### **SUNNY CENTRAL 2200**





#### **Efficient**

- More power per cubic meter
- Up to 4 inverters can be transported in one standard shipping container
- Over-dimensioning up to 150%

#### Robust

- Proven high-precision air-cooling system for intelligent, effective cooling
- Can be installed outdoors anywhere in the world in any ambient condition

#### **Flexible**

- Conforms to all known grid requirements worldwide
- Provides Q on demand
- Available as a stand-alone or turnkey solution with mediumvoltage block

#### Easy to Use

- Improved DC connection area
- Bay for connecting customer equipment
- Integrated voltage supply for internal consumption and external loads

## **SUNNY CENTRAL 2200**

The new Sunny Central: maximum power density and integration

The Sunny Central 2200 inverter produces 2200 kVA from 1000 V DC and allows for more efficient system design as it now works with an even broader range of module types. It has an integrated transformer and additional space available for installation of customer equipment, and has been optimized for outdoor installation. The air cooling system OptiCool™ keeps this central inverter running smoothly, even in extreme ambient temperatures. Sand and dust particles are effectively kept away. The Sunny Central 2200 is the central component of SMA Utility Power Systems. In conjunction with the medium-voltage block, DC technology, power plant controlling system and SMA Service, it is also available as compact platform solution.

# **SUNNY CENTRAL 2200**

IEEE1547, UL 1998, UL 840 Cat. IV, Arrêté du 23/04/08	Fechnical Data	SC 2200
MPP vollage range \( \nabla_{\text{c}} \) (at 25 \text{C} of 15 0 \text{C})	input (DC)	
Min. input voltage V <sub>C. m</sub>   S45V / 645 V	• • •	570 to 950 V / 850 V
100 V   Mox. Input urbaley   V <sub>C. Tot</sub>   3950 A / 3000 A		·
Max. imput current Ir.; and 25 °C / at 50°C   3960 A 3000 A Max. short-circuit current Ir.; and 25 °C / at 50°C   4400 A 3000 A		·
Max. Abords Circuit crient   Co.	viax. input voitage V <sub>DC, max</sub>	
Number of DC inputs   24		
Max. number of DC cobbs per DC input (for each polarity)  metigrated zone monitaring (via shurt resistors)  via via field see sizes (per input)  200 A, 250 A, 315 A, 350 A, 400 A, 450 A, 500 A  200 A, 250 A, 315 A, 350 A, 400		
Integrated zone monitoring (via shunt resistors)	Number of DC inputs	
Available DC fuse sizes (per input)  200 A, 250 A, 315 A, 330 A, 400 A, 450 A, 500 A  Output AC)  Nominal AC power at cas sp =1 (at 25°C / at 40°C / at 50°C)  1200 kW / 1664 kW / 1600 kW  Nominal AC power at cas sp =0.8 (at 25°C / at 40°C / at 50°C)  1300 A  Most. Inda harmonic distortion  3300 A  Most. Inda harmonic distortion  3300 A  Most. Inda harmonic distortion  3300 A  Most. Inda harmonic distortion  385 Y, 308 to 462 V  50 Hz / 47 Hz to 53 Hz  60 Hz / 57 Hz to 63 Hz  70 Ac power frequency / range  40 A 25°C description of the AC terminals  2 C  80 A 80 / 98.4% / 98.0%  Protective Devices  1 / 0.8 overexcited to 0.8 underexcited terminals  2 C  80 A 80 / 98.4% / 98.0%  Protective Devices  1 / 0.8 overexcited to 0.8 underexcited terminals  2 C  80 A 80 / 98.4% / 98.0%  Protective Devices  1 / 0.8 overexcited to 0.8 underexcited terminals  2 C  80 A 80 / 98.4% / 98.0%  Protective Devices  1 / 0.8 overexcited to 0.8 underexcited terminals  2 C  80 A 80 / 98.4% / 98.0%  Protective Devices  1 / 0.8 overexcited to 0.8 underexcited terminals  2 C convollage protection  3 C convollage protection  4 C circuit breader  5 C convollage protection (according to IEC 62305.1)  1 Ughtning protection (according to IEC 62305.1)  1 Ughtning protection (according to IEC 62305.1)  1 Ughtning protection: electronics / air duct / connection area (as per IEC 60529)  1 Post / IPS /	Max. number of DC cables per DC input (for each polarity)	$2 \times 800 \text{ kcmil}, 2 \times 400 \text{ mm}^2$
