 62271-200, IEC 60076, IEC 61439-1				

NOTES

[1] Consult with Power Electronics for other options.
[2] For lower temperatures, consult with Power Electronics.
[3] SF6 free optional available.
[4] Consult with Power Electronics for UPS autonomy.

MV Skid Compact

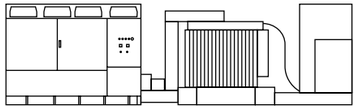


REFERENCES		MVS05240H100	MVS05240H080	MVS05240H050	MVS05240H040
RATINGS	Rated power @ 30 °C	5240 kVA			
	Operating Grid Frequency	50 Hz			
MEDIUM VOLTAGE EQUIPMENT	MV rated voltage	20 kV	22 kV	30 kV	33 kV
	LV rated voltage	690 V			
	Transformer cooling	ONAN (KNAN optional)			
	Transformer vector group	Dy11y11			
	Transformer protection	Protection relay for pressure, temperature (two levels) and gassing / dielectric level			
		PT100			
	Transformer index of protection	IP54			
	Transformer losses	IEC standard (IEC Tier-2 optional)			
	Oil retention tank (Optional)	Galvanized steel. Integrated with hydrocarbon filter.			
	Switchgear configuration [3]	Double feeder (2L)			
	Switchgear protection [3]	Circuit breaker (V)			
	Switchgear short circuit rating [1]	16 kA / 1 s (optionally: 20 kA / 1 s, 20 kA / 3 s or 25 kA / 1 s)			
	Switchgear IAC [1]	A-FLR 16 kA / 1 s (optionally 20 kA or 25 kA)			
	Rated impulse withstand voltage	125 kV		170 kV	
CONNECTIONS	MV connections	Close-coupled plug & play solution			
	MV AC wiring	MV bridge between transformer and protection switchgear prewired			
ENVIRONMENT	Ambient temperature range [2]	From -25 °C to +60 °C, >30 °C power derating			
	Maximum altitude (above sea level) [1]	Up to 1000 m (optionally up to 4000 m)			
	Relative humidity	4% to 95%			
AUXILIARY SERVICES	User Cabinet (Optional)	LV cabinet in the skid			
	UPS System (Optional) [4]	3 kVA / 3 kW			
OTHER EQUIPMENT	Safety mechanism (Optional)	Interlocking system			
	Fire suppression system (Optional)	Accessory for transformer oil retention tank			
STANDARDS	Compliance	IEC 62271-212, IEC 62271-200, IEC 60076, IEC 61439-1			

NOTES

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[2] For lower temperatures, consult with Power Electronics.
[3] SF6 free optional available.
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MV Skid Compact

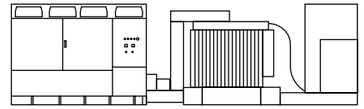


REFERENCES		MVS05240H020	MVS05240H010	MVS05260H100	MVS05260H080
RATINGS	Rated power @ 30 °C	5240 kVA		5260 kVA	
	Operating Grid Frequency	50 Hz			
MEDIUM VOLTAGE EQUIPMENT	MV rated voltage	35 kV	36 kV	20 kV	22 kV
	LV rated voltage	690 V			
	Transformer cooling	ONAN (KNAN optional)			
	Transformer vector group	Dy11y11			
	Transformer protection	Protection relay for pressure, temperature (two levels) and gassing / dielectric level PT100			
	Transformer index of protection	IP54			
	Transformer losses	IEC standard (IEC Tier-2 optional)			
	Oil retention tank (Optional)	Galvanized steel. Integrated with hydrocarbon filter.			
	Switchgear configuration [3]	Double feeder (2L)			
	Switchgear protection [3]	Circuit breaker (V)			
	Switchgear short circuit rating [1]	16 kA / 1 s (optionally: 20 kA / 1 s, 20 kA / 3 s or 25 kA / 1 s)			
	Switchgear IAC [1]	A-FLR 16 kA / 1 s (optionally 20 kA or 25 kA)			
	Rated impulse withstand voltage	185 kV		125 kV	
CONNECTIONS	MV connections	Close-coupled plug & play solution			
	MV AC wiring	MV bridge between transformer and protection switchgear prewired			
ENVIRONMENT	Ambient temperature range [2]	From -25 °C to +60 °C, >30 °C power derating			
	Maximum altitude (above sea level) [1]	Up to 1000 m (optionally up to 4000 m)			
	Relative humidity	4% to 95%			
AUXILIARY SERVICES	User Cabinet (Optional)	LV cabinet in the skid			
	UPS System (Optional) [4]	3 kVA / 3 kW			
OTHER EQUIPMENT	Safety mechanism (Optional)	Interlocking system			
	Fire suppression system (Optional)	Accessory for transformer oil retention tank			
STANDARDS	Compliance	IEC 62271-212, IEC 62271-200, IEC 60076, IEC 61439-1			

NOTES

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[4] Consult with Power Electronics for UPS autonomy.

MV Skid Compact

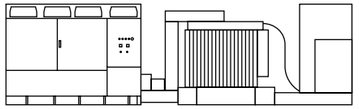


REFERENCES		MVS05260H050	MVS05260H040	MVS05260H020	MVS05260H010
RATINGS	Rated power @ 30 °C	5260 kVA			
	Operating Grid Frequency	50 Hz			
MEDIUM VOLTAGE EQUIPMENT	MV rated voltage	30 kV	33 kV	35 kV	36 kV
	LV rated voltage	690 V			
	Transformer cooling	ONAN (KNAN optional)			
	Transformer vector group	Dy11y11			
	Transformer protection	Protection relay for pressure, temperature (two levels) and gassing / dielectric level PT100			
	Transformer index of protection	IP54			
	Transformer losses	IEC standard (IEC Tier-2 optional)			
	Oil retention tank (Optional)	Galvanized steel. Integrated with hydrocarbon filter.			
	Switchgear configuration [3]	Double feeder (2L)			
	Switchgear protection [3]	Circuit breaker (V)			
	Switchgear short circuit rating [1]	16 kA / 1 s (optionally: 20 kA / 1 s, 20 kA / 3 s or 25 kA / 1 s)			
	Switchgear IAC [1]	A-FLR 16 kA / 1 s (optionally 20 kA or 25 kA)			
	Rated impulse withstand voltage	170 kV		185 kV	
CONNECTIONS	MV connections	Close-coupled plug & play solution			
	MV AC wiring	MV bridge between transformer and protection switchgear prewired			
ENVIRONMENT	Ambient temperature range [2]	From -25 °C to +60 °C, >30 °C power derating			
	Maximum altitude (above sea level) [1]	Up to 1000 m (optionally up to 4000 m)			
	Relative humidity	4% to 95%			
AUXILIARY SERVICES	User Cabinet (Optional)	LV cabinet in the skid			
	UPS System (Optional) [4]	3 kVA / 3 kW			
OTHER EQUIPMENT	Safety mechanism (Optional)	Interlocking system			
	Fire suppression system (Optional)	Accessory for transformer oil retention tank			
STANDARDS	Compliance	IEC 62271-212, IEC 62271-200, IEC 60076, IEC 61439-1			

