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SUNWAY STATION 520 800V LS

Fully Integrated OUTDOOR Solar Power Station

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Cap. Soc. € 2.500.000 i.v.
Codice Fiscale e Partita Iva
03686440284
R.E.A. PD 328951
Cod. Mecc. PD 054138
Cod. Ident. IVA Intracom.
IT03686440284

Elettronica Santerno S.p.A.
Società soggetta all'attività
di direzione e coordinamento
di Carraro S.p.A.



Designed for large utility scale applications, **SUNWAY STATIONS** feature best-in-class technology without compromises providing the highest power density and reliability.

With all the technical advantages and flexibility of SUNWAY TG inverters, SUNWAY STATIONS allow optimum configuration of medium and large PV plants providing the lowest system cost and the maximum efficiency.

BENEFITS

- Based on SUNWAY TG solar inverters
- Pre-assembled substations, fully fitted out and tested to reduce the plant costs to a minimum, ensuring easy laying and wiring
- Built with sandwich sheet panels and integrated vibrated reinforced concrete foundations for easy transport (structure fully made of concrete optionally available, LC version)
- High efficiency MV distribution transformer
- Extended configurability of the MV section to adapt to any specific plant requirement
- Full access to inverters and accessories for optimum reliability and serviceability
- Grid Code integrated features (LVRT, Reactive Power Control, Frequency and Voltage control) in compliance with the most advanced European, North American and WW standards
- Integrated DC-side protection provided by DC fuses and disconnect switch with release coil
- Integrated Ground Fault Detection system and miswiring protection on DC side
- Integrated Modbus on RS485 and TCP/IP on Ethernet data connection, integrated fiber optic ports
- Remote monitoring optionally available via Santerno Web Portal (www.sunwayportal.it)
- Integrated inputs for environmental sensors
- Possibility to install photovoltaic modules requiring one grounded pole, both positive and negative pole
- Thorough manufacture with first class materials

| Main features | |
|---|--------------------------------------|
| Model | SUNWAY STATION 520 800V LS |
| Inverters | 2 x SUNWAY TG310 800V TE |
| MPPT voltage range ⁽¹⁾ | 415 - 760 V |
| Number of independent MPPTs | 2 |
| AC power frequency | 50 Hz |
| Rated Power Factor (range) | 1-0.9 lead/lag |
| Maximum operating altitude ⁽²⁾ | 4000 m a.s.l. |
| Maximum value for relative humidity | 100% condensing |
| Input (DC) | |
| Max DC voltage | 880 V |
| Rated input power | 492 kW |
| PV voltage ripple | <1% |
| Maximum DC inputs fuse-protected | 2 x 10 |
| Maximum short circuit PV input current | 2 x 660A |
| Output (AC) | |
| Rated output current, LV side | 1020.6 A |
| Rated output power, LV side | 477.2 kW |
| Power threshold | 1% of Rated AC inverter output power |
| Total AC current distortion | ≤ 3% |
| Rated AC voltage, MV side | 6 to 24 kV (up to 30 kV on request) |
| Connection phases, MV side | 3 |
| Inverter efficiency - LV side | |
| Maximum /EU/ CEC efficiency | 98.4% / 97.8 % / 97.8% |
| MV transformer | |
| Type | Oil/Cast resin |
| Rated power | 500 kVA |
| Fuse protection | Yes |
| Temperature control | Yes |
| Oil pressure control ⁽³⁾ | Yes |
| Dimensions and weight ⁽⁴⁾ | |
| Cabinet Dimensions (WxHxD) | 7.5 x 3.2 x 2.4 m (to be confirmed) |
| Overall Weight | 10000 Kg (to be confirmed) |

Elettronica Santerno reserves the right to make any technical changes to this document without prior notice.

