

HV-MT Central Inverters

In order to increase overall plant efficiency, the Sirio HV-MT Central inverters do not have an integrated transformer. This feature and the meticulous design make them ideal for use in medium- high power plants connected to a medium voltage grid.

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 ISO 9001 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 touchscreen in a convenient 4.3" format. The millions of colours and quantity of features greatly enrich the user's interaction experience with the solar inverter. For more information, please refer to the dedicated section on pag. 50

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.

Personalized solutions

AROS is able on request to supply Sirio Central inverters specific to the client's needs. Available options include the integrated isolation control and the pole/earth connection kit (positive or negative) that is required for some kinds of photovoltaic modules.

Certificate of Factory Inspection

Sirio Central inverters meet "Made in EU" criteria as they are designed, manufactured and tested in Italy.



**GRID CONNECTION CRITERIA**

- CEI 0-16
- PO12.3

**OPTION ON REQUEST**

- Pole/earth connection kit (positive or negative)
- Overvoltage protection (SPD)

MODEL	Sirio K100 HV-MT
Rated AC power	100 kW
Maximum AC power	110 kW
INPUT	
Maximum DC voltage in an open circuit	880 Vdc
MPPT operating range	450÷760 Vdc
Working range	450÷760 Vdc
Maximum input current	245 Adc
Initial feeding voltage	540 Vdc
Ripple voltage	<1%
Number of inputs	1
MPPT number	1
D.C. connectors	Bar
OUTPUT	
Operating voltage	270 Vac
Operating interval	245÷300 Vac ⁽¹⁾
Maximum power range	245÷300 Vac
Frequency range	47,5÷51,5 Hz ⁽¹⁾
Settable frequency range	47÷53 Hz
Nominal current	214 Aac
Maximum current	277 Aac
Current Harmonic Distorsion (THDi)	<3%
Power factor	from 0,9 ind. to 0,9 cap. ⁽¹⁾
Galvanic separation	No
A.C. connectors	Bar
SYSTEM	
Maximum efficiency	98,1%
European efficiency	97,5%
Stand-by consumption	<32W
Night consumption	<32W
Internal protections	MCCB AC side, Switch DC side
Off-Grid 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

(1) These values can vary according to the local regulations

FEATURES

Colour: RAL 7035

Dimensions (WxDxH): 800x800x1900 mm

Weight: 420 Kg

Protection level: IP20

Acoustic noise: <68dBA

COMMUNICATION

Display: Color LCD touch screen

Communication interface: Ethernet, USB, 2xRS232 as standard, RS485 optional (slot version)