NOTES

[1] Consult with Power Electronics for other options.
[2] For lower temperatures, consult with Power Electronics.
[3] SF6 free optional available.
[4] Consult with Power Electronics for UPS autonomy.

MV Skid Compact

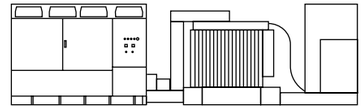


REFERENCES		MVS05360H100	MVS05360H080	MVS05360H050	MVS05360H040
RATINGS	Rated power @ 30 °C	5360 kVA			
	Operating Grid Frequency	50 Hz			
MEDIUM VOLTAGE EQUIPMENT	MV rated voltage	20 kV	22 kV	30 kV	33 kV
	LV rated voltage	720 V			
	Transformer cooling	ONAN (KNAN optional)			
	Transformer vector group	Dy11y11			
	Transformer protection	Protection relay for pressure, temperature (two levels) and gassing / dielectric level PT100			
	Transformer index of protection	IP54			
	Transformer losses	IEC standard (IEC Tier-2 optional)			
	Oil retention tank (Optional)	Galvanized steel. Integrated with hydrocarbon filter.			
	Switchgear configuration [3]	Double feeder (2L)			
	Switchgear protection [3]	Circuit breaker (V)			
	Switchgear short circuit rating [1]	16 kA / 1 s (optionally: 20 kA / 1 s, 20 kA / 3 s or 25 kA / 1 s)			
	Switchgear IAC [1]	A-FLR 16 kA / 1 s (optionally 20 kA or 25 kA)			
	Rated impulse withstand voltage	125 kV		170 kV	
CONNECTIONS	MV connections	Close-coupled plug & play solution			
	MV AC wiring	MV bridge between transformer and protection switchgear prewired			
ENVIRONMENT	Ambient temperature range [2]	From -25 °C to +60 °C, >30 °C power derating			
	Maximum altitude (above sea level) [1]	Up to 1000 m (optionally up to 4000 m)			
	Relative humidity	4% to 95%			
AUXILIARY SERVICES	User Cabinet (Optional)	LV cabinet in the skid			
	UPS System (Optional) [4]	3 kVA / 3 kW			
OTHER EQUIPMENT	Safety mechanism (Optional)	Interlocking system			
	Fire suppression system (Optional)	Accessory for transformer oil retention tank			
STANDARDS	Compliance	IEC 62271-212, IEC 62271-200, IEC 60076, IEC 61439-1			

NOTES

[1] Consult with Power Electronics for other options.
[2] For lower temperatures, consult with Power Electronics.
[3] SF6 free optional available.
[4] Consult with Power Electronics for UPS autonomy.

MV Skid Compact

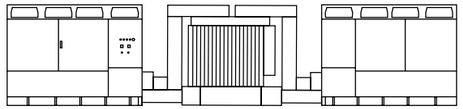


REFERENCES		MVS05360H020	MVS05360H010
RATINGS	Rated power @ 30 °C	5360 kVA	
	Operating Grid Frequency	50 Hz	
MEDIUM VOLTAGE EQUIPMENT	MV rated voltage	35 kV	36 kV
	LV rated voltage	720 V	
	Transformer cooling	ONAN (KNAN optional)	
	Transformer vector group	Dy11y11	
	Transformer protection	Protection relay for pressure, temperature (two levels) and gassing / dielectric level PT100	
	Transformer index of protection	IP54	
	Transformer losses	IEC standard (IEC Tier-2 optional)	
	Oil retention tank (Optional)	Galvanized steel. Integrated with hydrocarbon filter.	
	Switchgear configuration [3]	Double feeder (2L)	
	Switchgear protection [3]	Circuit breaker (V)	
	Switchgear short circuit rating [1]	16 kA / 1 s (optionally: 20 kA / 1 s, 20 kA / 3 s or 25 kA / 1 s)	
	Switchgear IAC [1]	A-FLR 16 kA / 1 s (optionally 20 kA or 25 kA)	
	Rated impulse withstand voltage	185 kV	
CONNECTIONS	MV connections	Close-coupled plug & play solution	
	MV AC wiring	MV bridge between transformer and protection switchgear prewired	
ENVIRONMENT	Ambient temperature range [2]	From -25 °C to +60 °C, >30 °C power derating	
	Maximum altitude (above sea level) [1]	Up to 1000 m (optionally up to 4000 m)	
	Relative humidity	4% to 95%	
AUXILIARY SERVICES	User Cabinet (Optional)	LV cabinet in the skid	
	UPS System (Optional) [4]	3 kVA / 3 kW	
OTHER EQUIPMENT	Safety mechanism (Optional)	Interlocking system	
	Fire suppression system (Optional)	Accessory for transformer oil retention tank	
STANDARDS	Compliance	IEC 62271-212, IEC 62271-200, IEC 60076, IEC 61439-1	

NOTES

[1] Consult with Power Electronics for other options.
[2] For lower temperatures, consult with Power Electronics.
[3] SF6 free optional available.
[4] Consult with Power Electronics for UPS autonomy.

