preliminary

MV Power Station

8000-S4-US / 8400-S4-US
8800-S4-US / 9200-S4-US

Turnkey solution for battery-storage power plants

Robust
- Station and all individual components type-tested
- Galvanized base frame for extreme ambient conditions

Simple Integration
- Turn-key solution
- Completely pre-assembled for easy set-up and commissioning

Cost-Effective
- Lower specific costs thanks to high power classes
- Minimal coordination required during planning and installation
- Low transport costs thanks to 40-foot platform

Flexible
- One design for the whole world
- Numerous options

Combining the power of the robust Sunny Central Storage UP-S with perfectly matched medium-voltage components, the MV Power Station offers high power density and is a turnkey solution available worldwide.

Ideal for use in the new generation of battery-storage power plants with 1500 VDC, the integrated system solution is easy to transport, quick to assemble, and simple to commission. The MV Power Station and all components are type tested. The MV Power Station combines rigorous plant safety with maximum energy yield and minimized deployment and operational risk.

MEDIUM VOLTAGE POWER STATION 8000-S4-US / 8400-S4-US

Technical Data	MVPS 8000-S4-US	MVPS 8400-S4-US
Input (DC)		
Available inverters	2 x SCS 3450 UP-US or 2 x SCS 3450 UP-XT-US	2 x SCS 3600 UP-US or 2 x SCS 3600 UP-XT-US
Max. input voltage	1500 V	1500 V
Number of DC inputs	dependent on the selected inverter	
Integrated zone monitoring	○	
Output (AC) on the medium-voltage side		
Nominal power at SCS UP-US (at -25°C to +25°C / 40°C optional 50°C)[1]	6900 kVA / 5860 kVA	7240 kVA / 6150 kVA
Charging power at SCS UP-XT-US (at -25°C to + 25°C / 40°C optional 50°C)[1]	7178 kVA / 6002 kVA	7538 kVA / 6304 kVA
Discharging power at SCS UP-XT-US (at -25°C to + 25°C / 40°C optional 50°C)[1]	8000 kVA / 6800 kVA	8400 kVA / 7140 kVA
Typical nominal AC voltages with a permanent tolerance of +/- 10%	34.5 kV	
AC power frequency	60 Hz	
Transformer vector group Dy11 / YNd11 / YNy0	● / ○ / ○	
Transformer cooling method	KNAN[2]	
Transformer standby power losses, industry standard / Eco design 1 / Eco design 2	● / ○ / ○	
Transformer short-circuit losses, industry standard / Eco design 1 / Eco design 2	● / ○ / ○	
Max. total harmonic distortion	< 3%	
Reactive power feed-in (up to 60% of nominal power)	○	
Inverter efficiency		
Max. efficiency[3] / European efficiency[3] / CEC weighted efficiency[4]	98.7% / 98.6% / 98.5%	
Protective devices		
Input-side disconnection point	DC load-break switch	
Output-side disconnection point	Medium-voltage vacuum circuit breaker	
DC overvoltage protection	Surge arrester type I	
Galvanic isolation	●	
Internal arc classification medium-voltage control room (according to IEC 62271-202)	IAC A 25 kA 1 s	
General data		
Dimensions equal to 40-foot HC shipping container (W / H / D)	12192 mm / 2896 mm / 2438 mm	
Weight	< 32 t	
Self-consumption (max. / partial load / average)[1]	< 16.2 kW / < 3.6 kW / < 4.0 kW	
Self-consumption (stand-by)[1]	< 740 W	
Ambient temperature -25°C to +45°C / -25°C to +55°C / -35°C to +55°C / -40°C to +45°C	● / ○ / ○ / ○	
Degree of protection	Nema 3 R	
Environment: standard / harsh / harsh+ MVT	● / ○ / ○	
Maximum permissible value for relative humidity (condensing / non-condensing)	95% to 100% (2 month per year) / 0% to 95%	
Max. operating altitude above mean sea level 1000 m / 2000 m	● / ○	
Fresh air consumption of inverter	13000 m³/h	
Features		
DC terminal	Terminal lug	
AC connection	Outer-cone angle plug	
Monitoring package	○	
Station enclosure color	RAL 7004	
Transformer for external loads: without / 2 x 30 / 2 x 60 / 2 x120 kVA	● / ○ / ○ / ○	
Fuses for external transformers: without / 2 x 180 kVA	● / ○	
Medium-voltage switchgear: without / 1 panel / 3 panels / 600 A / 800 A 2 cable panels with load-break switch, 1 transformer panel with circuit breaker, arc fault resistance IAC A FL 20 kA 1 s according to IEC 62271-200	● / ○ / ○ / ○ / ○	
Medium-voltage switchgear short-circuit current capability (20 kA 1 s / 20 kA 3 s / 25 kA 1 s)	● / ○ / ○	
Accessory for medium-voltage switchgear: without / auxiliary contacts / motor for transformer panel / monitoring	● / ○ / ○ / ○	
Integrated oil containment: without / with	● / ○	
Industry standards (for other standards see the inverter datasheet)	IEEE 1547-2018, IEEE C57.12.00, IEEE C57.12.36, IEEE C57.154, IEEE C37.20.7, IEEE C37.20.9, UL 1741, CSC	
Type designation	MVPS-8000-S4-US	MVPS-8400-S4-US

