

eSolar

systems for monitoring and  
managing of photovoltaic plants



sinapsi  
i n v e n t   t o d a y

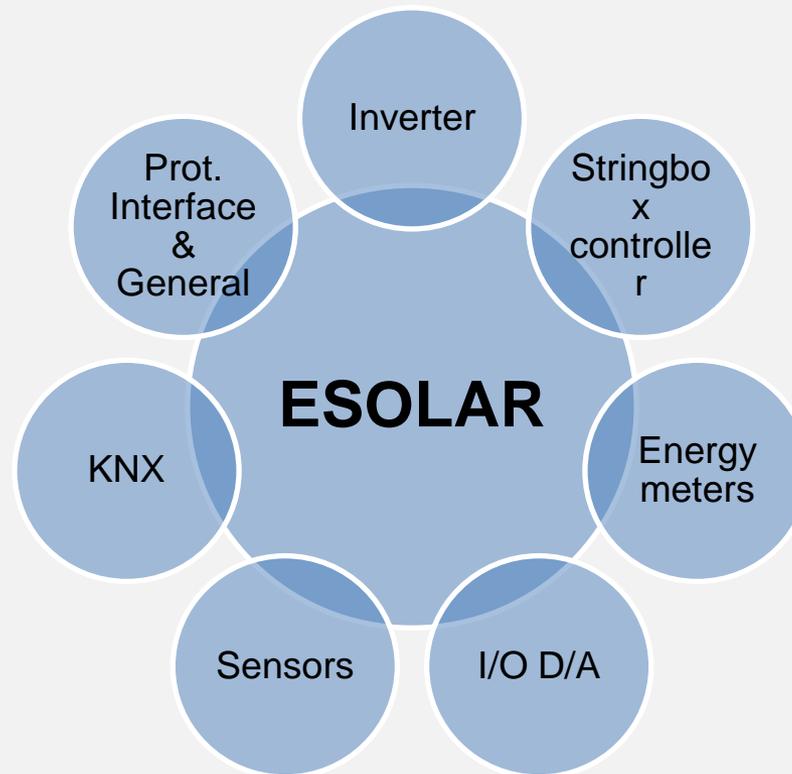
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[www.sinapsitech.it](http://www.sinapsitech.it)

# ESOLAR

## WHAT IS

ESOLAR is a revolutionary family of systems for locally or remotely monitoring and managing the maintenance of fixed or sun-tracking photovoltaic systems.



## ESOLAR

### WHAT IS IT COMPOSED BY



ESOLAR's family is composed by:

- ⌘ eSolar LIGHT, for plants up to 50kWp
- ⌘ eSolar DUO, for medium/large size plants. KNX compatibile. Integrated performance ratio (EN61724) calculation
- ⌘ eSolar CUBO LIGHT, for plants up to 200 kWp. Integrated PV monitoring & enegy efficiency management
- ⌘ eSolar CUBO, for medium/large size plants. KNX compatibile. Integrated performance ratio (EN61724) calculation. PV monitoring & enegy efficiency management
- ⌘ eSolar PV PARK, for large PV park with hundreds strings to monitor. I/O on TCP-IP support
- ⌘ eSolar CENTRAL, plug-in for centralized management of ESOLAR PV monitoring systems

## ESOLAR's FAMILY

### OVERVIEW

#### Designed for

EPC contractors, builders, O&M companies, installers, owners of photovoltaic systems

#### Comprised of

eSolar LIGHT, eSolar DUO, eSolar CUBO LIGHT, eSolar CUBO, eSolar PV PARK, eSolar CENTRAL

#### Major features

Real-time / stand-alone systems, large compatibility with multi-brand inverter, stringbox contr., en. meter, KNX support, easy to install & configure, instrument for technical/economical analysis

#### SNPDS

The SNPDS centralised management system allows for the complete management of the analysis and maintenance data associated with the photovoltaic systems themselves.