Twin Skid Compact

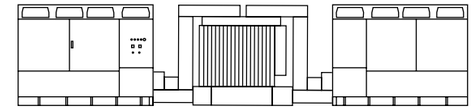


REFERENCES		MVT05730H100	MVT05730H080	MVT05730H050	MVT05730H040
RATINGS	Rated power @ 40 °C	5730 kVA			
	Operating Grid Frequency	50 Hz			
MEDIUM VOLTAGE EQUIPMENT	MV rated voltage	20 kV	22 kV	30 kV	33 kV
	LV rated voltage	600 V			
	Transformer cooling	ONAN (KNAN optional)			
	Transformer vector group	Dy11y11			
	Transformer protection	Protection relay for pressure, temperature (two levels) and gassing / dielectric level PT100			
	Transformer index of protection	IP54			
	Transformer losses	IEC standard (IEC Tier-2 optional)			
	Oil retention tank (Optional)	Galvanized steel. Integrated with hydrocarbon filter.			
	Switchgear configuration [3]	Double feeder (2L)			
	Switchgear protection [3]	Circuit breaker (V)			
	Switchgear short circuit rating [1]	16 kA / 1 s (optionally: 20 kA / 1 s, 20 kA / 3 s or 25 kA / 1 s)			
	Switchgear IAC [1]	A-FLR 16 kA / 1 s (optionally 20 kA or 25 kA)			
	Rated impulse withstand voltage	125 kV		170 kV	
CONNECTIONS	MV connections	Close-coupled plug & play solution			
	MV AC wiring	MV bridge between transformer and protection switchgear prewired			
ENVIRONMENT	Ambient temperature range [2]	From -25 °C to +60 °C, >40 °C power derating			
	Maximum altitude (above sea level) [1]	Up to 1000 m (optionally up to 4000 m)			
	Relative humidity	4% to 95%			
AUXILIARY SERVICES	User Cabinet (Optional)	LV cabinet in the skid			
	UPS System (Optional) [4]	3 kVA / 3 kW			
OTHER EQUIPMENT	Safety mechanism (Optional)	Interlocking system			
	Fire suppression system (Optional)	Accessory for transformer oil retention tank			
STANDARDS	Compliance	IEC 62271-212, IEC 62271-200, IEC 60076, IEC 61439-1			

NOTES

[1] Consult with Power Electronics for other options.
[2] For lower temperatures, consult with Power Electronics.
[3] SF6 free optional available.
[4] Consult with Power Electronics for UPS autonomy.

Twin Skid Compact

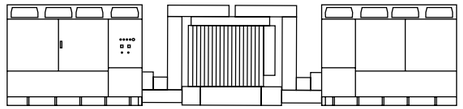


REFERENCES		MVT06300H100	MVT06300H080	MVT06300H050	MVT06300H040
RATINGS	Rated power @ 40 °C	6300 kVA			
	Operating Grid Frequency	50 Hz			
MEDIUM VOLTAGE EQUIPMENT	MV rated voltage	20 kV	22 kV	30 kV	33 kV
	LV rated voltage	660 V			
	Transformer cooling	ONAN (KNAN optional)			
	Transformer vector group	Dy11y11			
	Transformer protection	Protection relay for pressure, temperature (two levels) and gassing / dielectric level PT100			
	Transformer index of protection	IP54			
	Transformer losses	IEC standard (IEC Tier-2 optional)			
	Oil retention tank (Optional)	Galvanized steel. Integrated with hydrocarbon filter.			
	Switchgear configuration [3]	Double feeder (2L)			
	Switchgear protection [3]	Circuit breaker (V)			
	Switchgear short circuit rating [1]	16 kA / 1 s (optionally: 20 kA / 1 s, 20 kA / 3 s or 25 kA / 1 s)			
	Switchgear IAC [1]	A-FLR 16 kA / 1 s (optionally 20 kA or 25 kA)			
	Rated impulse withstand voltage	125 kV		170 kV	
CONNECTIONS	MV connections	Close-coupled plug & play solution			
	MV AC wiring	MV bridge between transformer and protection switchgear prewired			
ENVIRONMENT	Ambient temperature range [2]	From -25 °C to +60 °C, >40 °C power derating			
	Maximum altitude (above sea level) [1]	Up to 1000 m (optionally up to 4000 m)			
	Relative humidity	4% to 95%			
AUXILIARY SERVICES	User Cabinet (Optional)	LV cabinet in the skid			
	UPS System (Optional) [4]	3 kVA / 3 kW			
OTHER EQUIPMENT	Safety mechanism (Optional)	Interlocking system			
	Fire suppression system (Optional)	Accessory for transformer oil retention tank			
STANDARDS	Compliance	IEC 62271-212, IEC 62271-200, IEC 60076, IEC 61439-1			

NOTES

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Twin Skid Compact

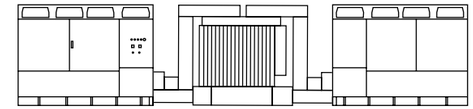


REFERENCES		MVT08400H100	MVT08400H080	MVT08400H050	MVT08400H040
RATINGS	Rated power @ 40 °C	8400 kVA			
	Operating Grid Frequency	50 Hz			
MEDIUM VOLTAGE EQUIPMENT	MV rated voltage	20 kV	22 kV	30 kV	33 kV
	LV rated voltage	660 V			
	Transformer cooling	ONAN (KNAN optional)			
	Transformer vector group	Dy11y11			
	Transformer protection	Protection relay for pressure, temperature (two levels) and gassing / dielectric level PT100			
	Transformer index of protection	IP54			
	Transformer losses	IEC standard (IEC Tier-2 optional)			
	Oil retention tank (Optional)	Galvanized steel. Integrated with hydrocarbon filter.			
	Switchgear configuration [3]	Double feeder (2L)			
	Switchgear protection [3]	Circuit breaker (V)			
	Switchgear short circuit rating [1]	16 kA / 1 s (optionally: 20 kA / 1 s, 20 kA / 3 s or 25 kA / 1 s)			
	Switchgear IAC [1]	A-FLR 16 kA / 1 s (optionally 20 kA or 25 kA)			
	Rated impulse withstand voltage	125 kV		170 kV	
CONNECTIONS	MV connections	Close-coupled plug & play solution			
	MV AC wiring	MV bridge between transformer and protection switchgear prewired			
ENVIRONMENT	Ambient temperature range [2]	From -25 °C to +60 °C, >40 °C power derating			
	Maximum altitude (above sea level) [1]	Up to 1000 m (optionally up to 4000 m)			
	Relative humidity	4% to 95%			
AUXILIARY SERVICES	User Cabinet (Optional)	LV cabinet in the skid			
	UPS System (Optional) [4]	3 kVA / 3 kW			
OTHER EQUIPMENT	Safety mechanism (Optional)	Interlocking system			
	Fire suppression system (Optional)	Accessory for transformer oil retention tank			
STANDARDS	Compliance	IEC 62271-212, IEC 62271-200, IEC 60076, IEC 61439-1			

NOTES

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[3] SF6 free optional available.
[4] Consult with Power Electronics for UPS autonomy.