Procolols: ModBUS and ModBUS\TCP

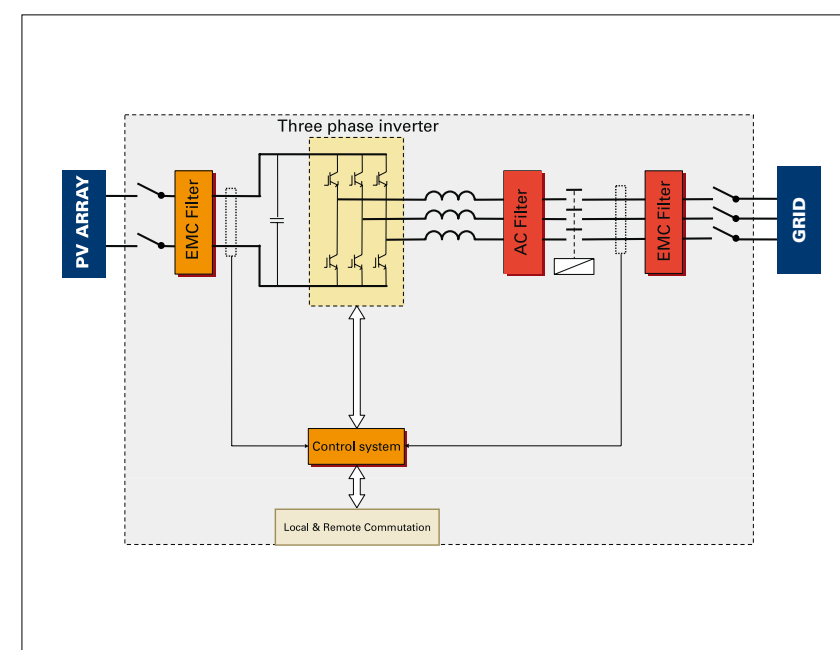
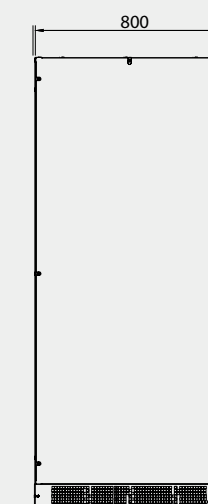
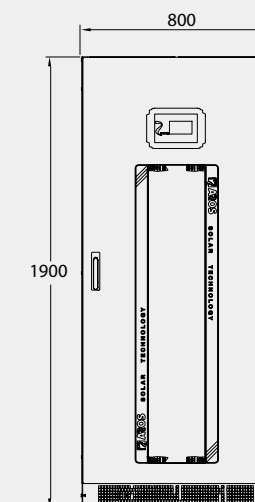
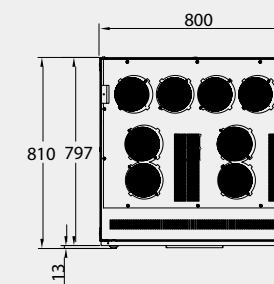
STANDARDS

EMC: EN61000-6-4, EN61000-6-2, EN61000-3-11, EN61000-3-12

Security: EN62109-1, EN62109-2

Directives: Low Voltage Directive: 2006/95/EC, EMC Directive: 2004/108/EC

Grid connection criteria: CEI 0-16, A70, PO12.3



**GRID CONNECTION CRITERIA**

- CEI 0-16
- PO12.3

**OPTION ON REQUEST**

- Pole/earth connection kit (positive or negative)
- Overvoltage protection (SPD)

MODEL	Sirio K200 HV-MT
Rated AC power	200 kW
Maximum AC power	220 kW
INPUT	
Maximum DC voltage in an open circuit	880 Vdc
MPPT operating range	450÷760 Vdc
Working range	450÷760 Vdc
Maximum input current	500 Adc
Initial feeding voltage	540 Vdc
Ripple voltage	<1%
Number of inputs	1
MPPT number	1
D.C. connectors	Bar
OUTPUT	
Operating voltage	270 Vac
Operating interval	245÷300 Vac ⁽¹⁾
Maximum power range	245÷300 Vac
Frequency range	47,5÷51,5 Hz ⁽¹⁾
Settable frequency range	47÷53 Hz
Nominal current	428 Aac
Maximum current	554 Aac
Current Harmonic Distorsion (THDi)	<3%
Power factor	from 0,9 ind. to 0,9 cap. ⁽¹⁾
Galvanic separation	No
A.C. connectors	Bar
SYSTEM	
Maximum efficiency	98,1%
European efficiency	97,5%
Stand-by consumption	<32W
Night consumption	<32W
Internal protections	MCCB AC side, Switch DC side
Off-Grid 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

(1) These values can vary according to the local regulations

FEATURES

Colour: RAL 7035

Dimensions (WxDxH): 1630x1000x1900 mm

Weight: 1100 Kg

Protection level: IP20

Acoustic noise: <72dBA

COMMUNICATION

Display: Color LCD touch screen

Communication interface: Ethernet, USB, 2xRS232 as standard, RS485 optional (slot version)