● Standard features ○ Optional features – Not available Last revised 10/2025

1) Data based on inverter. Further details can be found in the data sheet of the inverter. Cold weather -37° is an option.
2) KNAN = Natural ester fluid with natural air cooling
3) Efficiency measured at inverter without internal power supply
4) Efficiency measured at inverter with internal power supply

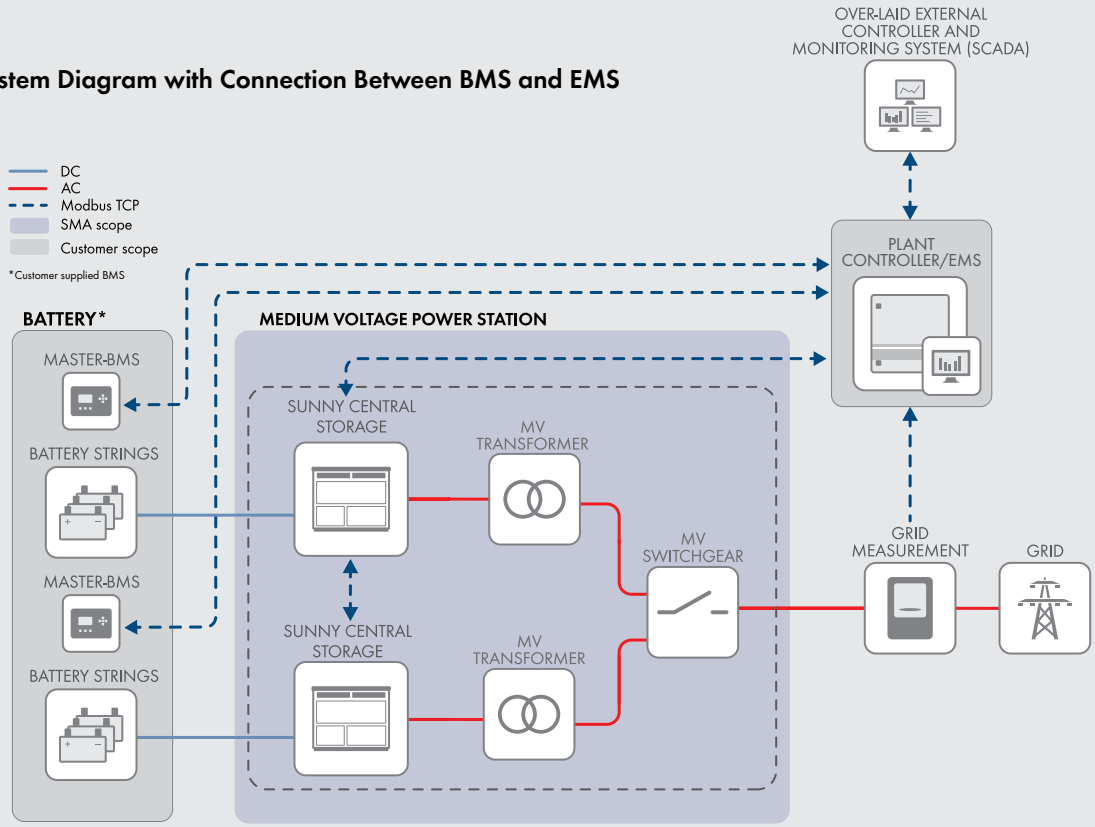
MEDIUM VOLTAGE POWER STATION 8800-S4-US / 9200-S4-US