Twin Skid Compact

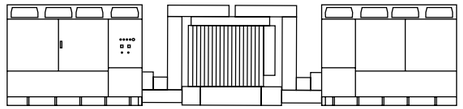


REFERENCES		MVT08780H100	MVT08780H080	MVT08780H050	MVT08780H040	MVT08780H031
RATINGS	Rated power @ 40 °C	8780 kVA				
	Operating Grid Frequency	50 Hz				60 Hz
MEDIUM VOLTAGE EQUIPMENT	MV rated voltage	20 kV	22 kV	30 kV	33 kV	34.5 kV
	LV rated voltage	690 V				
	Transformer cooling	ONAN (KNAN optional)				
	Transformer vector group	Dy11y11				
	Transformer protection	Protection relay for pressure, temperature (two levels) and gassing / dielectric level PT100				
	Transformer index of protection	IP54				
	Transformer losses	IEC standard (IEC Tier-2 optional)				
	Oil retention tank (Optional)	Galvanized steel. Integrated with hydrocarbon filter.				
	Switchgear configuration [3]	Double feeder (2L)				
	Switchgear protection [3]	Circuit breaker (V)				
	Switchgear short circuit rating [1]	16 kA / 1 s (optionally: 20 kA / 1 s, 20 kA / 3 s or 25 kA / 1 s)				
	Switchgear IAC [1]	A-FLR 16 kA / 1 s (optionally 20 kA or 25 kA)				
	Rated impulse withstand voltage	125 kV		170 kV		
CONNECTIONS	MV connections	Close-coupled plug & play solution				
	MV AC wiring	MV bridge between transformer and protection switchgear prewired				
ENVIRONMENT	Ambient temperature range [2]	From -25 °C to +60 °C, >40 °C power derating				
	Maximum altitude (above sea level) [1]	Up to 1000 m (optionally up to 4000 m)				
	Relative humidity	4% to 95%				
AUXILIARY SERVICES	User Cabinet (Optional)	LV cabinet in the skid				
	UPS System (Optional) [4]	3 kVA / 3 kW				
OTHER EQUIPMENT	Safety mechanism (Optional)	Interlocking system				
	Fire suppression system (Optional)	Accessory for transformer oil retention tank				
STANDARDS	Compliance	IEC 62271-212, IEC 62271-200, IEC 60076, IEC 61439-1				

NOTES

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Twin Skid Compact

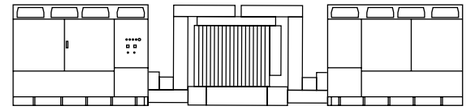


REFERENCES		MVS05240H100	MVS05240H080	MVS05240H050	MVS05240H040
RATINGS	Rated power @ 30 °C	5240 kVA			
	Operating Grid Frequency	50 Hz			
MEDIUM VOLTAGE EQUIPMENT	MV rated voltage	20 kV	22 kV	30 kV	33 kV
	LV rated voltage	690 V			
	Transformer cooling	ONAN (KNAN optional)			
	Transformer vector group	Dy11y11			
	Transformer protection	Protection relay for pressure, temperature (two levels) and gassing / dielectric level PT100			
	Transformer index of protection	IP54			
	Transformer losses	IEC standard (IEC Tier-2 optional)			
	Oil retention tank (Optional)	Galvanized steel. Integrated with hydrocarbon filter.			
	Switchgear configuration [3]	Double feeder (2L)			
	Switchgear protection [3]	Circuit breaker (V)			
	Switchgear short circuit rating [1]	16 kA / 1 s (optionally: 20 kA / 1 s, 20 kA / 3 s or 25 kA / 1 s)			
	Switchgear IAC [1]	A-FLR 16 kA / 1 s (optionally 20 kA or 25 kA)			
	Rated impulse withstand voltage	125 kV		170 kV	
CONNECTIONS	MV connections	Close-coupled plug & play solution			
	MV AC wiring	MV bridge between transformer and protection switchgear prewired			
ENVIRONMENT	Ambient temperature range [2]	From -25 °C to +60 °C, >30 °C power derating			
	Maximum altitude (above sea level) [1]	Up to 1000 m (optionally up to 4000 m)			
	Relative humidity	4% to 95%			
AUXILIARY SERVICES	User Cabinet (Optional)	LV cabinet in the skid			
	UPS System (Optional) [4]	3 kVA / 3 kW			
OTHER EQUIPMENT	Safety mechanism (Optional)	Interlocking system			
	Fire suppression system (Optional)	Accessory for transformer oil retention tank			
STANDARDS	Compliance	IEC 62271-212, IEC 62271-200, IEC 60076, IEC 61439-1			

NOTES

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Twin Skid Compact

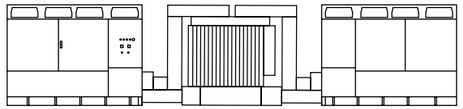


REFERENCES		MVS05240H020	MVS05240H010	MVS05260H100	MVS05260H080
RATINGS	Rated power @ 30 °C	5240 kVA		5260 kVA	
	Operating Grid Frequency	50 Hz			
MEDIUM VOLTAGE EQUIPMENT	MV rated voltage	35 kV	36 kV	20 kV	22 kV
	LV rated voltage	690 V			
	Transformer cooling	ONAN (KNAN optional)			
	Transformer vector group	Dy11y11			
	Transformer protection	Protection relay for pressure, temperature (two levels) and gassing / dielectric level PT100			
	Transformer index of protection	IP54			
	Transformer losses	IEC standard (IEC Tier-2 optional)			
	Oil retention tank (Optional)	Galvanized steel. Integrated with hydrocarbon filter.			
	Switchgear configuration [3]	Double feeder (2L)			
	Switchgear protection [3]	Circuit breaker (V)			
	Switchgear short circuit rating [1]	16 kA / 1 s (optionally: 20 kA / 1 s, 20 kA / 3 s or 25 kA / 1 s)			
	Switchgear IAC [1]	A-FLR 16 kA / 1 s (optionally 20 kA or 25 kA)			
	Rated impulse withstand voltage	185 kV		125 kV	
CONNECTIONS	MV connections	Close-coupled plug & play solution			
	MV AC wiring	MV bridge between transformer and protection switchgear prewired			
ENVIRONMENT	Ambient temperature range [2]	From -25 °C to +60 °C, >30 °C power derating			
	Maximum altitude (above sea level) [1]	Up to 1000 m (optionally up to 4000 m)			
	Relative humidity	4% to 95%			
AUXILIARY SERVICES	User Cabinet (Optional)	LV cabinet in the skid			
	UPS System (Optional) [4]	3 kVA / 3 kW			
OTHER EQUIPMENT	Safety mechanism (Optional)	Interlocking system			
	Fire suppression system (Optional)	Accessory for transformer oil retention tank			
STANDARDS	Compliance	IEC 62271-212, IEC 62271-200, IEC 60076, IEC 61439-1			