Dutput (AC)           Nominal AC power at cos φ = 1 (at 25 °C / at 40 °C / at 50 °C)         2200 WA / 2080 WA / 2080 WA / 2000 WA           Nominal AC power at cos φ = 0.8 (at 25 °C / at 40 °C / at 50 °C)         1760 kW / 1664 kW / 1600 kW           Nominal AC corrent   Company   Maximum   Ma	ntegrated zone monitoring (via shunt resistors)	0
Nominal AC power at aces p = 0.8 (at 25°C / at 40°C / at 50°C   2200 k/A / 2000 k/A / 20000 k/A / 20000 k/A / 20000 k/A / 2000 k/A / 2000 k/A / 2000 k/A	Available DC fuse sizes (per input)	200 A, 250 A, 315 A, 350 A, 400 A, 450 A, 500 A
Nominal AC power at as a \$\int 0.8 \text{ in 1760 kW} / 1600 kW and AC power at a same \$\int 0.8 \text{ in 1760 kW} / 1600 kW and AC current \$\int_{\infty}\$ me. \$\int 0.8 \text{ in 1760 kW} / 1600 kW and AC current \$\int_{\infty}\$ me. \$\int 0.8 \text{ in 1760 kW} / 1600 kW and AC vallage \$\int 0.8 \text{ in 1760 kW} / 1800 kW and AC vallage \$\int 0.8 \text{ in 1760 kW} / 1800 kW and AC vallage \$\int 0.8 \text{ in 1760 kW} / 1800 kW and AC vallage \$\int 0.8 \text{ in 1760 kW} / 1800 kW and AC vallage \$\int 0.8 \text{ in 1760 kW} / 1800 kW and AC vallage \$\int 0.8 \text{ in 1760 kW} / 1800 kW and AC vallage \$\int 0.8 \text{ in 1760 kW}	Output (AC)	
Nominal AC current Is_m = Max. output current Is_m = Max. output current Is_m = Max. schal harmonic disbortion	Nominal AC power at $\cos \varphi = 1$ (at 25°C / at 40°C / at 50°C)	2200 kVA / 2080 kVA / 2000 kVA
Nominal AC current Is_m = Max. output current Is_m = Max. output current Is_m = Max. schal harmonic disbortion	Nominal AC power at $\cos \varphi = 0.8$ (at 25°C / at 40°C / at 50°C)	1760 kW / 1664 kW / 1600 kW
Max. Istal harmonic distortion   \$3% at nominal power		
Nominal AC voltage / nominal AC voltage range   385 V / 308 V in 462 V AC power frequency / range   50 Hz / 47 Hz to 53 Hz		
AC power frequency / ronge  SO Hz / 47 Hz to 53 Hz 60 Hz / 57 Hz to 63 Hz 60 Hz / 57 Hz to 63 Hz 70 were factor at rated power / displacement power factor adjustable  If 0.8 overexcited to 0.8 underexcited  Ifficiency  Max. efficiency / European efficiency / CEC efficiency <sup>10</sup> Protective Devices  **Protective Devices  **Protect		
Min. short-circuit ratio at the AC terminals  2 2  Nower factor or trated power / displacement power factor adjustable  1 / 0.8 overexcited to 0.8 underexcited  1 / 0.8 overexcited to 0.8 underexcited  1 / 0.8 overexcited to 0.8 underexcited  8 / 8 / 9 / 8 / 9 / 8 / 9 / 8 / 9 / 8 / 9 / 8 / 9 / 8 / 9 / 8 / 9 / 8 / 9 / 9		
Nin. short-circuit ratio at the AC terminals	to portor inequality / raingo	
Prover foctor at rated power / displacement power factor adjustable  Efficiency  ### Strictor of trated power / displacement power factor adjustable  ### Strictor of trated power / displacement power factor adjustable  ### Strictor of trated power / displacement power factor adjustable  ### Strictor of training of the strictor of training of the strictor of the st	Min. short-circuit ratio at the AC terminals	· ·
### Max. efficiency / European efficiency / CEC efficiency <sup>21</sup> 98.6% / 98.4% / 98.0% Protective Devices  **protective Devices  **DC load break switch  **Dutputside disconnection point  **Ac circuit breaker  **Doct overvoltage protection  **Surge arrester, type I  **AC covervoltage protection (optional)  **Surge arrester, class I  **Lightning protection (according to IEC 62305-1)  **Ground-foult monitoring / remote ground-fault monitoring  **O \circuit Ones of protection (according to IEC 62305-1)  **Surge arrester, class I  **Lightning Protection (according to IEC 62305-1)  **Surge arrester, class I  **Lightning Protection tevel IIII  **Ground-foult monitoring / remote ground-fault monitoring  **O \circuit Ones of protection (according to IEC 62305-1)  **Surge arrester, class I  **Lightning Protection tevel IIII  **Ground-foult monitoring / remote ground-fault monitoring  **O \circuit Ones of Protection tevel IIII  **Ground-foult monitoring / remote ground-fault monitoring  **Surger arrester, class I  **Lightning Protection tevel IIII  **Ground-foult monitoring / remote ground-fault monitoring  **Protective Seneral Data  **Surger arrester, class