

## SUNWAY STATION 1500 1500V 640 LS

Fully Integrated Solar Power Station



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](http://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 1500 1500V 640 LS
Inverter	1 x SUNWAY TG 1800 1500V TE 640 STD
Number of independent MPPT	2
Rated output frequency	50 Hz / 60 Hz
Power Factor @ rated power	1 - 0.9 lead/lag
Maximum operating altitude <sup>(1)</sup>	4000 m a.s.l.
Maximum value for relative humidity	100% condensing
Input (DC)	
Max. Open-circuit voltage	1500 V
PV Voltage Ripple	< 1%
Maximum DC inputs fuse-protected	7 (with DC fuses on both poles)
Maximum short circuit PV input current	1500 A
Output (AC)	
Rated output current, LV side	1353 A
Rated output power, LV side	1500 kVA
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	3Ø3W
Inverter efficiency - LV side <sup>(2)</sup>	
Maximum / EU / CEC efficiency	98.5% / 98.2 % / 98.0%
MV transformer	
Type	Cast resin (standard) / Oil (available as option)
Transformer rated power	1500 kVA
Fuse protection	Yes
Temperature control	Yes
Oil pressure control <sup>(4)</sup>	Yes
MV Cabinet	
Type	Compact SF6 for secondary distribution
Standard Configuration <sup>(6)</sup>	R+CB (Input Line + Transformer Protection by Circuit Breaker)
Insulation Class	17.5 / 24 / 36 kV (Others available)
Dimensions and weight <sup>(5)</sup>	
Cabinet Dimensions (WxHxD)	8250 x 3230 x 2400 mm (for reference)
Overall Weight	23000 kg (for reference)

NOTES  
<sup>(1)</sup> At rated Vac and Cos φ =1  
<sup>(2)</sup> Up to 1000 m without derating  
<sup>(3)</sup> Auxiliary consumptions are not considered when calculating the conversion efficiency  
<sup>(4)</sup> Only for oil type transformers  
<sup>(5)</sup> Dimensions and weight not applicable to Sunway Station LC version with structure fully made of concrete  
<sup>(6)</sup> The MV cabinet composition can be customized

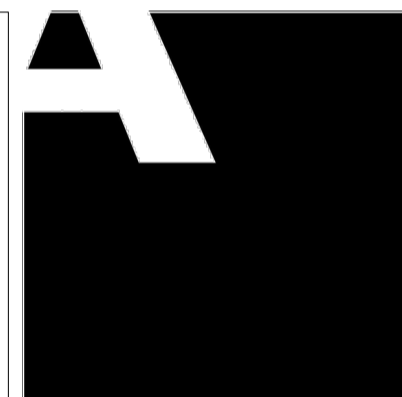
### STUDIO ALCHEMIST

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## COMUNE DI ARDARA

OGGETTO  
REALIZZAZIONE DI IMPIANTO FOTOVOLTAICO A TERRA  
29,51 MW - TIPO A INSEGUIMENTO MONOASSIALE

COMMITTENTE  
ENERGYARDARA1 SRL  
Via Semplice Spano 10 - 07026 Olbia (OT)

## PROGETTO DEFINITIVO

ELABORATO  
DETTAGLI COSTRUTTIVI - POWER STATION

NUMERO ELABORATO  
**AV 10**  
SCALA: VARIE  
DATA: APRILE 2022

3	Terza emissione			
2	Seconda emissione			
1	Prima emissione	Arch. Chiara Martis	Arch. Valentina Madeddu	Ing. S.Floris

REV.	DATA	DESCRIZIONE	REDATTO	CONTROLLATO	APPROVATO
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DEF IMPIANTI 00

CODICE COMMESSA	NOME FILE	FASE PROGETTUALE	CATEGORIA	REV.
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STUDIO ALCHEMIST:  
Ing. Stefano Floris  
Arch. Cinzia Nieddu

PROGETTISTA - TIMBRO E FIRMA

COLLABORATORI:  
Arch. Chiara Martis  
Arch. Valentina Madeddu  
Arch. Elena Porcu  
Arch. Luigi Maresu  
Geom. Mario Strinna  
Geom. Alberto Barroccu