Procolols: ModBUS and ModBUS\TCP

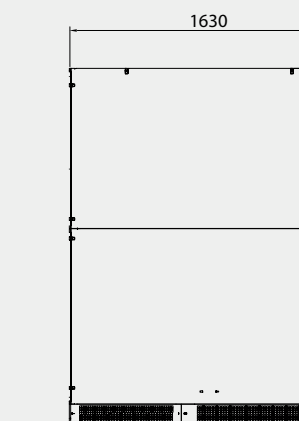
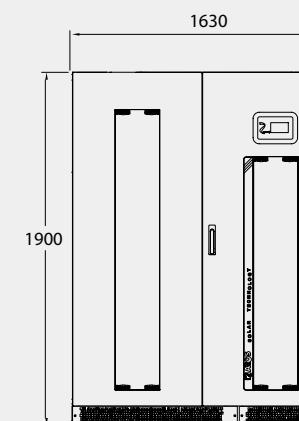
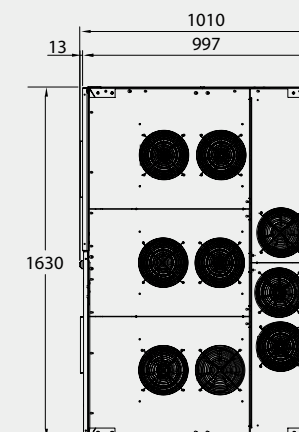
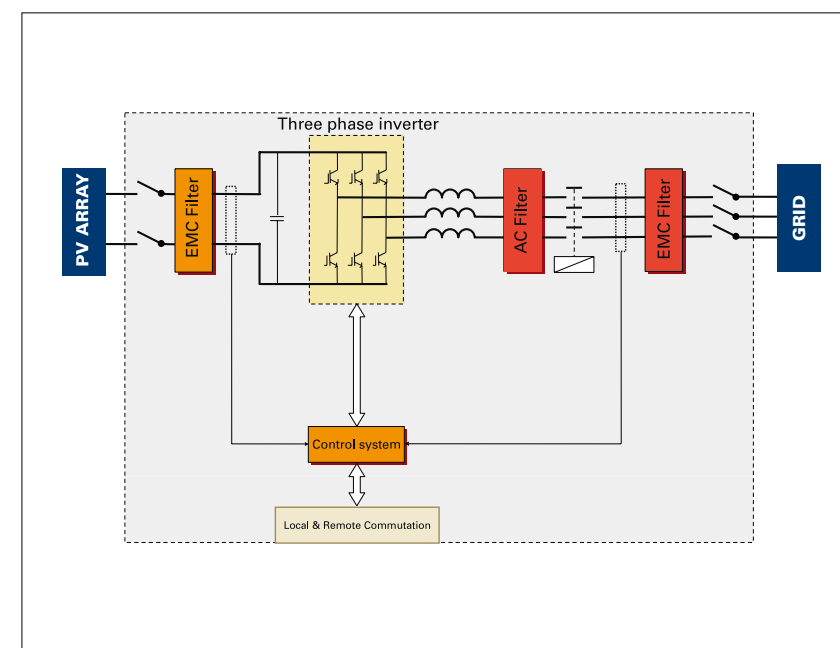
STANDARDS

EMC: EN61000-6-4, EN61000-6-2, EN61000-3-11, EN61000-3-12

Security: EN62109-1, EN62109-2

Directives: Low Voltage Directive: 2006/95/EC, EMC Directive: 2004/108/EC

Grid connection criteria: CEI 0-16, A70, PO12.3



**GRID CONNECTION CRITERIA**

- CEI 0-16
- PO12.3

**OPTION ON REQUEST**

- Pole/earth connection kit (positive or negative)
- Overvoltage protection (SPD)

MODEL	Sirio K250 HV-MT
Rated AC power	250 kW
Maximum AC power	250 kW
INPUT	
Maximum DC voltage in an open circuit	880 Vdc
MPPT operating range	450÷760 Vdc
Working range	450÷760 Vdc
Maximum input current	590 Adc
Initial feeding voltage	540 Vdc
Ripple voltage	<1%
Number of inputs	1
MPPT number	1
D.C. connectors	Bar
OUTPUT	
Operating voltage	270 Vac
Operating interval	245÷300 Vac ⁽¹⁾
Maximum power range	245÷300 Vac
Frequency range	47,5÷51,5 Hz ⁽¹⁾
Settable frequency range	47÷53 Hz
Nominal current	535 Aac
Maximum current	630 Aac
Current Harmonic Distorsion (THDi)	<3%
Power factor	from 0,9 ind. to 0,9 cap. ⁽¹⁾
Galvanic separation	No
A.C. connectors	Bar
SYSTEM	
Maximum efficiency	98,1%
European efficiency	97,5%
Stand-by consumption	<32W
Night consumption	<32W
Internal protections	MCCB AC side, Switch DC side
Off-Grid 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