NOTES

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Twin Skid Compact

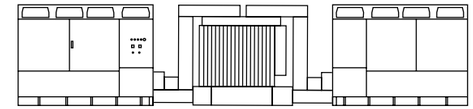


REFERENCES		MVS05260H050	MVS05260H040	MVS05260H020	MVS05260H010
RATINGS	Rated power @ 30 °C	5260 kVA			
	Operating Grid Frequency	50 Hz			
MEDIUM VOLTAGE EQUIPMENT	MV rated voltage	30 kV	33 kV	35 kV	36 kV
	LV rated voltage	690 V			
	Transformer cooling	ONAN (KNAN optional)			
	Transformer vector group	Dy11y11			
	Transformer protection	Protection relay for pressure, temperature (two levels) and gassing / dielectric level PT100			
	Transformer index of protection	IP54			
	Transformer losses	IEC standard (IEC Tier-2 optional)			
	Oil retention tank (Optional)	Galvanized steel. Integrated with hydrocarbon filter.			
	Switchgear configuration [3]	Double feeder (2L)			
	Switchgear protection [3]	Circuit breaker (V)			
	Switchgear short circuit rating [1]	16 kA / 1 s (optionally: 20 kA / 1 s, 20 kA / 3 s or 25 kA / 1 s)			
	Switchgear IAC [1]	A-FLR 16 kA / 1 s (optionally 20 kA or 25 kA)			
	Rated impulse withstand voltage	170 kV		185 kV	
CONNECTIONS	MV connections	Close-coupled plug & play solution			
	MV AC wiring	MV bridge between transformer and protection switchgear prewired			
ENVIRONMENT	Ambient temperature range [2]	From -25 °C to +60 °C, >30 °C power derating			
	Maximum altitude (above sea level) [1]	Up to 1000 m (optionally up to 4000 m)			
	Relative humidity	4% to 95%			
AUXILIARY SERVICES	User Cabinet (Optional)	LV cabinet in the skid			
	UPS System (Optional) [4]	3 kVA / 3 kW			
OTHER EQUIPMENT	Safety mechanism (Optional)	Interlocking system			
	Fire suppression system (Optional)	Accessory for transformer oil retention tank			
STANDARDS	Compliance	IEC 62271-212, IEC 62271-200, IEC 60076, IEC 61439-1			

NOTES

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Twin Skid Compact

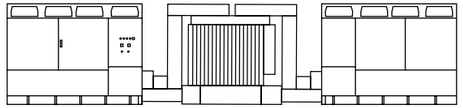


REFERENCES		MVS05360H100	MVS05360H080	MVS05360H050	MVS05360H040
RATINGS	Rated power @ 30 °C	5360 kVA			
	Operating Grid Frequency	50 Hz			
MEDIUM VOLTAGE EQUIPMENT	MV rated voltage	20 kV	22 kV	30 kV	33 kV
	LV rated voltage	720 V			
	Transformer cooling	ONAN (KNAN optional)			
	Transformer vector group	Dy11y11			
	Transformer protection	Protection relay for pressure, temperature (two levels) and gassing / dielectric level PT100			
	Transformer index of protection	IP54			
	Transformer losses	IEC standard (IEC Tier-2 optional)			
	Oil retention tank (Optional)	Galvanized steel. Integrated with hydrocarbon filter.			
	Switchgear configuration [3]	Double feeder (2L)			
	Switchgear protection [3]	Circuit breaker (V)			
	Switchgear short circuit rating [1]	16 kA / 1 s (optionally: 20 kA / 1 s, 20 kA / 3 s or 25 kA / 1 s)			
	Switchgear IAC [1]	A-FLR 16 kA / 1 s (optionally 20 kA or 25 kA)			
	Rated impulse withstand voltage	125 kV		170 kV	
CONNECTIONS	MV connections	Close-coupled plug & play solution			
	MV AC wiring	MV bridge between transformer and protection switchgear prewired			
ENVIRONMENT	Ambient temperature range [2]	From -25 °C to +60 °C, >30 °C power derating			
	Maximum altitude (above sea level) [1]	Up to 1000 m (optionally up to 4000 m)			
	Relative humidity	4% to 95%			
AUXILIARY SERVICES	User Cabinet (Optional)	LV cabinet in the skid			
	UPS System (Optional) [4]	3 kVA / 3 kW			
OTHER EQUIPMENT	Safety mechanism (Optional)	Interlocking system			
	Fire suppression system (Optional)	Accessory for transformer oil retention tank			
STANDARDS	Compliance	IEC 62271-212, IEC 62271-200, IEC 60076, IEC 61439-1			

NOTES

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Twin Skid Compact



REFERENCES		MVS05360H020	MVS05360H010
RATINGS	Rated power @ 30 °C	5360 kVA	
	Operating Grid Frequency	50 Hz	
MEDIUM VOLTAGE EQUIPMENT	MV rated voltage	35 kV	36 kV
	LV rated voltage	720 V	
	Transformer cooling	ONAN (KNAN optional)	
	Transformer vector group	Dy11y11	
	Transformer protection	Protection relay for pressure, temperature (two levels) and gassing / dielectric level	
		PT100	
	Transformer index of protection	IP54	
	Transformer losses	IEC standard (IEC Tier-2 optional)	
	Oil retention tank (Optional)	Galvanized steel. Integrated with hydrocarbon filter.	
	Switchgear configuration [3]	Double feeder (2L)	
	Switchgear protection [3]	Circuit breaker (V)	
	Switchgear short circuit rating [1]	16 kA / 1 s (optionally: 20 kA / 1 s, 20 kA / 3 s or 25 kA / 1 s)	
	Switchgear IAC [1]	A-FLR 16 kA / 1 s (optionally 20 kA or 25 kA)	
	Rated impulse withstand voltage	185 kV	
CONNECTIONS	MV connections	Close-coupled plug & play solution	
	MV AC wiring	MV bridge between transformer and protection switchgear prewired	
ENVIRONMENT	Ambient temperature range [2]	From -25 °C to +60 °C, >30 °C power derating	
	Maximum altitude (above sea level) [1]	Up to 1000 m (optionally up to 4000 m)	
	Relative humidity	4% to 95%	
AUXILIARY SERVICES	User Cabinet (Optional)	LV cabinet in the skid	
	UPS System (Optional) [4]	3 kVA / 3 kW	
OTHER EQUIPMENT	Safety mechanism (Optional)	Interlocking system	
	Fire suppression system (Optional)	Accessory for transformer oil retention tank	
STANDARDS	Compliance	IEC 62271-212, IEC 62271-200, IEC 60076, IEC 61439-1	