Technical Data	MVPS 8800-S4-US	MVPS 9200-S4-US
Input (DC)		
Available inverters	2 x SCS 3800 UP-US or 2 x SCS 3800 UP-XT-US or 2 x SCS 4400 UP-S-US	2 x SCS 3950 UP-US or 2 x SCS 3950 UP-XT-US or 2 x SCS 4600 UP-S-US
Max. input voltage	1500 V	1500 V
Number of DC inputs	dependent on the selected inverter	
Integrated zone monitoring	○	
Output (AC) on the medium-voltage side		
Nominal power at SCS UP-US (at -25°C to +25°C / 40°C optional 50°C)[1]	7600 kVA / 6460 kVA	7920 kVA / 6730 kVA
Charging power at SCS UP-XT-US (at -25°C to + 25°C / 40°C optional 50°C)[1]	7898 kVA / 6604 kVA	8258 kVA / 6906 kVA
Discharging power at SCS UP-XT-US (at -25°C to + 25°C / 40°C optional 50°C)[1]	8800 kVA / 7480 kVA	9200 kVA / 7820 kVA
Nominal power at SCS UP-S-US (at -25°C to +35°C / 40°C optional 50°C)[1]	8800 kVA* / 7920 kVA*	9200 kVA* / 8280 kVA*
Typical nominal AC voltages with a permanent tolerance of +/-10%	34.5 kV	
AC power frequency	60 Hz	
Transformer vector group Dy11 / YNd11 / YNy0	● / ○ / ○	
Transformer cooling methods	KNAN[2]	
Transformer standby power losses, industry standard / Eco design 1 / Eco design 2	● / ○ / ○	
Transformer short-circuit losses, industry standard / Eco design 1 / Eco design 2	● / ○ / ○	
Max. total harmonic distortion	< 3%	
Reactive power feed-in (up to 60% of nominal power)	○	
Inverter efficiency		
Max. efficiency[3] / European efficiency[3] / CEC weighted efficiency[4]	98.7% / 98.6% / 98.5%	
Max. efficiency of SCS UP-S-US[3]	99.2%	
Protective devices		
Input-side disconnection point	DC load-break switch	
Output-side disconnection point	Medium-voltage vacuum circuit breaker	
DC overvoltage protection	Surge arrester type I	
Galvanic isolation	●	
Internal arc classification medium-voltage control room (according to IEC 62271-202)	IAC A 25 kA 1 s	
General data		
Dimensions equal to 40-foot HC shipping container (W / H / D)	12192 mm / 2896 mm / 2438 mm	
Weight	< 32 t	
Self-consumption (max. / partial load / average)[1]	< 16.2 kW / < 3.6 kW / < 4.0 kW	
Self-consumption (stand-by)[1]	< 740 W	
Ambient temperature -25°C to +45°C / -25°C to +55°C / -35°C to +55°C / -40°C to +45°C	● / ○ / ○ / ○	
Degree of protection	Nema 3 R	
Environment: standard / harsh / harsh+	● / ○ / ○	
Maximum permissible value for relative humidity (condensing / non-condensing)	95% to 100% (2 month per year) / 0% to 95%	
Max. operating altitude above mean sea level 1000 m / 2000 m	● / ○	
Fresh air consumption of inverter	13000 m³/h	
Features		
DC terminal	Terminal lug	
AC connection	Outer-cone angle plug	
Monitoring package	○	
Station enclosure color	RAL 7004	
Transformer for external loads: without / 2 x 30 / 2 x 60 / 2 x120 kVA	● / ○ / ○ / ○	
Fuses for external transformers: without / 2 x 180 kVA	● / ○	
Medium-voltage switchgear: without / 1 panel / 3 panels / 600 A / 800 A 2 cable panels with load-break switch, 1 transformer panel with circuit breaker, arc fault resistance IAC A FL 20 kA 1 s according to IEC 62271-200	● / ○ / ○ / ○ / ○	
Medium-voltage switchgear short-circuit current capability (20 kA 1 s / 20 kA 3 s / 25 kA 1 s)	● / ○ / ○	
Accessory for medium-voltage switchgear: without / auxiliary contacts / motor for transformer panel / monitoring	● / ○ / ○ / ○	
Integrated oil containment: without / with	● / ○	
Industry standards (for other standards see the inverter datasheet)	IEEE 1547-2018, IEEE C57.12.00, IEEE C57.12.36, IEEE C57.154, IEEE C37.20.7, IEEE C37.20.9, UL 1741, CSC	
Type designation	MVPS-8800-S4-US	MVPS-9200-S4-US

