



SIRIO ES



HIGHLIGHTS

- Compact
- IP65 protection degree
- Input voltage max. 1100 Vdc
- Operating range 200–1000 Vdc
- PV side disconnectors
- Type II DC and AC arresters
- Controlled forced ventilation
- Bluetooth, 485 BUS standard, optional WI-FI and Ethernet
- LCD graphic display

Range of three-phase string inverters (TL) interconnected to the electricity grid suitable for industrial or commercial photovoltaic systems.

Riello Solartech three-phase SIRIO ES inverters are typically used in gridconnected low-voltage photovoltaic systems. They benefit from completely new technology and very high quality components which guarantee maximum reliability and high efficiency in all operating conditions. All models of the SIRIO ES range are characterized by a unique and innovative design: the aluminum case makes them particularly lightweight for their category and guarantees an IP65 degree of protection, suitable for outdoor applications. Thanks to the dedicated Riello PV mobile **APP**, it is possible to set the parameters and monitor the inverter data by connecting to it via your smartphone's Bluetooth.

TOP TECHNOLOGY

SIRIO ES inverters are sized for a maximum input voltage of 1100 Vdc and feature an innovative digital control. They have PVside disconnectors and type II DC and AC arresters.

SIRIO ES 50 and SIRIO ES 60 are equipped with 10 and 12 inputs for maximum optimization of the strings, which converge on 4 independent MPPT trackers characterized by a wide voltage range 200-960 Vdc.

On the other hand, SIRIO ES 100 and 110, are equipped with 16 and 18 string inputs which converge on 8 and 9 independent MPPT trackers with a voltage range of 200-1000 Vdc. This advanced configuration has been designed with the aim of always ensuring maximum flexibility, optimization of efficiency, which is greater than 98% in all operating conditions, and prolonged energy production over time.

To minimize losses, all SIRIO ES models integrate a forced ventilation system with controlled-speed extractors depending on the operating conditions.

The innovative digital control also guarantees low sensitivity to mains disturbances, avoiding unwanted disconnections in the presence of any mains variations or micro-interruptions..

COMMUNICATION INTERFACE VIA APP OR CLOUD

The inverters have a convenient and intuitive user interface on the front panel which includes LEDs for status indication on the photovoltaic field side (PV), grid side (AC), data communication and transmission and alarm indication. Not only that, the inverters incorporate a large LCD display divided into several sections which shows:

- energy flow diagram (PV field/grid);
- measurement of network parameters and energy meter;
- management of communication and data transmission;
- signaling of the alarm status and reference code;
- time and date.

In terms of technology, great importance was given to the communication of the new SIRIO ES inverters. Thanks to the dedicated mobile APP, it is in fact possible to set its parameters and monitor its data by connecting to it via your smartphone Bluetooth.

Via Wi-Fi or Ethernet module (optional), the



inverters can be connected to the Internet for remote data management to the RS Monitoring supervision portal, where it is possible to obtain detailed monitoring of the strings and view the performance of your installation. Finally, via the BUS 485 interface (integrated) it is possible to connect several inverters to a dedicated Datalogger which manages the connection to the entire system portal via Ethernet, with the possibility of connecting energy meters and environmental sensors.

LCD DISPLAY







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MODEL	SIRIO ES 50	SIRIO ES 60	SIRIO ES 100	SIRIO ES 110
EFFICIENZA				
Max. efficiency [%]	98.3 98.4			
European efficiency [%]	98			
INPUT				
Maximum input voltage [V]	1100			
Nominal input voltage [V]	6	20	60	00
Maximum DC power [W]	75000	90000	150000	165000
Maximum input current [A]	2x39 + 2x26	4x39	3x40 + 5x32	3x40 + 6x32
Maximum short circuit current [A]	2x42 + 2x28	4x42	3x50 + 5x45	3x50 + 6x45
Starting voltage - min. operating voltage [V]	250 / 200			
MPP1 operating voltage range [V]	200÷		540 - 200	
Operating voltage range (full load) MPPT [V]	200 ÷ 1000		540 ÷ 800	
Maximum number of PV strings	10 (3/3/2/2)	12 (3/3/3/3)	16 (8x2)	18 (9x2)
		4	8	9
	E0000	60000	100000	110000
	50000	66000	111000	10000
	55000	66000	11000	123000
Active power max. Ac (FF-1) [W]	2,02	2,02	2v169.9	2/107
	380 / 400	3///+NI+DE	380 / 400 / 4	3X 107 15 3\W/±NI±DE
	277 ÷ 520 (adjustable)			
Rated Grid Frequency [Hz]	277 ÷ 520 (adjustable)			
Grid frequency range [Hz]	45-55 / 55-65 (adjustable)			
Current Harmonic Distorsion (THDi) [%]	40-00 / 00-00 (dujustable)			
Direct current injection [%]				
Power factor	> 0.99 nominal power (adjustable 0.8 inductive – 0.8 capacitive)			
PROTECTIONS				
DC switch	Support			
Anti-island protection	Support			
AC overcurrent protection	Support			
AC short circuit protection	Support			
DC pole inversion control	Support			
Surge arrester	DC type II / AC type II			
Insulation detection	Support			
Leakage current protection	Support			
AFCI	- Optional			
PID Recovery	_		Optional	
PV String monitoring	-		Support	
Night load consumption monitoring	- Support			
OVERALL SPECIFICATION				
Туре	Transformer-free			
Protection level	IP65 IP66			
Night self-consumption [W]	<1 <10			
Cooling	Forced with speed controlled fans			
Operating temperature range [°C]	-25 ÷ 60			
Relative humidity range [%]	0 ÷ 100			
Maximum Operating Altitude [m]	4000			
Noise level [dB] (@ 1m)	< 62 ≤ 65 (typical)		ypical)	
Dimensions (WxDxH) [mm]	855x2	855X275X5UU 936X365X678		35x678
Weight [Kg]	13 14 92			
	Wireless hu ADD + LED/LOD			
Communication	Bluetooth, RS485, Wi-Fi (optional), Ethernet (optional), Ethernet (optional)			
Monitoring	APP Supervisory Portal			
CERTIFICATES				
Safety	IFC62109-1 IFC62109-2			
FMC	EN 61000-6-2/4			
Grid code	CEI 0.21 & CEI 0.16 - RD1699, RD 661, RD 413, UNE 206006, UNE 206007-1, UNE 217002, UNE 217001/RD244/RD647. NTS			
Warranty	5 years			



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