NOTES

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[3] SF6 free optional available.
[4] Consult with Power Electronics for UPS autonomy.

Power Plant Controller

PPC PRO



MECHANICAL DATA	Material	Steel
	Installation	Wall or floor mounted [4]
	Cable entry	Bottom in & out
	Maintenance	Front Access Required
	Cooling	Forced Ventilation
	Weight [1]	85 kg / 188 lbs
	Dimensions (H x W x D) [1]	1000 x 845 x 300 (mm) / 40 x 33.27 x 12 (inches)
ELECTRICAL DATA	Maximum consumption	230 W
	AC Voltage input	230 Vac (IEC) [±10%], 120 Vac (UL) [±10%]
	DC Voltage input	120 - 290 Vdc
	Frequency input	50/60 Hz
COMMUNICATIONS	Compatible inverters	HEM, HEMK, PCSM, PCSK
	Communication protocols	Modbus TCP/ ADS for inverter control [2]
	Communication Switch	8 RJ45 Ports + 2 optional monomode or multimode FO transceivers
ENVIRONMENTAL CONDITIONS	Temperature range	From -25 °C to +50 °C
	Humidity	From 5% to 95 % non-condensing
	Protection degree	IP54 / NEMA 12
	Pollution degree	PD3
	Maximum altitude	4000 m / 13123 ft
	Impact Protection	IK10
STANDARDS	Marking	CE
	Standards	UL 6200 / IEC 61010-1 / UL 3141
FUNCTIONALITIES [3]	General	The PPC is the specific solution for photovoltaic (PV) plants. Its main function is to ensure that the plant accurately follows grid commands, complies with regulatory requirements, and maximizes energy production.
	Active power control	It measures and controls the active power (P) delivered by the plant in real time. It ensures compliance with grid codes, including P(f), ramps, and power limits.
	Reactive power control	It measures and controls the reactive power (Q) delivered by the plant in real time. It ensures compliance with grid codes, including reactive power control, power factor control, voltage control, Q(V) curve, Q(P) curve, ramp rate, SQD.
	Diagnosis functions	Warning / fault messages real-time data monitoring, plant phasor operation diagrams. O&M Diagnostic.
	Others	It manages multiple solar inverters, distributing commands in an optimal and stable manner. Internal measurement and compatibility with power analyzers, P/Q plant limitations, hot standby redundancy, controlled plant start, individual inverter control, line drop compensation, security process when plant failures occur.
OTHERS	Web server	For local and remote monitoring / control
	Customizable solution	Flexible solution based on a powerful modular and programmable controller

NOTES

[1] Weight and dimensions may vary depending on the specific project.
[2] Consult with Power Electronics for further information.
[3] Consult Power Electronics for functionalities and availability.
[4] If floor installation is required, an optional plinth must be added.

Power Plant Controller

BPC PRO

MECHANICAL DATA	Material	Steel
	Installation	Wall or floor mounted [4]
	Cable entry	Bottom in & out
	Maintenance	Front Access Required
	Cooling	Forced Ventilation
	Weight [1]	85 kg / 188 lbs
	Dimensions (H x W x D) [1]	1000 x 845 x 300 (mm) / 40 x 33.27 x 12 (inches)
ELECTRICAL DATA	Maximum consumption	230 W
	AC Voltage input	230 Vac (IEC) [±10%], 120 Vac (UL) [±10%]
	DC Voltage input	120 - 290 Vdc
	Frequency input	50/60 Hz
COMMUNICATIONS	Compatible inverters	HEM, HEMK, PCSM, PCSK
	Communication protocols	Modbus TCP/ ADS for inverter control [2]
	Communication Switch	8 RJ45 Ports + 2 optional monomode or multimode FO transceivers
ENVIRONMENTAL CONDITIONS	Temperature range	From -25 °C to +50 °C
	Humidity	From 5% to 95 % non-condensing
	Protection degree	IP54 / NEMA 12
	Pollution degree	PD3
	Maximum altitude	4000 m / 13123 ft
	Impact Protection	IK10
STANDARDS	Marking	CE
	Standards	UL 6200 / IEC 61010-1 / UL 3141
FUNCTIONALITIES [3]	General	The BPC manages battery-based energy storage (BESS) plants. Battery plants require more dynamic control strategies, as they can both generate and absorb energy. Control charge and discharge cycles to obtain the longest possible battery life. Grid Following operation mode.
	Active power control	It measures and controls the active power (P) delivered by the plant in real time. Advanced capabilities include closed-loop control and generation ramping. It manages the State of Charge (SOC), load balancing, and safety limits. It allows the execution of auxiliary services such as primary and secondary frequency regulation. Negative and positive active power setpoints.
	Reactive power control	It measures and controls the reactive power (Q) delivered by the plant in real time. It ensures compliance with grid codes, including reactive power control, power factor control, voltage control, Q(V) curve, Q(P) curve, ramp rate, SQD.
	Diagnosis functions	Warning / fault messages real-time data monitoring, plant phasor operation diagrams. O&M Diagnostic.
	Others	It manages multiple storage inverters, distributing commands in an optimal and stable manner. Internal measurement and compatibility with power analyzers, P/Q plant limitations, hot standby redundancy, controlled plant start, individual inverter control, line drop compensation, security process when plant failures occur. It coordinates multiple PCS to ensure a fast and stable response.
OTHERS	Web server	For local and remote monitoring / control
	Customizable solution	Flexible solution based on a powerful modular and programmable controller

NOTES

[1] Weight and dimensions may vary depending on the specific project.
[2] Consult with Power Electronics for further information.
[3] Consult Power Electronics for functionalities and availability.
[4] If floor installation is required, an optional plinth must be added.