I  **Lightning Protection tevel IIII  **Ground-foult monitoring / remote ground-fault monitoring  **Surger arrester, class I  **Lightning Protection tevel IIII  **Ground-foult monitoring / remote ground-fault monitoring  **Surger arrester, class I  **Lightning Protection tevel IIII  **Surger arrester, class I  **Lightning Protection tevel IIII  **Ground-foult monitoring / remote ground-fault monitoring / remote groun		1 / 0.8 overexcited to 0.8 underexcited
Max. efficiency / European efficiency / CEC efficiency²l  Protective Devices  Protective Devices  Protective Devices  Declaration of the Computation of the Computati		
Protective Devices  proutside disconnection point  DC load break switch  DC overvoltage protection point  AC corevoltage protection (optional)  Surge arrester, type I  Surge arrester, tupe IIII  Zeron-4 (800 4/4) (804)  Surge arrester, top I  Surge arrester, tupe I  Surge arrester arester III  Surge arrester, tupe I  Surge arrester, tupe I		08 60/ / 08 40/ / 08 00/
Inputside disconnection point Dutputside disconnection point AC circuit breaker Dutputside disconnection point AC covervoltage protection Surge arrester, type I AC overvoltage protection (optional) Surge arrester, class I		70.0% / 70.4% / 70.0%
Output-side disconnection point  AC circuit breaker  OC overvoltage protection (optional)  Surge arrester, type I  AC overvoltage protection (optional)  Lightning protection (according to IEC 62305-1)  Surge arrester, class I  Lightning protection (according to IEC 62305-1)  Lightning protection (according to IEC 62305-1)  Degree of protection: electronics / air duct / connection area (as per IEC 60529)  Degree of protection: electronics / air duct / connection area (as per IEC 60529)  Degree of protection: electronics / air duct / connection area (as per IEC 60529)  Degree of protection: electronics / air duct / connection area (as per IEC 60529)  Degree of protection: electronics / air duct / connection area (as per IEC 60529)  Degree of protection: electronics / air duct / connection area (as per IEC 60529)  Degree of protection: electronics / air duct / connection area (as per IEC 60529)  Degree of protection: electronics / air duct / connection area (as per IEC 60529)  Degree of protection: electronics / air duct / connection area (as per IEC 60529)  Degree of protection: electronics / air duct / connection / canne / ca		DC
OC overvoltage protection  AC overvoltage protection   Surge arrester, type   AC overvoltage protection (optional)   Surge arrester, class   Lightning protection (according to IEC 62305-1)   Signam Protection (according to IEC 62305-1)   Lightning Protection (according to IEC 62305-1)   Signam Protection (according to IEC 62305-1)   Signam Protection (according to IEC 62305-1)   Signam Protection (according to IEC 60329)   Degree of protection: electronics / air duct / connection area (as per IEC 60529)   Degree of protection: electronics / air duct / connection area (as per IEC 60529)   Degree of protection: electronics / air duct / connection area (as per IEC 60529)   Degree of protection: electronics / air duct / connection area (as per IEC 60529)   Degree of protection: electronics / air duct / connection area (as per IEC 60529)   Degree of protection: electronics / air duct / connection area (as per IEC 60529)   Degree of protection: electronics / air duct / connection   Degree of protection: electronics / air duct / connection   Degree of protection: electronics / air duct / connection   Degree of protection: electronics / air duct / connection   Degree of protection: electronics / air duct / connection   Degree of protection: electronics / air duct / connection   Degree of protection: electronics / air duct / connection   Degree of protection: electronics / air duct / connection   Degree of protection: electronics / air duct / connection   Degree of protection: electronics / air duct / connection   Degree of protection: electronics / air duct / connection   Degree of protection / air duct		
