

# MV POWER STATION FOR AUSTRALIA

## 5000-S-AU / 5500-S-AU / 6000-S-AU



MVPS 5000-S-AU-10 / MVPS 5500-S-AU-10 / MVPS 6000-S-AU-10



### Robust

- Complete system and all individual components type-tested
- Optimally suited to extreme ambient conditions

### Easy to Use

- Plug and play concept
- Completely pre-assembled for easy set-up and commissioning

### Cost-Effective

- Easy planning and installation
- Low transport costs due to 40-foot skid

### Flexible

- Numerous options
- Compatible with MVPS 2500-S-AU / MVPS 2750-S-AU / MVPS 3000-S-AU

## MV POWER STATION 5000-S-AU / 5500-S-AU / 6000-S-AU

Turnkey Solution for PV Power Plants in Australia

With the power of the new robust central inverters, the Sunny Central or Sunny Central Storage, and with perfectly adapted medium-voltage components, the new MV Power Station offers even more power density as a turnkey solution dedicated for Australia. The solution is the ideal choice for new generation PV power plants operating at 1500 V<sub>DC</sub>. Delivered pre-configured on a 40-foot skid, the solution is easy to transport and quick to assemble and commission. The MVPS and all components are type-tested. The MV Power Station combines rigorous plant safety with maximum energy yield and minimized deployment and operating risk.

# MV POWER STATION

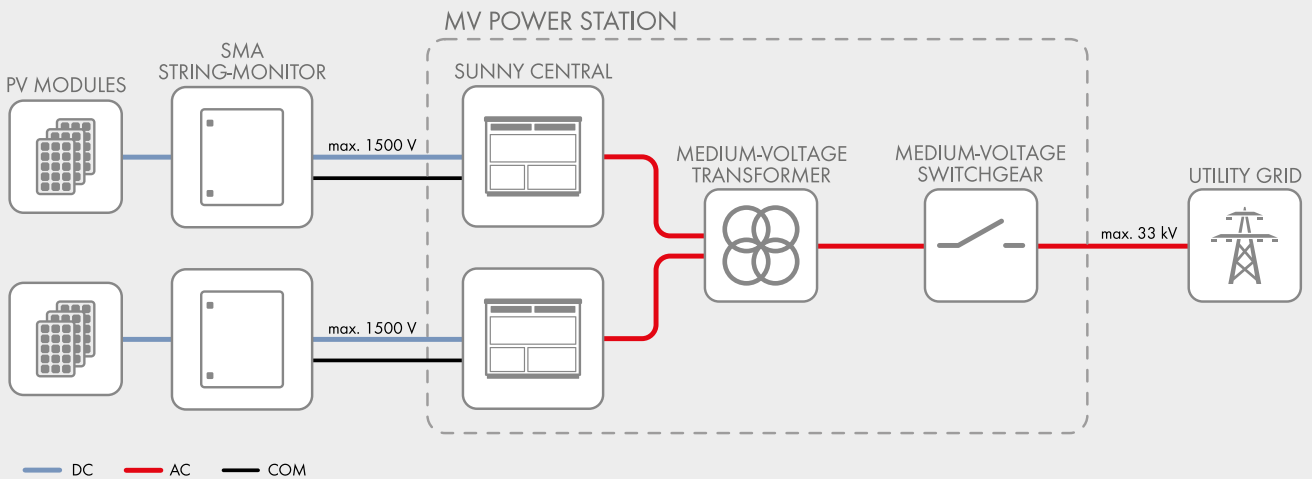
## 5000-S-AU / 5500-S-AU / 6000-S-AU

Technical Data	MV Power Station 5000-S-AU	MV Power Station 5500-S-AU
<b>Input (DC)</b>		
Available inverters	2 x SC 2500-EV or 2 x SCS 2500-EV	2 x SC 2750-EV or 2 x SCS 2750-EV
Max. input voltage	1500 V	1500 V
Max. input current	2 x 3200 A	2 x 3200 A
Number of DC inputs	2 x 24 double pole fused (32 single pole fused)	
Integrated zone monitoring	○	○
Available DC fuse sizes (per input)	200 A, 250 A, 315 A, 350 A, 400 A, 450 A, 500 A	
<b>Output (AC) on the medium-voltage side</b>		
Standard power at 1000 m and $\cos \varphi = 1$ (at 35°C / at 50°C / at 55°C) <sup>1)</sup>	5000 kVA / 4500 kVA / 0 kVA	5500 kVA / 5000 kVA / 0 kVA
Typical nominal AC voltages	11 kV, 22 kV, 33 kV	11 kV, 22 kV, 33 kV
AC power frequency	50 Hz	50 Hz
Transformer vector group Dy11	●	●
Transformer cooling methods ONAN <sup>2)</sup>	●	●
Max. output current at 33 kV	88 A	97 A
Transformer no-load losses at 33 kV	3.55 kW	3.75 kW
Transformer short-circuit losses at 33 kV	34.5 kW	40 kW
Max. total harmonic distortion	< 3%	< 3%
Reactive power feed-in	○ up to 60% of AC power	
Power factor at rated power / displacement power factor adjustable	1 / 0.8 overexcited to 0.8 underexcited	
<b>Inverter efficiency</b>		
Max. efficiency <sup>3)</sup>	98.6%	98.7%
European efficiency <sup>3)</sup>	98.3%	98.6%
CEC weighted efficiency <sup>4)</sup>	98.0%	98.5%
<b>Protective devices</b>		
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 AS 62271-202)	IAC A 20 kA 1 s	
<b>General Data</b>		
Dimensions of the 20-foot skid (W / H / D) <sup>5)</sup>	12192 mm / 3010 mm / 2438 mm	
Weight	< 26.5 t	
Self-consumption (max. / partial load / average) <sup>1)</sup>	< 16.2 kW / < 3.6 kW / < 4.0 kW	
Self-consumption (stand-by) <sup>1)</sup>	< 740 W	
Degree of protection according to IEC 60529	Switchgear compartment IP23D, inverter electronics IP65	
Environment: standard / harsh	● / ○	
Degree of protection according to IEC 60721-3-4 (4C1, 4S2 / 4C2, 4S2)	● / ○	
Maximum permissible value for relative humidity	15% to 95%	
Max. operating altitude above mean sea level 1000 m / 2000 m	● / ○ (earlier temperature-dependent de-rating)	
Fresh air consumption of inverter and transformer	13000 m <sup>3</sup> /h	
<b>Features</b>		
DC terminal	Terminal lug	
AC connection	Outer-cone angle plug	
Skid enclosure color	RAL 7033 / N42	
Low voltage transformer 30 kVA	●	
Medium-voltage switchgear 3 feeders	●	
2 cable feeders with load-break switch, 1 transformer feeder with circuit breaker, internal arc classification IAC A FL 20 kA 1 s according to AS 62271-200	●	
Accessories for medium-voltage switchgear: without / auxiliary contacts / remote control	● / ○ / ○	
Oil containment	●	
Industry standards (for other standards see the inverter datasheet)	AS 62271-202, AS 62271-200, AS 60076, AS 3000, AS 2067, AS 1170	
● Standard features   ○ Optional features   – Not available		
Type designation	MVPS-5000-S-AU-10	MVPS-5500-S-AU-10