(1) These values can vary according to the local regulations

FEATURES

Colour: RAL 7035

Dimensions (WxDxH): 1630x1000x1900 mm

Weight: 1150 Kg

Protection level: IP20

Acoustic noise: <72dBA

COMMUNICATION

Display: Color LCD touch screen

Communication interface: Ethernet, USB, 2xRS232 as standard, RS485 optional (slot version)

Procolols: ModBUS and ModBUS\TCP

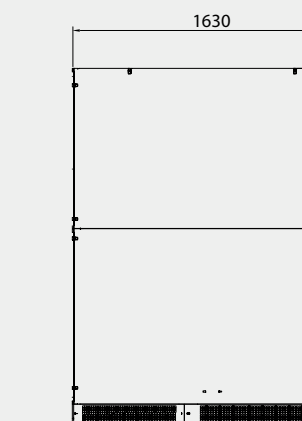
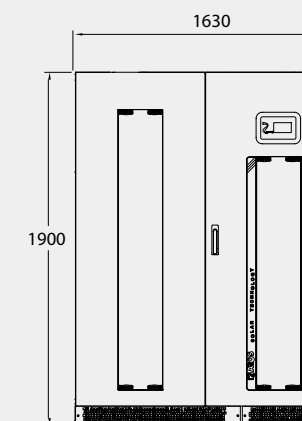
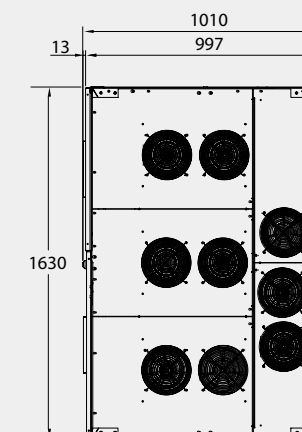
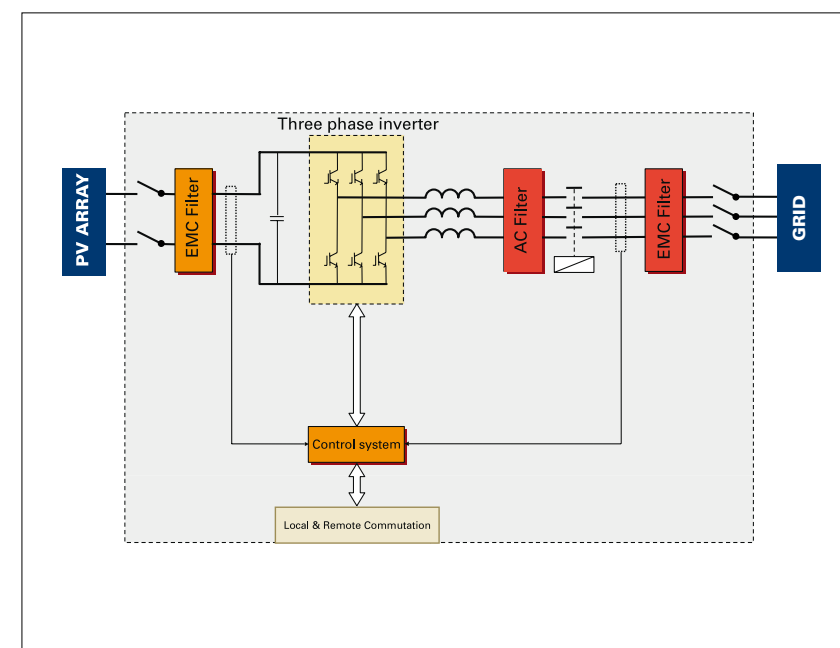
STANDARDS