AC overvoltage protection (optional)  Surge arrester, class I lightning protection (according to IEC 62305-1)  Ground-fault monitoring / emote ground-fault monitoring  operate of protection: electronics / air duct / connection area (as per IEC 60529)  Begree of protection: electronics / air duct / connection area (as per IEC 60529)  Begree of protection: electronics / air duct / connection area (as per IEC 60529)  Begree of protection: electronics / air duct / connection area (as per IEC 60529)  Begree of protection: electronics / air duct / connection area (as per IEC 60529)  Begree of protection: electronics / air duct / connection area (as per IEC 60529)  Begree of protection: electronics / air duct / connection area (as per IEC 60529)  Begree of protection: electronics / air duct / connection area (as per IEC 60529)  Begree of protection: electronics / air duct / connection area (as per IEC 60529)  Begree of protection: electronics / air duct / connection area (as per IEC 60529)  Begree of protection: electronics / air duct / connection area (as per IEC 60529)  Begree of protection: electronics / air duct / connection area (as per IEC 60529)  Begree of protection: electronics / air duct / connection area (as per IEC 60529)  Begree of protection: electronics / air duct / connection area (as per IEC 60529)  Begree of protection: electronics / air duct / connection area (as per IEC 60529)  Begree of protection: electronics / air duct / connection area (as per IEC 60529)  Begree of protection: electronics / air duct / page 48194  Begree of protection: electronics / air duct / connection area (as per IEC 60529)  Begree of protection: a light of air duct / connection area (as per IEC 60529)  Begree of protection in electronics / air duct / connection area (as per IEC 60529)  Begree of protection in electronics / air duct / connection area (as per IEC 60529)  Begree of protection in electronics / air duct / connection area (as per IEC 60529)  Begree of protection in electronics / air duct / connection area (as per	•	AC circuit breaker
Lightning protection (according to IEC 62305-1)  Ground-fault monitoring / remote ground-fault monitoring  opegree of protection: electronics / air duct / connection area (as per IEC 60529)  Dimensions (W / H / D)  Weight  Self-consumption (max.3) / partial load <sup>40</sup> / average <sup>51</sup> )  Self-consumption (max.3) / partial load <sup>40</sup> / average <sup>51</sup> )  Self-consumption (max.3) / partial load <sup>40</sup> / average <sup>51</sup> )  Self-consumption (standby)  Integrated 8.4 kVA transformer  Operating temperature range  -25°C to 60°C / -13°F to 140°F  Max. permissible value for relative humidity (condensing / non-condensing)  Max. permissible value for relative humidity (condensing / non-condensing)  Max. permissible value for relative humidity (condensing / non-condensing)  Poctoures  Connection  AC connection  Communication with SMA string monitor (transmission medium)  Communication with SMA string monitor (transmission medium)  Communication with SMA string monitor (transmission medium)  Standards  EMC standards  Lightning Protection Level III  O / ○  1P65 / P34 / P34  P34 / P134  P34 / P134	DC overvoltage protection	Surge arrester, type I
Cround-fault monitoring / remote ground-fault monitoring	AC overvoltage protection (optional)	Surge arrester, class I
Degree of protection: electronics / air duct / connection area (as per IEC 60529)  General Data  General Data  Self-consumption (max.31 / partial load41 / average51)  Self-consumption (max.31 / partial load41 / average51)  Self-consumption (standby)  Integrated 8.4 kVA transformer  Operating temperature range  Position of the relative humidity (condensing / non-condensing)  Maximum operating altitude above MSL 2000 m / 3000 m / 4000 m  Feedures  Occonnection  AC connection  Communication with SMA string monitor (transmission medium)  Enclosure / roof color  AL 2016 kAB (A)  Temperature range (storage)  Modbus TCP / Ethernet (FO MM, Cat-5)  Enclosure / roof