- 1) Data based on inverter
- 2) ONAN = Mineral oil with natural air cooling
- 3) Efficiency measured at inverter without internal power supply
- 4) Efficiency measured at inverter with internal power supply
- 5) Transport dimensions

Technical Data	MV Power Station 6000-S-AU
<b>Input (DC)</b>	
Available inverters	2 x SC 3000-EV or 2 x SCS 3000-EV
Max. input voltage	1500 V
Max. input current	2 x 3200 A
Number of DC inputs	2 x 24 double pole fused (32 single pole fused)
Integrated zone monitoring	○
Available DC fuse sizes (per input)	200 A, 250 A, 315 A, 350 A, 400 A, 450 A, 500 A
<b>Output (AC) on the medium-voltage side</b>	
Standard power at 1000 m and $\cos \varphi = 1$ (at 35 °C / at 50 °C / at 55 °C) <sup>1)</sup>	6000 kVA / 5400 kVA / 0 kVA
Typical nominal AC voltages	11 kV, 22 kV, 33 kV
AC power frequency	50 Hz
Transformer vector group Dy11	●
Transformer cooling methods ONAN <sup>2)</sup>	●
Max. output current at 33 kV	105 A
Transformer no-load losses at 33 kV	3.75 kW
Transformer short-circuit losses at 33 kV	40 kW
Max. total harmonic distortion	< 3%
Reactive power feed-in	○ up to 60% of AC power
Power factor at rated power / displacement power factor adjustable	1 / 0.8 overexcited to 0.8 underexcited
<b>Inverter efficiency</b>	
Max. efficiency <sup>3)</sup>	98.8%
European efficiency <sup>3)</sup>	98.6%
CEC weighted efficiency <sup>4)</sup>	98.5%
<b>Protective devices</b>	
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 AS 62271-202)	IAC A 20 kA 1 s
<b>General Data</b>	
Dimensions of the 20-foot skid (W / H / D) <sup>5)</sup>	12192 mm / 3010 mm / 2438 mm
Weight	< 26.5 t
Self-consumption (max. / partial load / average) <sup>1)</sup>	< 16.2 kW / < 3.6 kW / < 4.0 kW
Self-consumption (stand-by) <sup>1)</sup>	< 740 W
Degree of protection according to IEC 60529	Switchgear compartment IP23D, inverter electronics IP65
Environment: standard / harsh	● / ○
Degree of protection according to IEC 60721-3-4 (4C1, 4S2 / 4C2, 4S2)	● / ○
Maximum permissible value for relative humidity	15% to 95%
Max. operating altitude above mean sea level 1000 m / 2000 m	● / ○ (earlier temperature-dependent de-rating)
Fresh air consumption of inverter and transformer	13000 m <sup>3</sup> /h
<b>Features</b>	
DC terminal	Terminal lug
AC connection	Outer-cone angle plug
Skid enclosure color	RAL 7033 / N42
Low voltage transformer 30 kVA	●
Medium-voltage switchgear 3 feeders	●
2 cable feeders with load-break switch, 1 transformer feeder with circuit breaker, internal arc classification IAC A FL 20 kA 1 s according to AS 62271-200	●
Accessories for medium-voltage switchgear: without / auxiliary contacts / remote control	● / ○ / ○
Oil containment	●
Industry standards (for other standards see the inverter datasheet)	AS 62271-202, AS 62271-200, AS 60076, AS 3000, AS 2067, AS 1170
● Standard features   ○ Optional features   – Not available	
Type designation	MVPS-6000-S-AU-10

### System diagram with Sunny Central



### System diagram with Sunny Central Storage