NOTES

⁽¹⁾ At rated Vac and Cos φ =1

⁽²⁾ Up to 1000 m without derating

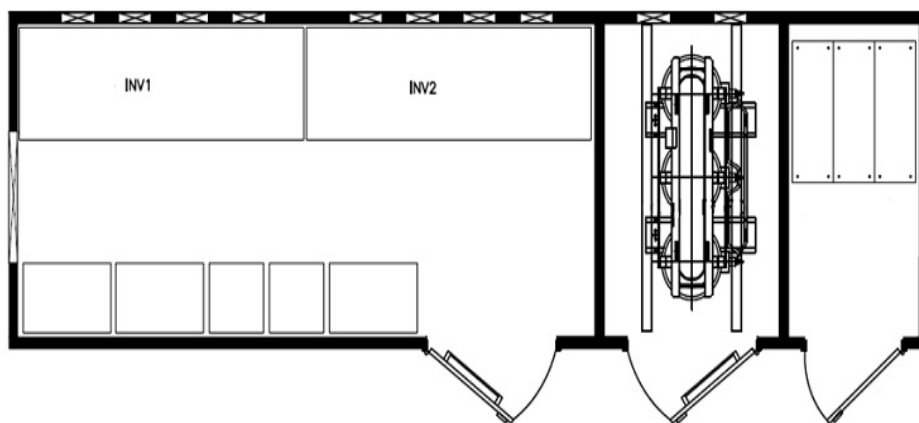
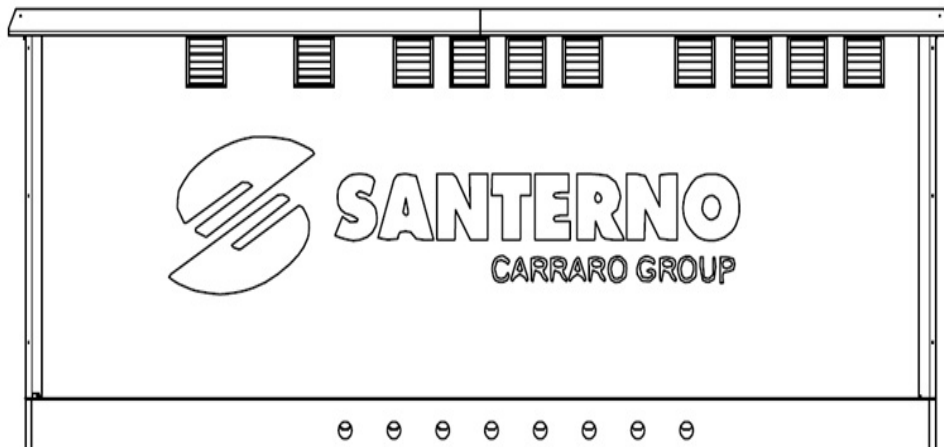
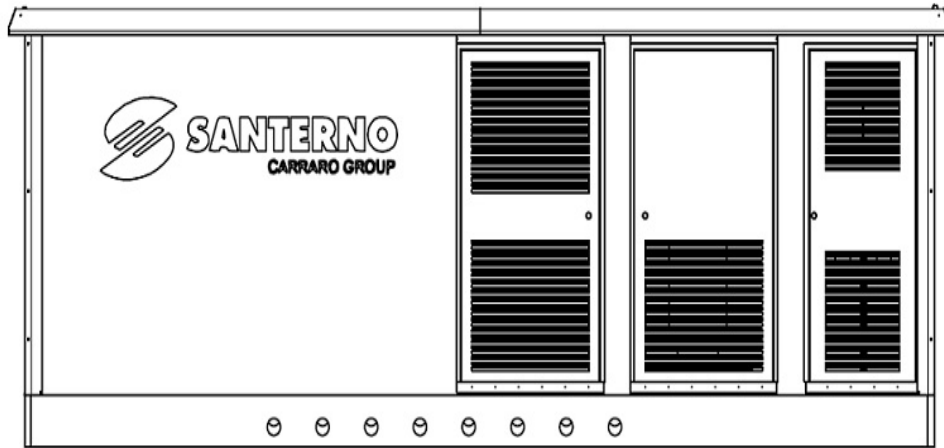
⁽³⁾ Only for oil type transformers

⁽⁴⁾ Dimensions and weight not applicable to Sunway Station LC version with structure fully made of concrete