color  AL 2016 kAB (A)  Temperature range (storage)  Modous TCP / Ethernet (FO MM, Cat-5)  Enclosure / roof color  AL 2016 kAB (A)  Temperature range (storage)  AC connection  AC connection  AC connection  Communication with SMA string monitor (transmission medium)  Enclosure / roof color  AL 2016 kAB (A)  Temperature range (storage)  AL 2016 kAB (A)  Temperature reperature-dependent de-rating)  Fest area  Communication with SMA string monitor (transmission medium)  Enclosure / roof color  RAL 9016 / RAL 7004  HMI touchscreen (10.1*)  Supply transformer for external loads  CE, IEC / EN 62109-1, IEC / EN 62109-2, UL1741, BDEW-MSRL  IEEE 1547, UL 1998, UL 840 Cat. IV, Arrêté du 23/04/08  EMC standards  IEC / EN 61000-64, IEC / EN 61000-62, EN 55022, CISPR 22:20	ightning protection (according to IEC 62305-1)	Lightning Protection Level III
Degree of protection: electronics / air duct / connection area (as per IEC 60529)  General Data  Dimensions (W / H / D)  Weight  Self-consumption (max.³) / partial load⁴ / average³)  Self-consumption (max.³) / partial load⁴ / average³)  Self-consumption (standby)  Internal auxiliarry power supply  Deparating temperature range  Operating temperature range  Noise emission⁴)  Femperature range (standby)  Femperature range (standby)  Femperature range (standby)  Aux. permissible value for relative humidity (condensing / non-condensing)  Maximum operating altitude above MSL 2000 m / 3000 m / 4000 m  Features  DC connection  AC connection  Communication  Communication with SMA string monitor (transmission medium)  Enclosure / roof color  Bala NA String monitor (transmission medium)  Enclosure / roof color  Bala NA String monitor (transmission medium)  Enclosure / roof color  Bala NA String monitor (transmission medium)  Enclosure / roof color  Bala NA String monitor (transmission medium)  Enclosure / roof color  Bala NA String monitor (transmission medium)  Enclosure / roof color  Bala NA String monitor (transmission medium)  Enclosure / roof color  Bala NA String Monitor (transmission medium)  Enclosure / roof color  Bala NA String Monitor (transmission medium)  Enclosure / roof color  Bala NA String Monitor (transmission medium)  Enclosure / roof color  Bala NA String Monitor (transmission medium)  Enclosure / roof color  Bala NA String Monitor (transmission medium)  Enclosure / roof color  Bala NA String Monitor (transmission medium)  Enclosure / roof color  Bala NA String Monitor (transmission medium)  Enclosure / roof color  Bala NA String Monitor (transmission medium)  Enclosure / roof color  Bala NA NA String Monitor (transmission medium)  Enclosure / roof color  Bala NA NA String Monitor (transmission medium)  Enclosure / roof color  Bala NA NA String Monitor (transmission medium)  Enclosure / roof Na	Ground-fault monitoring / remote ground-fault monitoring	0/0
Degree of protection: electronics / air duct / connection area (as per IEC 60529)  General Data  Dimensions (W / H / D)  Weight  Self-consumption (max.³) / partial load⁴ / average³)  Self-consumption (max.³) / partial load⁴ / average³)  Self-consumption (standby)  Internal auxiliarry power supply  Deparating temperature range  Operating temperature range  Noise emission⁴)  Femperature range (standby)  Femperature range (standby)  Femperature range (standby)  Aux. permissible value for relative humidity (condensing / non-condensing)  Maximum operating altitude above MSL 2000 m / 3000 m / 4000 m  Features  DC connection  AC connection  Communication  Communication with SMA string monitor (transmission medium)  Enclosure / roof color  Bala NA String monitor (transmission medium)  Enclosure / roof color  Bala NA String monitor (transmission medium)  Enclosure / roof color  Bala NA String monitor (transmission medium)  Enclosure / roof color  Bala NA String monitor (transmission medium)  Enclosure / roof color  Bala NA String monitor (transmission medium)  Enclosure / roof color  Bala NA String monitor (transmission medium)  Enclosure / roof color  Bala NA String Monitor (transmission medium)  Enclosure / roof color  Bala NA String Monitor (transmission medium)  Enclosure / roof color  Bala NA String Monitor (transmission medium)  Enclosure / roof color  Bala NA String Monitor (transmission medium)  Enclosure / roof color  Bala NA String Monitor (transmission medium)  Enclosure / roof color  Bala NA String Monitor (transmission medium)  Enclosure / roof color  Bala NA String Monitor (transmission medium)  Enclosure / roof color  Bala NA String Monitor (transmission medium)  Enclosure / roof color  Bala NA NA String Monitor (transmission medium)  Enclosure / roof color  Bala NA NA String Monitor (transmission medium)  Enclosure / roof color  Bala NA NA String Monitor (transmission medium)  Enclosure / roof Na	nsulation monitoring	0
Semeral Data	Degree of protection: electronics / air duct / connection area (as per IEC 60529)	IP65 / IP34 / IP34
Dimensions (W / H / D)   2780 / 2318 / 1588 mm (109.4 / 91.3 / 62.5 inch)		, ,
Weight		2780 / 2318 / 1588 mm (109 4 / 91 3 / 62 5 inch)
Self-consumption (max.3) / partial load <sup>4</sup> / average <sup>51</sup> )  Self-consumption (standby)  Integrated 8.4 kVA transformer  Operating temperature range  —25°C to 60°C / -13°F to 140°F  Noise emission <sup>61</sup> Emperature range (standby)  —40°C to 60°C / -40°F to 140°F  Emperature range (storage)  —40°C to 70°C / -40°F to 158°F  Max. permissible value for relative humidity (condensing / non-condensing)  Maximum operating altitude above MSL 2000 m / 3000 m / 4000 m  Features  OC connection  AC connection  AC connection  Communication  Communication  Communication with SMA string monitor (transmission medium)  Enclosure / roof color  RAL 9016 / RAL 7004  HMI touchscreen [10.1")  Supply transformer for external loads  EMC standards  EMC standards  EMC standards  IEC / EN 62109-1, IEC / EN 62109-2, UL1741, BDEW-MSRL IEC / EN 61000-6-2, EN 55022, CISPR 22:20.		
Self-consumption (standby)  Integrated 8.4 kVA transformer  Operating temperature range  -25°C to 60°C/-13°F to 140°F  Noise emission ol  Gemperature range (standby)  -40°C to 60°C/-40°F to 140°F  Imperature range (storage)  -40°C to 70°C/-40°F to 158°F  Max. permissible value for relative humidity (condensing / non-condensing)  Maximum operating altitude above MSL 2000 m / 3000 m / 4000 m  Features  OC connection  AC connection  AC connection  Communication  Communication with SMA string monitor (transmission medium)  Enclosure / roof color  Enclosure / roof color  Standards  CE, IEC / EN 62109-1, IEC / EN 62109-2, UL1741, BDEW-MSRL IEC / EN 61000-6-4, IEC / EN 61000-6-2, EN 55022, CISPR 22:20.  EMC standards  Integrated 8.4 kVA transformer  -25°C to 60°C/-13°F to 140°F  6.4 d B(A)  -40°C to 60°C/-13°F to 140°F  6.6.4 d B(A)  6.64 d B(A)  6.6.4 d B(A)  6.6.		•
Integrated 8.4 kVA transformer  Operating temperature range  Operating temperature range  Operating temperature range  Operating temperature range (standby)  Image: Standby (standby)  Operating temperature range (storage)  Operating temperature range (		
Operating temperature range  -25°C to 60°C / −13°F to 140°F  66.4 dB(A)  Temperature range (standby)  -40°C to 60°C / −40°F to 140°F  -40°C to 60°C / −40°F to 158°F  Max. permissible value for relative humidity (condensing / non-condensing)  Maximum operating altitude above MSL 2000 m / 3000 m / 4000 m  Fresh air consumption  Fresh air consumption  Connection  AC connection  Communication  Communication  Communication with SMA string monitor (transmission medium)  Communication with SMA string monitor (transmission medium)  Supply transformer for external loads  Standards and directives complied with  CE, IEC / EN 62109-2, UL1741, BDEW-MSRI  IEEF1547, UL 1998, UL 840 Cat. N, Arrêté du 23/04/08  EMC standards  IEC / EN 61000-64, IEC / EN 61000-62, EN 55022, CISPR 22:20		