Power Plant Controller

HPC PRO



MECHANICAL DATA	Material	Steel
	Installation	Wall or floor mounted [4]
	Cable entry	Bottom in & out
	Maintenance	Front Access Required
	Cooling	Forced Ventilation
	Weight [1]	85 kg / 188 lbs
	Dimensions (H x W x D) [1]	1000 x 845 x 300 (mm) / 40 x 33.27 x 12 (inches)
ELECTRICAL DATA	Maximum consumption	230 W
	AC Voltage input	230 Vac (IEC) [±10%], 120 Vac (UL) [±10%]
	DC Voltage input	120 - 290 Vdc
	Frequency input	50/60 Hz
COMMUNICATIONS	Compatible inverters	HEM, HEMK, PCSM, PCSK
	Communication protocols	Modbus TCP/ ADS for inverter control [2]
	Communication Switch	8 RJ45 Ports + 2 optional monomode or multimode FO transceivers
ENVIRONMENTAL CONDITIONS	Temperature range	From -25 °C to +50 °C
	Humidity	From 5% to 95 % non-condensing
	Protection degree	IP54 / NEMA 12
	Pollution degree	PD3
	Maximum altitude	4000 m / 13123 ft
	Impact Protection	IK10
STANDARDS	Marking	CE
	Standards	UL 6200 / IEC 61010-1 / UL 3141
FUNCTIONALITIES [3]	General	It simultaneously coordinates photovoltaic generation and storage capacity. It can operate with a single power setpoint at the POI or with separate setpoints for PV and BESS. It dynamically adjusts the contribution of each technology according to grid or customer needs. Grid Following mode.
	Active power control	It measures and controls the active power (P) delivered by the plant in real time. Advanced capabilities include closed-loop control and generation ramping. It manages the State of Charge (SOC), load balancing, and safety limits. It allows the execution of auxiliary services such as primary and secondary frequency regulation. Negative and positive active power setpoints.
	Reactive power control	It measures and controls the reactive power (Q) delivered by the plant in real time. It ensures compliance with grid codes, including reactive power control, power factor control, voltage control, Q(V) curve, Q(P) curve, ramp rate, SQD.
	Diagnosis functions	Warning / fault messages real-time data monitoring, plant phasor operation diagrams. O&M Diagnostic.
	Others	It manages multiple inverters, distributing commands in an optimal and stable manner. Internal measurement and compatibility with power analyzers, P/Q plant limitations, hot standby redundancy, controlled plant start, individual inverter control, line drop compensation, security process when plant failures occur.
OTHERS	Web server	For local and remote monitoring / control
	Customizable solution	Flexible solution based on a powerful modular and programmable controller

NOTES

[1] Weight and dimensions may vary depending on the specific project.
[2] Consult with Power Electronics for further information.
[3] Consult Power Electronics for functionalities and availability.
[4] If floor installation is required, an optional plinth must be added.

Power Plant Controller

BPC PRO VISMA



MECHANICAL DATA	Material	Steel
	Installation	Wall or floor mounted [4]
	Cable entry	Bottom in & out
	Maintenance	Front Access Required
	Cooling	Forced Ventilation
	Weight [1]	85 kg / 188 lbs
	Dimensions (H x W x D) [1]	1000 x 845 x 300 (mm) / 40 x 33.27 x 12 (inches)
ELECTRICAL DATA	Maximum consumption	230 W
	AC Voltage input	230 Vac (IEC) [±10%], 120 Vac (UL) [±10%]
	DC Voltage input	120 - 290 Vdc
	Frequency input	50/60 Hz
COMMUNICATIONS	Compatible inverters	HEM, HEMK, PCSM, PCSK
	Communication protocols	Modbus TCP/ ADS for inverter control [2]
	Communication Switch	8 RJ45 Ports + 2 optional monomode or multimode FO transceivers
ENVIRONMENTAL CONDITIONS	Temperature range	From -25 °C to +50 °C
	Humidity	From 5% to 95 % non-condensing
	Protection degree	IP54 / NEMA 12
	Pollution degree	PD3
	Maximum altitude	4000 m / 13123 ft
	Impact Protection	IK10
STANDARDS	Marking	CE
	Standards	UL 6200 / IEC 61010-1 / UL 3141
FUNCTIONALITIES [3]	General	The BPC manages battery-based energy storage (BESS) plants. Battery plants require more dynamic control strategies, as they can both generate and absorb energy. Control charge and discharge cycles to obtain the longest possible battery life. Grid Forming mode (follow V and f references). Blackstart and grid synchronization capabilities.
	Active power control	It measures and controls the active power (P) delivered by the plant in real time. Advanced capabilities include closed-loop control and generation ramping. It manages the State of Charge (SOC), load balancing, and safety limits. It allows the execution of auxiliary services such as primary and secondary frequency regulation. Negative and positive active power setpoints.
	Reactive power control	It measures and controls the reactive power (Q) delivered by the plant in real time. It ensures compliance with grid codes, including reactive power control, power factor control, voltage control, Q(V) curve, Q(P) curve, ramp rate, SQD.
	Diagnosis functions	Warning / fault messages real-time data monitoring, plant phasor operation diagrams. O&M Diagnostic.
	Others	It manages multiple storage inverters, distributing commands in an optimal and stable manner. Internal measurement and compatibility with power analyzers, P/Q plant limitations, hot standby redundancy, controlled plant start, individual inverter control, line drop compensation, security process when plant failures occur. It coordinates multiple PCS to ensure a fast and stable response.
OTHERS	Web server	For local and remote monitoring / control
	Customizable solution	Flexible solution based on a powerful modular and programmable controller

NOTES

[1] Weight and dimensions may vary depending on the specific project.
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[3] Consult Power Electronics for functionalities and availability.
[4] If floor installation is required, an optional plinth must be added.

