

SCS



200 kW-1 MW

HIGHLIGHTS

- **Complete, safe and high-performance “Plug & Play” solution**
- **No air conditioning system required**
- **AC transformer station with measurement**
- **Possibility of masonry or shelter construction**

Increase the overall efficiency of the conversion system and cut installation costs. This objective can be achieved by using a Sirio Central Station (SCS) system with Sirio Central HV-MT inverters connected to a high-efficiency medium-voltage transformer and installed in concrete stations to prolong their useful life, improve thermal insulation and to provide resistance to atmospheric agents and the most unfavourable environmental conditions.

THE COMPLETE SYSTEM FOR LARGE PLANTS

Sirio Central Station solutions are available in versions ranging from 200 kW to 1 MW, offering a complete, safe and high-performance “Plug & Play” solution. The modular system, which uses inverters housed in separate stations, each with its own MV/LV transformer, provides the inverters with a barycentric position within the photovoltaic field, to optimise installation.

The logic of having separate stations cuts production losses caused by failures and during routine and non-routine maintenance operations.

The stations are made of vibrated reinforced concrete, in accordance with the IEC 0-16 standards currently in force, with the Guide for Connections to the Enel Distribuzione Power Grid Ed. 1 December 2008 and with the Enel DG 2092 Construction Specifications Ed. 1 December 2008. The structures are particularly resistant to atmospheric agents since they are treated with special plastic and waterproofing coatings, which protect against the formation of cracks and seepages.

The external walls are coated with a quartz/rubber paint with a textured finish, to provide optimal resistance to atmospheric agents, even in marine, mountain, industrial or highly polluted environments.

The normal operating conditions of the installed equipment are guaranteed by a natural ventilation system using air vents, thus avoiding recourse to air conditioning systems.

The whole structure is assembled entirely using electromechanical equipment in the factory in accordance with the IEC EN 62271-202 standard, and electrical equipment where applicable, ready to be placed on site for subsequent start-up.

OPTIONAL SOLUTIONS

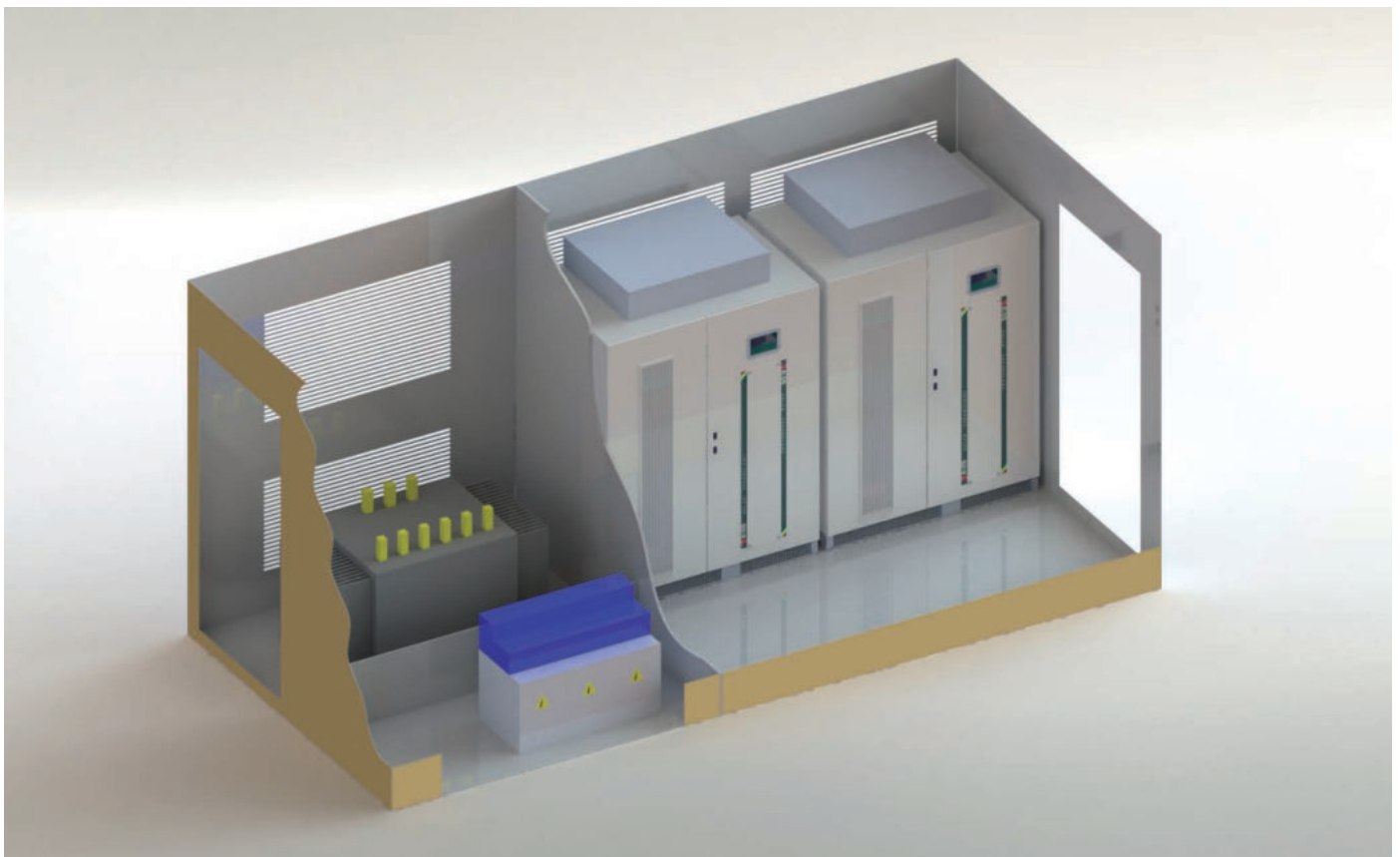
Riello Solartech can also offer pre-assembled solutions for:

- user stations with interface and general device protection in compliance with CEI 0-16 requirements;
- public utility cabins implemented in compliance with ENEL unification standards DG 2092 Rev.2 with the measurement unit where the electricity distribution utility takes its readings;
- intermediate configurations from 200kW are available in addition to the versions present in the catalogue;
- shelter constructions.

PRACTICAL AND COMPLETE

The SCS solutions can be defined as “All-in-One”, as they tend to reduce the normal design phases, cut transport and installation times and come already equipped with everything needed for system start-up.

The significantly lower costs, the excellent efficiency of the whole system (due to the inverters and transformers used) and the time saving in the start-up phase make the Sirio Central Station an attractive choice to optimise return on investment.



MODEL	SCS 500	SCS 660	SCS 1000
Alternating current nominal power [kVA]	500	660	1000
Alternating current maximum power [kW]	500 (cos ϕ =1)	660 (cos ϕ =1)	1000 (cos ϕ =1)
INPUT			
Max. DC voltage in an open circuit [V DC]	1000		
MPPT at full rating range [V DC]	530–820		
Maximum input current [A DC]	2x590	2x780	2x1180
Number of inputs	2	16	16
MPPT number	2	2	2
DC connectors	Bar		
OUTPUT			
Operating voltage [kV]	20 ¹		
Frequency range [Hz]	47.5–51.5 ⁽²⁾		
Settable frequency range [Hz]	47–53		
Nominal current (at 20 kV) [A AC]	14.45	19	28.90
Harmonic distortion (THDi)	<3%		
Power factor	from 0.9 ind. to 0.9 cap. ⁽²⁾		
SYSTEM			
Maximum efficiency	97.3% (values including inverter auxiliaries and LV/MV transformer)		
European efficiency	96.7% (values including inverter auxiliaries and LV/MV transformer)		
Operating temperature	-20°C–45°C (without derating)		
Humidity	0–95% non-condensing		
CABIN FEATURES			
Materials	Mono-block structure with reinforced concrete, class Rck-250 kg/cm ² , with added superfluidifying and waterproofing agents		
Structure	comprising electric welded mesh and iron rod reinforcement, with improved adherence, both in Feb44k		
Walls	water-resistant plastic plasters painted with quartz/rubber paint with a textured finish		
Cooling	natural ventilation through metal ducting		
Dimensions (WxDxH) [mm]	5440x2500x2550		
Weight [kg]	22000		
Lighting	fluorescent lamps 2x18W of which 1x18W in an emergency for each prefabricated structure		
Standard equipment	2 ENEL-approved meters, GSM remote reading system, fire extinguisher		
Compliance with specifications	CEI 0-16 ed.2 July 2008; ENEL Grid connections guide ed.1 December 2008		
TRANSFORMER FEATURES			
Construction	resin or oil bath seal		
Primary nominal power	500 kVA	1 MVA	1 MVA
Secondary nominal power [kVA]	2x250	2x500	2x500
In/Out voltage [V]	2x(270)/20000 ¹		

¹ The MV level can vary depending on Utility Administrator requirements.

² These values may vary according to the regulations of the country of installation.