SIRIO K12 - K200

Central Inverter

- Low frequency isolation transformer
- High conversion efficiency
- Full nominal power up to 45 °C
- 10% overload for 1 h
- Speed-controlled fans to optimize the efficiency
- Colour LCD touch display with datalogger function
- Fully accessible from the front
- 2 expansion slots to connect communication boards
- MCCB AC side and switch DC side
- Suitable for operation with modules that require the grounding of a pole

Sirio Central inverters allow direct connection to the low voltage grid ensuring the galvanic separation compared to direct current installations. The generous rating of the transformer and the other inverter components provides a return of the highest among the machines of the same category.

General Specifications

Maximum energy and safety

The Maximum Power Point Tracking (MPPT) research algorithm implemented in the control system of Sirio Central inverters allows full use of the photovoltaic generator in any radiation and temperature conditions, making the plant work constantly at maximum efficiency. In the absence of solar radiation the converter goes on standby and resumes normal operation when there is radiation again. This feature reduces self-consumption to a minimum and maximizes energy efficiency. The use of speed-controlled fans helps to optimize the overall efficiency of the inverter. Fan operation that is linked to the temperature also increases the expected lifespan and reduces costs incurred for extraordinary maintenance. All these design features, the careful choice of components and guaranteed quality of production according to ISO9001 standards make the three-phase inverters Sirio extremely efficient and reliable and guarantee maximum energy production.

Thermal derating

Derating as a function of temperature aimed to safeguard against overheating inverter semiconductors in the case of environments with temperatures exceeding installation specifications or for forced ventilation faults, without causing a complete block of the inverter itself. Sirio Central models ensure rated power output up to 45°C environment. If this threshold is exceeded, the inverter gradually decreases the power fed into the network in such a way as to maintain heat sink temperature within the maximum limit. Once back in the range of thermal normal operation, the inverter restores the optimal working point, again ensuring maximum power transfer.

User Interface

Sirio Central inverters provide a series of new user interfaces composed of an LCD colour touch screen in a convenient 4.3' format. This is an evolution that allows to control the main parameters of the PV system and interact with it monitoring the operation through the interactive experience of touch functions. The device is able to perform the functions of data logger, allowing the storage of all parameters with a historical database of more than 5 years and view graphically all the variables (power, energy, AC / DC, AC / DC voltage, frequency , temperature and reactive power inverter). The new display has a USB port for data backup and the software upgrade; furthermore is compatible both with PVSER proprietary protocol on the network and with ModBUS/TCP, thus offering easy insertion in any management BMS or data analysis using an Ethernet network.

Easy installation and maintenance

The footprint of these devices has been considerably reduced and there is no need to leave space at the side or back of the equipment since the electronics and power components are fully accessible from the front. Fully automatic operation ensures ease of use and facilitates installation and startup, thus avoiding installation and configuration errors which could lead to failures or reduced plant productivity.

Tescom® Solar

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Technical Specifications

MODELS	SIRIO K12	SIRIO K15	SIRIO K18	SIRIO K25	SIRIO K33	SIRIO K40	SIRIO K64	SIRIO K80	SIRIO K100	SIRIO K200
Rated power alternating current	12kW	15KVA	18KVA	25KVA	33KVA	40KVA	64KVA	80KVA	100KVA	200KVA
Maximum power alternating current	13,2kW	15kW	18kW	25kW	33kW	40kW	64kW	80kW	100kW	200kW
INPUT										
Maximum direct voltage in an open circuit	800Vcc									
MPPT Full Rating Range	330÷700Vcc									
Working range	330÷700Vcc									
Maximum imput current	36Acc									
Initial feeding voltage	390Vcc									
Ripple voltage	<1%									
Input number	1									
MPPT number	1									
D.C. connectors	Screw terminals									
OUTPUT										
Operating voltage	400Vca									
Operating interval	340÷460Vca									
Maximum power interval	340÷460Vca									
Frequency interval	47,5÷51,5Hz									
Settable frequency interval	47÷53Hz									
Nominal current	17,3Aca									
Maximum current	22,4Aca									
Fault level contribution	34Aca									
Current Harmonic Distorsion (THDi)	<3%									
Power factor	from 0,9 ind. to 0,9 cap.									
Galvanic separation	LF trafo									
A.C. connectors	Screw terminals									
SYSTEM										
Maximum efficiency	95,80%									
European efficiency	94,80%									
Stand-by consumption	<32W									
Night consumption	<32W									
Internal protection	MCCB AC side and Switch DC side									
Insulation operating protection	Yes									
Detecting earth leakage	Yes									
Heat dissipation	Controlled fans									
Operating temperature	0°C÷45°C (without derating)									
Storage temperature	-20°C÷70°C									
Humidity	0÷95% non-condensing									
CHARACTERISTICS										
Acoustic noise	<66dBA									
Protection level	IP20									
Colour	RAL 7035									
Weight	310Kg									
Dimensions	555x720x1400mm									
COMMUNICATION										
Communication interface	Ethernet, USB, 2xRS232 as standard, RS485 optional (slot version)									
Display	Color LCD touch screen									
Protocols	ModBUS and ModBUSTCP									
CERTIFICATES AND APPROVALS										
EMC	EN61000-6-3, EN61000-6-2, EN61000-3-11, EN61000-3-12									
Safety	EN62109-1, EN62109-2									
Directives	Low Voltage Directive: 2006/95/EC, EMC Directive: 2004/108/EC									
Guide for connection to the power grid	CEI 0-21, CEI 0-16, A70, VDE AR-N-4105, VDE 0126-1-1, G59/2, Real Decreto 1699-2011, PO12.3									

Reliable Power