Noise emission 6)  66.4 dB(A)  Temperature range (standby)  -40°C to 60°C / -40°F to 140°F  Temperature range (storage)  Max. permissible value for relative humidity (condensing / non-condensing)  Maximum operating altitude above MSL 2000 m / 3000 m / 4000 m  Features  DC connection  AC connection  Communication  Communication with SMA string monitor (transmission medium)  Enclosure / roof color  Display  Supply transformer for external loads  Standards and directives complied with  CE, IEC / EN 62109-1, IEC / EN 62109-2, UL1741, BDEW-MSRI  IEEE1547, UL 1998, UL 840 Cat. IV, Arrêté du 23/04/08  EMC standards  IEC / EN 61000-6-4, IEC / EN 61000-6-2, EN 55022, CISPR 22:20	71 117	Š
Femperature range (standby)  Femperature range (storage)  Max. permissible value for relative humidity (condensing / non-condensing)  Maximum operating altitude above MSL 2000 m / 3000 m / 4000 m  Fresh air consumption  Features  DC connection  AC connection  Communication  Communication  Communication with SMA string monitor (transmission medium)  Enclosure / roof color  Display  Supply transformer for external loads  Standards and directives complied with  EMC standards  FEC / EN 62109-1, IEC / EN 62109-2, UL1741, BDEW-MSRL IEEE1547, UL 1998, UL 840 Cat. IV, Arrêté du 23/04/08 EMC standards  FER 200 CINP C 1000-64, IEC / EN 61000-6-2, EN 55022, CISPR 22:200	Operating temperature range	-25°C to 60°C / -13°F to 140°F
Temperature range (storage)  -40°C to 70°C / -40°F to 158°F  Max. permissible value for relative humidity (condensing / non-condensing)  Maximum operating altitude above MSL 2000 m / 3000 m / 4000 m  Fresh air consumption  Features  DC connection  AC connection  Communication  Communication  Communication with SMA string monitor (transmission medium)  Enclosure / roof color  Display  Supply transformer for external loads  Standards and directives complied with  CE, IEC / EN 62109-1, IEC / EN 62109-2, UL1741, BDEW-MSRL IEEE1547, UL 1998, UL 840 Cat. IV, Arrêté du 23/04/08  EMC standards  IEC / EN 61000-6-4, IEC / EN 61000-6-2, EN 55022, CISPR 22:20	Noise emission <sup>6)</sup>	66.4 dB(A)
Max. permissible value for relative humidity (condensing / non-condensing)  Maximum operating altitude above MSL 2000 m / 3000 m / 4000 m  Fresh air consumption  Features  DC connection  AC connection  Communication  Communication  Communication with SMA string monitor (transmission medium)  Enclosure / roof color  Display  Supply transformer for external loads  Standards and directives complied with  EMC standards  EMC standards  CE, IEC / EN 62109-1, IEC / EN 62109-2, UL1741, BDEW-MSRL IEEE1547, UL 1998, UL 840 Cat. IV, Arrêté du 23/04/08  EMC standards  IEC / EN 61000-6-4, IEC / EN 61000-6-2, EN 55022, CISPR 22:20	「emperature range (standby)	-40°C to 60°C / -40°F to 140°F
Maximum operating altitude above MSL 2000 m / 3000 m / 4000 m  Fresh air consumption  Features  DC connection  AC connection  Communication  Communication  Ethernet, Modbus Master, Modbus Slave  Communication with SMA string monitor (transmission medium)  Enclosure / roof color  Enclosure / roof color  Enclosure / roof external loads  Standards and directives complied with  EMC standards  CE, IEC / EN 62109-1, IEC / EN 62109-2, UL1741, BDEW-MSRL IEEE1547, UL 1998, UL 840 Cat. IV, Arrêté du 23/04/08  EMC standards  IEC / EN 61000-6-4, IEC / EN 61000-6-2, EN 55022, CISPR 22:20	「emperature range (storage)	-40°C to 70°C / -40°F to 158°F
Fresh dir consumption  Features  DC connection  AC connection  Communication  Communication  Communication with SMA string monitor (transmission medium)  Enclosure / roof color  Enclosure / roof col	Max. permissible value for relative humidity (condensing / non-condensing)	95% to 100% (2 month/year) / 0% to 95%
Fresh dir consumption  Features  DC connection  AC connection  Communication  Communication  Communication with SMA string monitor (transmission medium)  Enclosure / roof color  Enclosure / roof col	Maximum operating altitude above MSL 2000 m / 3000 m / 4000 m	<ul> <li>✓ ○ / ○ (earlier temperature-dependent de-rating)</li> </ul>
Features  DC connection  AC connection  AC connection  Communication  Communication  Communication with SMA string monitor (transmission medium)  Enclosure / roof color  Encl	· · · · · · · · · · · · · · · · · · ·	