EMC: EN61000-6-4, EN61000-6-2, EN61000-3-11, EN61000-3-12

Security: EN62109-1, EN62109-2

Directives: Low Voltage Directive: 2006/95/EC, EMC Directive: 2004/108/EC

Grid connection criteria: CEI 0-16, A70, PO12.3



Sirio K330 HV-MT

HV-MT CENTRAL INVERTERS



GRID CONNECTION CRITERIA

- CEI 0-16
- PO12.3



OPTION ON REQUEST

- Pole/earth connection kit (positive or negative)
- Overvoltage protection (SPD)

MODEL	Sirio K330 HV-MT
Rated AC power	300 kW
Maximum AC power	330 kW
INPUT	
Maximum DC voltage in an open circuit	880 Vdc
MPPT operating range	450÷760 Vdc
Working range	450÷760 Vdc
Maximum input current	780 Adc
Initial feeding voltage	540 Vdc
Ripple voltage	<1%
Number of inputs	1
MPPT number	1
D.C. connectors	Bar
OUTPUT	
Operating voltage	270 Vac
Operating interval	245÷300 Vac ⁽¹⁾
Maximum power range	245÷300 Vac
Frequency range	47,5÷51,5 Hz ⁽¹⁾
Settable frequency range	47÷53 Hz
Nominal current	713 Aac
Maximum current	832 Aac
Current Harmonic Distorsion (THDi)	<3%
Power factor	from 0,9 ind. to 0,9 cap. ⁽¹⁾
Galvanic separation	No
A.C. connectors	Bar
SYSTEM	
Maximum efficiency	98,1%
European efficiency	97,5%
Stand-by consumption	<32W
Night consumption	<32W
Internal protections	MCCB AC side, Switch DC side
Off-Grid 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

(1) These values can vary according to the local regulations

FEATURES

Colour: RAL 7035

Dimensions (WxDxH): 1500x1000x1900 mm

Weight: 1200 Kg

Protection level: IP20

Acoustic noise: <72dBA

COMMUNICATION

Display: Color LCD touch screen

Communication interface: Ethernet, USB, 2xRS232 as standard, RS485 optional (slot version)

Procolols: ModBUS and ModBUS\TCP

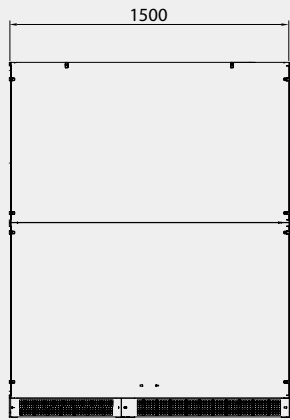
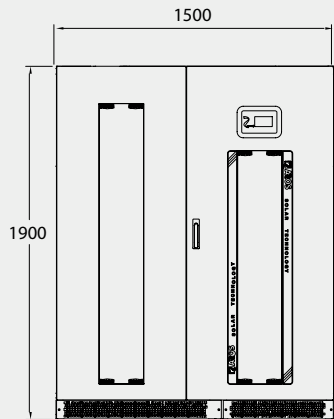
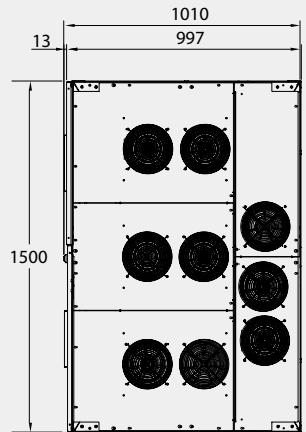
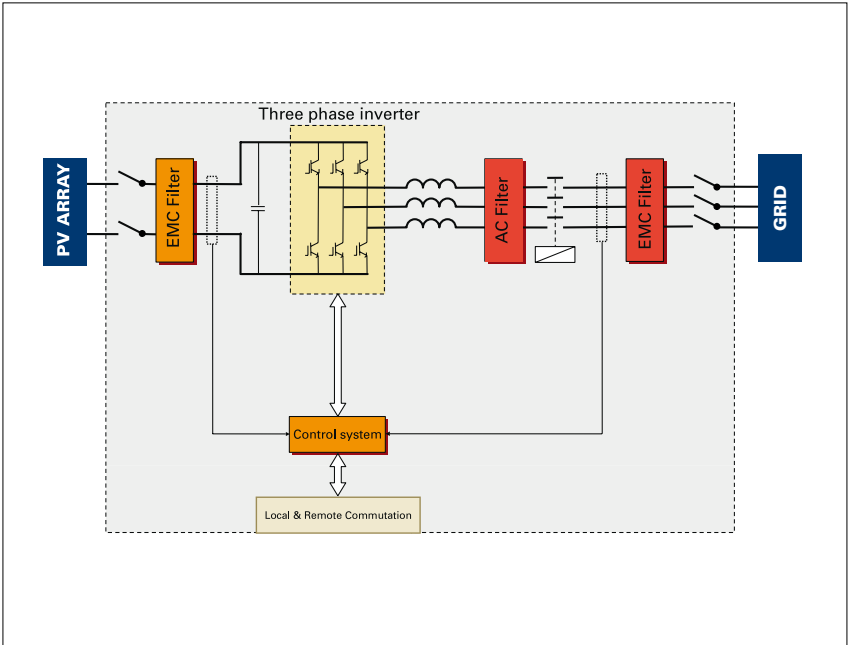
STANDARDS

