



SIRIO K25 HV - 250 HV

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.



Technical Specifications

MODELS	SIRIO K25 HV	SIRIO K33 HV	SIRIO K40 HV	SIRIO K64 HV	SIRIO K80 HV	SIRIO K100 HV	SIRIO K200 HV	SIRIO K250 HV
Rated power alternating current	25KVA	33KVA	40KVA	64KVA	80KVA	100KVA	200KVA	250KVA
Maximum power alternating current	28kW	33kW	40kW	64kW	80kW	100kW	200kW	250kW
INPUT								
Maximum direct voltage in an open circuit	880Vcc							
MPPT Full Rating Range	450÷760Vcc							
Working range	450÷760Vcc							
Maximum input current	59Acc							
Initial feeding voltage	540Vcc							
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	36Aca							
Maximum current	46Aca							
Fault level contribution	68Aca							
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	96,40%							
European efficiency	95,30%							
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	350Kg							
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