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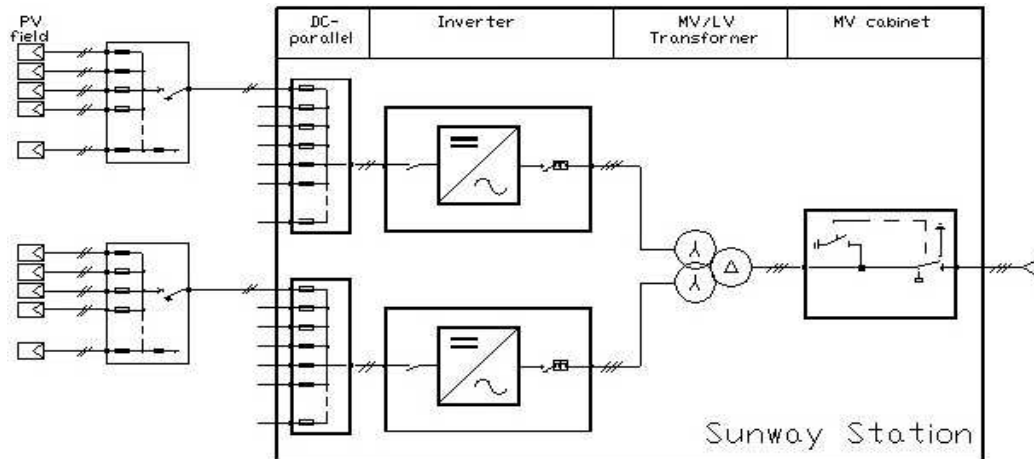
| Protective devices | |
|---|--|
| DC protection against overvoltage (SPD) | Yes |
| DC input current monitoring | Optional |
| DC side disconnection device | DC disconnect switch |
| DC ground fault monitoring | Yes |
| AC disconnection device, LV side | AC circuit breaker |
| AC disconnection device, MV side | AC disconnect switch |
| AC ground fault monitoring, LV side | Optional |
| Grid fault monitoring | Yes |
| Compartment temperature control | Yes |
| Emergency stop switch | Yes |
| Safety key distribution system | Yes |
| Communication Interfaces | |
| Power modulation | Via Remote Control (RS485, Ethernet)/analog inputs |
| PV plant monitoring | Optional (via Santerno Web Portal) |
| Protocols | Modbus RTU/Modbus TCP/IP |
| Ethernet/RS485/Optical fiber | Yes/Yes/Optional |
| Premium Remote Monitoring | Optional |
| Additional features | |
| PLC for system control | Yes |
| Ethernet switch | Yes |
| Anticondensation heater | Yes |
| Inputs for environmental sensors | Up to 6 per Inverter |
| Pulsed counters | Up to 2 per Inverter |
| Cooling system - Airflow | Forced air ventilation |
| UPS, LV side | Optional 4/6/10 kVA |
| Fiscal meter | Optional |
| Grid interface device protection | Optional |
| Self-consumption meter | Optional |
| Kit for earthed negative/positive pole | Optional |
| Fire sensors | Optional |
| Personal protective kit: fire extinguisher, dielectric gloves and insulating rubber mat | Yes |

Layout



Block Diagram

The Sunway Station is supplied complete with internal wiring (power wiring and auxiliary wiring). Standard supply does NOT include outgoing cables and wiring.



Standard block diagram of Sunway Station ⁽⁵⁾

Main Normative References

SANTERNO SUNWAY STATIONS have been developed, designed and manufactured in accordance with the latest requirements of the Low Voltage directives, Electromagnetic Compatibility directives and Grid Connection standards.

| Standards ⁽⁶⁾ | |
|-----------------------------------|---|
| Compliance | EN 61000-6-2 EN 61000-6-4 |
| MV Cabinet | IEC 62271-200 CEI-EN 62271-102 |
| LV/MV Transformer | IEC 60076-11 |
| Cabinet structure/internal wiring | CEI 64-8 CEI 11-35 CEI EN 61330 |
| Grid connection | CEI 0-16, A70 Arrêté du 23 Avril 2008 RD 1633/2000, RD 661/2007 BDEW |

NOTES

⁽⁵⁾ More configuration are available

⁽⁶⁾ Additional certificates available on request