EMC: EN61000-6-4, EN61000-6-2, EN61000-3-11, EN61000-3-12

Security: EN62109-1, EN62109-2

Directives: Low Voltage Directive: 2006/95/EC, EMC Directive: 2004/108/EC

Grid connection criteria: CEI 0-16, A70, PO12.3



Sirio K500 HV-MT

HV-MT CENTRAL INVERTERS



GRID CONNECTION CRITERIA

- CEI 0-16
- PO12.3



OPTION ON REQUEST

- Pole/earth connection kit (positive or negative)
- Overvoltage protection (SPD)

MODEL	Sirio K500 HV-MT
Rated AC power	500 kW
Maximum AC power	500 kW
INPUT	
Maximum DC voltage in an open circuit	880 Vdc
MPPT operating range	450÷760 Vdc
Working range	450÷760 Vdc
Maximum input current	1180 Adc
Initial feeding voltage	540 Vdc
Ripple voltage	<1%
Number of inputs	2
MPPT number	1
D.C. connectors	Bar
OUTPUT	
Operating voltage	270 Vac
Operating interval	245÷300 Vac ⁽¹⁾
Maximum power range	245÷300 Vac
Frequency range	47,5÷51,5 Hz ⁽¹⁾
Settable frequency range	47÷53 Hz
Nominal current	1070 Aac
Maximum current	1260 Aac
Current Harmonic Distorsion (THDi)	<3%
Power factor	from 0,9 ind. to 0,9 cap. ⁽¹⁾
Galvanic separation	No
A.C. connectors	Bar
SYSTEM	
Maximum efficiency	98,1%
European efficiency	97,5%
Stand-by consumption	<32W
Night consumption	<32W
Internal protections	MCCB AC side, Switch DC side
Off-Grid 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

(1) These values can vary according to the local regulations

FEATURES

Colour: RAL 7035

Dimensions (WxDxH): 1500x1000x1900 mm

Weight: 1340 Kg

Protection level: IP20

Acoustic noise: <72dBA

COMMUNICATION

Display: Color LCD touch screen

Communication interface: Ethernet, USB, 2xRS232 as standard, RS485 optional (slot version)

Procolols: ModBUS and ModBUS\TCP

STANDARDS

EMC: EN61000-6-4, EN61000-6-2, EN61000-3-11, EN61000-3-12

Security: EN62109-1, EN62109-2

Directives: Low Voltage Directive: 2006/95/EC, EMC Directive: 2004/108/EC

Grid connection criteria: CEI 0-16, A70, PO12.3