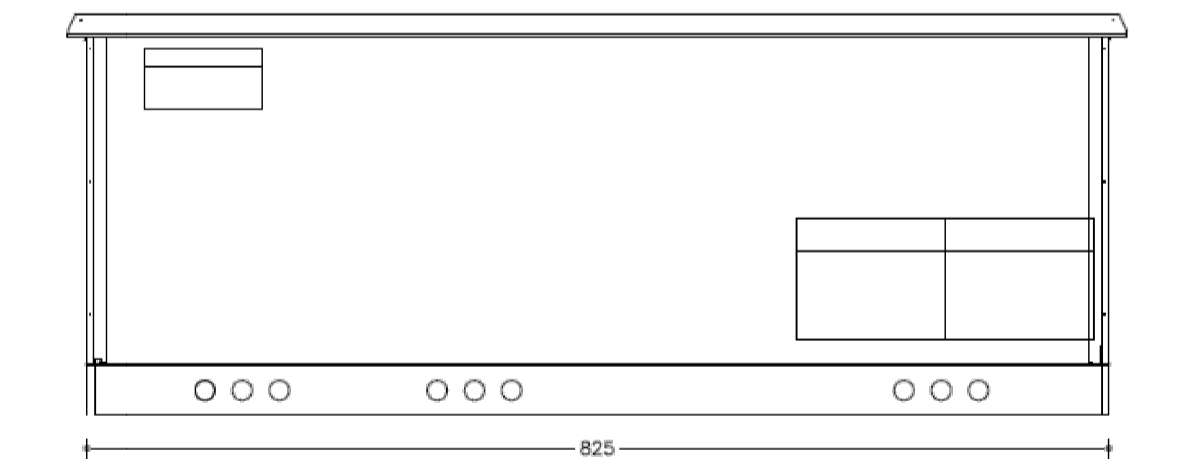
PROGETTISTA - TIMBRO E FIRMA



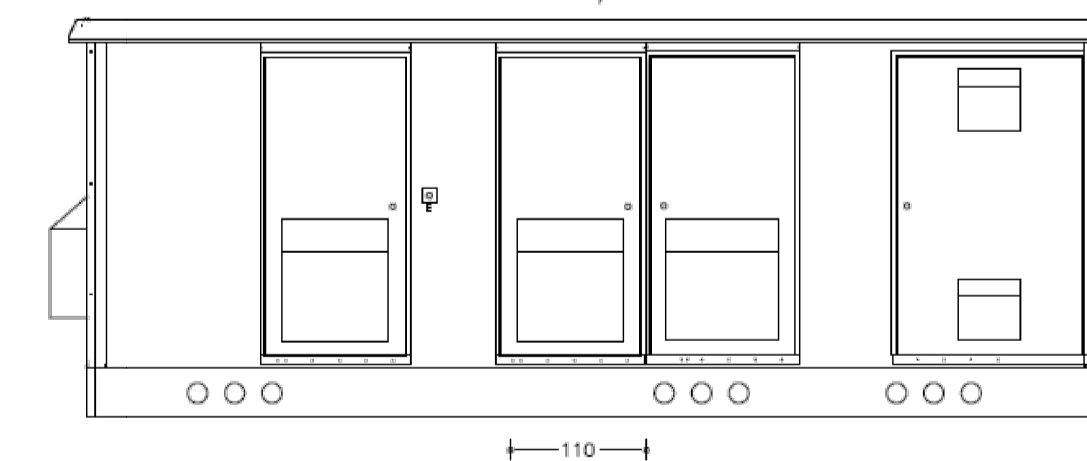
Protective devices	
Protection against overvoltage (SPD), DC side	Yes
DC input current monitoring	Optional (Zone Monitoring)
DC side disconnection device	DC disconnect switch
Ground fault monitoring	Yes
AC disconnection device, LV side	AC circuit breaker
AC disconnection device, MV side	AC disconnect 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	
Ethernet switch	Yes
Anticondensation heater	Optional
Environmental sensors	Up to 6 per Inverter
Cooling system	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

PROSPETTO POSTERIORE / BACK VIEW

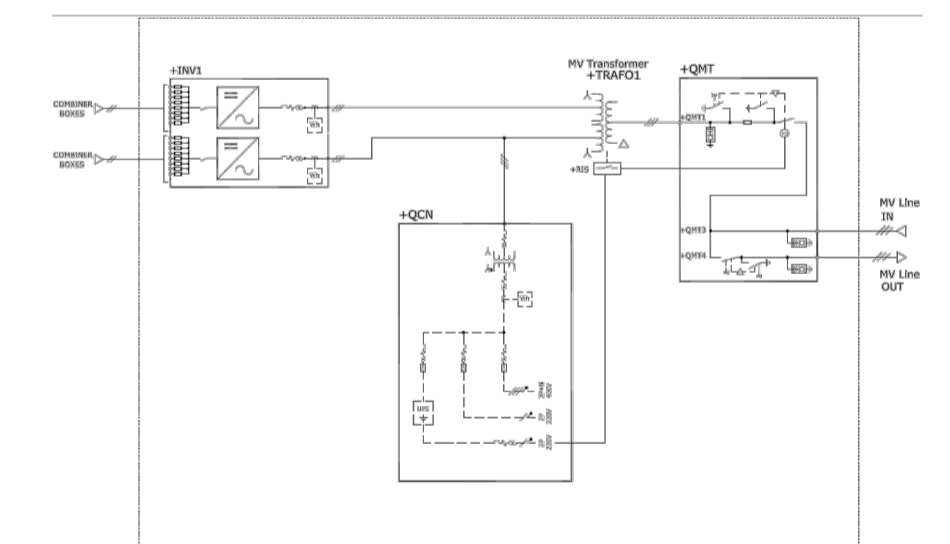


### PROSPETTO FRONTALE / FRONT VIEW



### 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. Medium Voltage cabinet composition can be customized.



### 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 <sup>(7)</sup>	
Compliance	IEC 61000-6-4, IEC 61000-6-2 IEC 61000-6-3, IEC 61000-6-1
MV Cabinet	IEC 62271-200, CEI EN 62271-102
LV/MV Transformer	IEC 62271-200, CEI EN 62271-102
Cabinet structure/internal wiring	CEI 64-8, CEI 11-35, CEI EN 61330
Grid connection	CEI 0-16, A.70, BDEW, Arrêté du 23 Avril 2008, RD 1699/2011, RD 661/2007, CQC, IEEE 1547 RD 1633/2000, RD 661/2007

NOTES  
<sup>(7)</sup> Additional certificates available on request