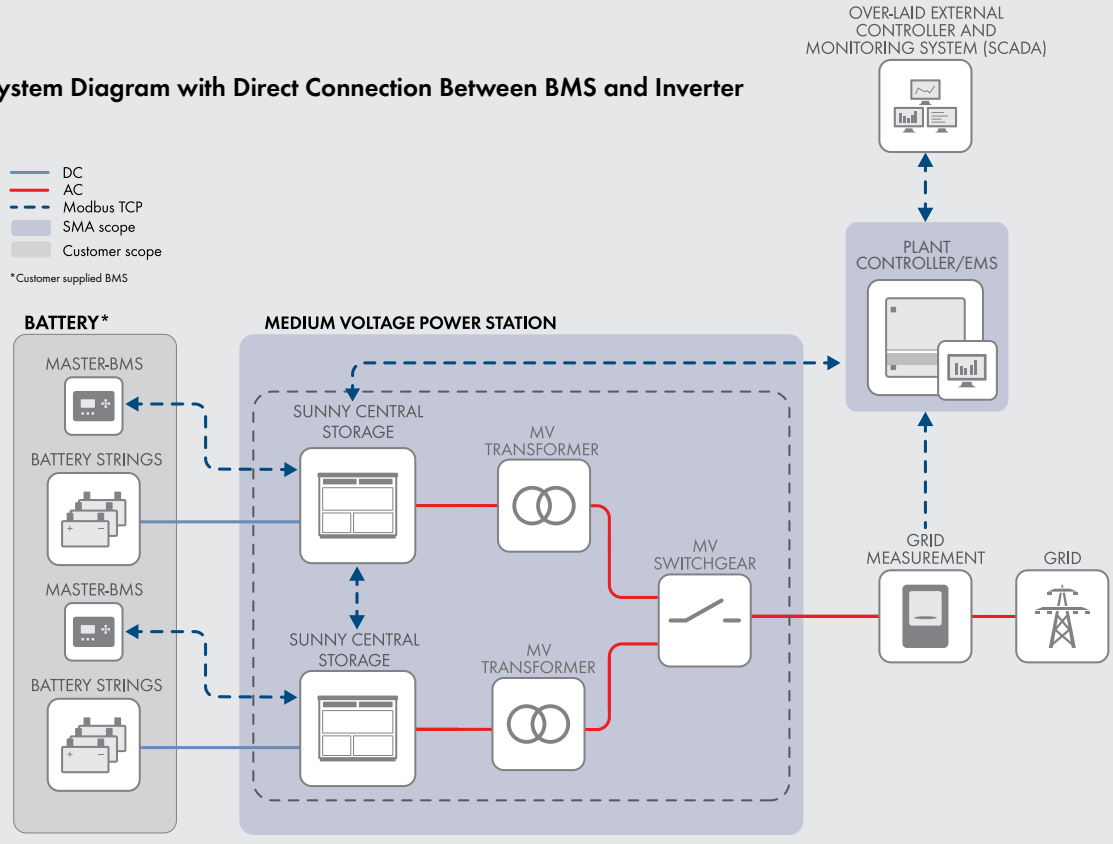
● Standard features ○ Optional features – Not available * Preliminary

1) Data based on inverter. Further details can be found in the data sheet of the inverter. Cold weather -37° is an option.
2) KNAN = Natural ester fluid with natural air cooling
3) Efficiency measured at inverter without internal power supply
4) Efficiency measured at inverter with internal power supply

Storage System Diagram with Connection Between BMS and EMS



Storage System Diagram with Direct Connection Between BMS and Inverter



Toll Free +1 888 4 SMA USA
www.SMA-America.com

SMA America, LLC

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