Terminal lug on each input (without fuse)  AC connection  With busbar system (three busbars, one per line conductor)  Ethernet, Modbus Master, Modbus Slave  Communication with SMA string monitor (transmission medium)  Enclosure / roof color  Encl	•	3333 , II
AC connection  With busbar system (three busbars, one per line conductor)  Ethernet, Modbus Master, Modbus Slave  Communication with SMA string monitor (transmission medium)  Enclosure / roof color  Enclosure / roof color  RAL 9016 / RAL 7004  HMI touchscreen (10.1")  Supply transformer for external loads  Standards and directives complied with  CE, IEC / EN 62109-1, IEC / EN 62109-2, UL1741, BDEW-MSRL IEEE1547, UL 1998, UL 840 Cat. IV, Arrêté du 23/04/08  EMC standards  IEC / EN 61000-6-4, IEC / EN 61000-6-2, EN 55022, CISPR 22:20		Terminal lug on each input (without fuse)
Ethernet, Modbus Master, Modbus Slave Communication  Ethernet, Modbus Master, Modbus Slave Communication with SMA string monitor (transmission medium)  Enclosure / roof color  RAL 9016 / RAL 7004  HMI touchscreen (10.1")  Supply transformer for external loads  O(2.5 kVA)  Etandards and directives complied with  CE, IEC / EN 62109-1, IEC / EN 62109-2, UL1741, BDEW-MSRL  IEEE1547, UL 1998, UL 840 Cat. IV, Arrêté du 23/04/08  EMC standards  IEC / EN 61000-6-4, IEC / EN 61000-6-2, EN 55022, CISPR 22:20		
Communication with SMA string monitor (transmission medium)  Enclosure / roof color  RAL 9016 / RAL 7004  HMI touchscreen (10.1")  Supply transformer for external loads  Oct. 15 kVA)  Standards and directives complied with  CE, IEC / EN 62109-1, IEC / EN 62109-2, UL1741, BDEW-MSRL IEEE1547, UL 1998, UL 840 Cat. IV, Arrêté du 23/04/08  EMC standards  IEC / EN 61000-6-4, IEC / EN 61000-6-2, EN 55022, CISPR 22:20		
Enclosure / roof color       RAL 9016 / RAL 7004         Display       HMI touchscreen (10.1")         Supply transformer for external loads       0 (2.5 kVA)         Standards and directives complied with       CE, IEC / EN 62109-1, IEC / EN 62109-2, UL1741, BDEW-MSRL         IEEE1547, UL 1998, UL 840 Cat. IV, Arrêté du 23/04/08         EMC standards       IEC / EN 61000-6-4, IEC / EN 61000-6-2, EN 55022, CISPR 22:20		
Display  HMI touchscreen (10.1")  (2.5 kVA)  Standards and directives complied with  EMC standards  HMI touchscreen (10.1")  (2.5 kVA)  CE, IEC / EN 62109-1, IEC / EN 62109-2, UL1741, BDEW-MSRL  IEEE1547, UL 1998, UL 840 Cat. IV, Arrêté du 23/04/08  IEC / EN 61000-6-4, IEC / EN 61000-6-2, EN 55022, CISPR 22:20	• • • • • • • • • • • • • • • • • • • •	
Supply transformer for external loads  O (2.5 kVA)  Standards and directives complied with  CE, IEC / EN 62109-1, IEC / EN 62109-2, UL1741, BDEW-MSRL  IEEE1547, UL 1998, UL 840 Cat. IV, Arrêté du 23/04/08  EMC standards  IEC / EN 61000-6-4, IEC / EN 61000-6-2, EN 55022, CISPR 22:20	•	·
Standards and directives complied with  CE, IEC / EN 62109-1, IEC / EN 62109-2, UL1741, BDEW-MSRL  IEEE1547, UL 1998, UL 840 Cat. IV, Arrêté du 23/04/08  EMC standards  IEC / EN 61000-6-4, IEC / EN 61000-6-2, EN 55022, CISPR 22:20	Display	HMI touchscreen (10.1")
IEEÉ 1547, UL 1998, UL 840 Cat. IV, Arrêté du 23/04/08 EMC standards IEC / EN 61000-6-4, IEC / EN 61000-6-2, EN 55022, CISPR 22:20	Supply transformer for external loads	○ (2.5 kVA)
EMC standards IEC / EN 61000-6-4, IEC / EN 61000-6-2, EN 55022, CISPR 22:20	Standards and directives complied with	CE, IEC / EN 62109-1, IEC / EN 62109-2, UL1741, BDEW-MSRL
modified class A, FCC Part 15 Class A	EMC standards	IEC / EN 61000-6-4, IEC / EN 61000-6-2, EN 55022, CISPR 22:20
		modified class A, FCC Part 15 Class A

- 1) At nominal AC voltage < 385 V, nominal AC power decreases in the same proportion
- 2) Efficiency measured with internal power supply
- 3) Self-consumption at rated operation

- 4) Self-consumption at < 75% Pn at 25  $^{\circ}\text{C}$
- 5) Self-consumption averaged out from 5% to 100% Pn at 25°C
- 6) Sound pressure level at a distance of 10  $\ensuremath{\text{m}}$