Power Plant Controller

HPC PRO VISMA



MECHANICAL DATA	Material	Steel
	Installation	Wall or floor mounted [4]
	Cable entry	Bottom in & out
	Maintenance	Front Access Required
	Cooling	Forced Ventilation
	Weight [1]	85 kg / 188 lbs
	Dimensions (H x W x D) [1]	1000 x 845 x 300 (mm) / 40 x 33.27 x 12 (inches)
ELECTRICAL DATA	Maximum consumption	230 W
	AC Voltage input	230 Vac (IEC) [±10%], 120 Vac (UL) [±10%]
	DC Voltage input	120 - 290 Vdc
	Frequency input	50/60 Hz
COMMUNICATIONS	Compatible inverters	HEM, HEMK, PCSM, PCSK
	Communication protocols	Modbus TCP/ ADS for inverter control [2]
	Communication Switch	8 RJ45 Ports + 2 optional monomode or multimode FO transceivers
ENVIRONMENTAL CONDITIONS	Temperature range	From -25 °C to +50 °C
	Humidity	From 5% to 95 % non-condensing
	Protection degree	IP54 / NEMA 12
	Pollution degree	PD3
	Maximum altitude	4000 m / 13123 ft
	Impact Protection	IK10
STANDARDS	Marking	CE
	Standards	UL 6200 / IEC 61010-1 / UL 3141
FUNCTIONALITIES [3]	General	It simultaneously coordinates photovoltaic generation and storage capacity. It can operate with a single power setpoint at the POI or with separate setpoints for PV and BESS. It dynamically adjusts the contribution of each technology according to grid or customer needs. Grid Forming mode (follow V and f references). Blackstart and grid synchronization capabilities.
	Active power control	It measures and controls the active power (P) delivered by the plant in real time. Advanced capabilities include closed-loop control and generation ramping. It manages the State of Charge (SOC), load balancing, and safety limits. It allows the execution of auxiliary services such as primary and secondary frequency regulation. Negative and positive active power setpoints.
	Reactive power control	It measures and controls the reactive power (Q) delivered by the plant in real time. It ensures compliance with grid codes, including reactive power control, power factor control, voltage control, Q(V) curve, Q(P) curve, ramp rate, SQD.
	Diagnosis functions	Warning / fault messages real-time data monitoring, plant phasor operation diagrams. O&M Diagnostic.
	Others	It manages multiple inverters, distributing commands in an optimal and stable manner. Internal measurement and compatibility with power analyzers, P/Q plant limitations, hot standby redundancy, controlled plant start, individual inverter control, line drop compensation, security process when plant failures occur.
OTHERS	Web server	For local and remote monitoring / control
	Customizable solution	Flexible solution based on a powerful modular and programmable controller

NOTES

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[2] Consult with Power Electronics for further information.
[3] Consult Power Electronics for functionalities and availability.
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Power Plant Controller

SCPC PRO



MECHANICAL DATA	Material	Steel
	Installation	Wall or floor mounted [4]
	Cable entry	Bottom in & out
	Maintenance	Front Access Required
	Cooling	Forced Ventilation
	Weight [1]	85 kg / 188 lbs
	Dimensions (H x W x D) [1]	1000 x 845 x 300 (mm) / 40 x 33.27 x 12 (inches)
ELECTRICAL DATA	Maximum consumption	230 W
	AC Voltage input	230 Vac (IEC) [±10%], 120 Vac (UL) [±10%]
	DC Voltage input	120 - 290 Vdc
	Frequency input	50/60 Hz
COMMUNICATIONS	Compatible inverters	HEM, HEMK, PCSM, PCSK
	Communication protocols	Modbus TCP/ ADS for inverter control [2]
	Communication Switch	8 RJ45 Ports + 2 optional monomode or multimode FO transceivers
ENVIRONMENTAL CONDITIONS	Temperature range	From -25 °C to +50 °C
	Humidity	From 5% to 95 % non-condensing
	Protection degree	IP54 / NEMA 12
	Pollution degree	PD3
	Maximum altitude	4000 m / 13123 ft
	Impact Protection	IK10
STANDARDS	Marking	CE
	Standards	UL 6200 / IEC 61010-1 / UL 3141
FUNCTIONALITIES [3]	General	The SCPC PRO is a plant controller model specifically designed for photovoltaic self-consumption systems. It is a variant of the PPC PRO equipped with specialized software to ensure that the energy generated is used within the installation without being fed back into the grid.
	Active power control	It measures and controls the active power (P) delivered by the plant in real time to ensure that the generated energy is used on-site without being fed back into the grid. It improves operational stability in the face of rapid changes in consumption. Advanced capabilities include closed-loop control and generation ramping.
	Reactive power control	It measures and controls the reactive power (Q) delivered by the plant in real time to ensure that the generated energy is used on-site without being fed back into the grid.
	Diagnosis functions	Warning / fault messages real-time data monitoring, plant phasor operation diagrams. O&M Diagnostic.
	Others	Internal measurement and compatibility with power analyzers, P/Q plant limitations, hot standby redundancy, controlled plant start, individual inverter control, line drop compensation, security process when plant failures occur.
OTHERS	Web server	For local and remote monitoring / control
	Customizable solution	Flexible solution based on a powerful modular and programmable controller

NOTES

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[2] Consult with Power Electronics for further information.
[3] Consult Power Electronics for functionalities and availability.
[4] If floor installation is required, an optional plinth must be added.

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NOTES

WARRANTY
Power Electronics (the Seller) warrants that their Products are free of faults and defects for a period of 3 years, valid from the date of delivery to the Buyer. It shall be understood that a product is free of faults and defects when its condition and performance is in compliance with its specification.

The warranty shall not extend to any Products whose defects are due to (i) careless or improper use, (ii) failure to observe the Seller's instructions regarding the transport, installation, functioning, maintenance and the storage of the Products, (iii) repairs or modifications made by the Buyer or third party without prior written authorization of the Seller, (iv) negligence during the implementation of authorized repairs or modifications, (v) if serial numbers are modified or illegible, (vi) anomalies caused by, or connected to, the elements coupled directly by the Buyer or by the final customer, (vii) accidents or events that place the Product outside its storage and operational specification, viii) continued use of the Products after identification of a fault or defect.

The warranty excludes components that must be replaced periodically such as fuses, lamps & air filters or consumable materials subject to normal wear and tear.

The warranty excludes external parts that are not manufactured by the Seller under the brand of Power Electronics.

The Seller undertakes to replace or to repair, himself, at their discretion, any Product or its part that demonstrates a fault or defect, which is in conformance with the aforementioned terms of the warranty. Reasonable costs associated with the disassembly/ assembly, transport and customs of equipment will also be undertaken by the Seller except in cases of approved intervention by the Buyer and/or their representative where cost allocation has been previously agreed.



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