# ESOLAR'S FAMILY

## SYSTEM ARCHITECTURE

### SINAPSI DATA SERVICE



eSolar LIGHT



eSolar DUO

**NEW**



eSolar CUBO LIGHT  
eSolar CUBO

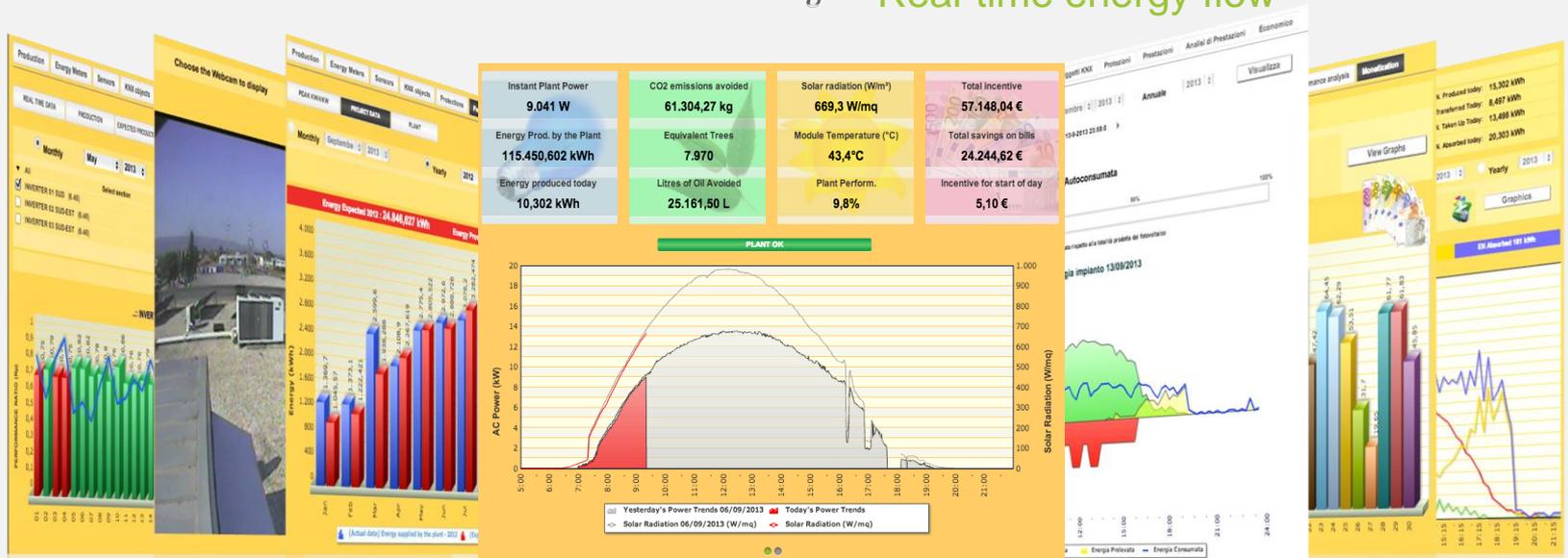
A green rectangular box containing a circular inset image of a solar panel array at the top. Below the image are two electronic devices: a black one labeled 'eSolar CUBO LIGHT' and a silver one labeled 'eSolar CUBO'. The word 'NEW' is written in a stylized font above the devices.

eSolar PV PARK  
eSolar CENTRAL

# ESOLAR's FAMILY

## WEBSERVER INTERFACE

- ⌚ Real-time data viewing
- ⌚ System performance analysis
- ⌚ Financial trend viewing
- ⌚ Energy efficiency management
- ⌚ Remote I/O control
- ⌚ Comparison of expected performance vs actual performance
- ⌚ Complete setup via web browser
- ⌚ Real-time energy flow



## ESOLAR's FAMILY

### WEBAPP

- Free App downloadable directly from the ESOLAR Website
- No need to visit the Apple APP Store or Google Play
- Intelligent display of the system's main operating parameters
- Protected access
- Compatible with iPhone, Android and Blackberry



## ESOLAR LIGHT

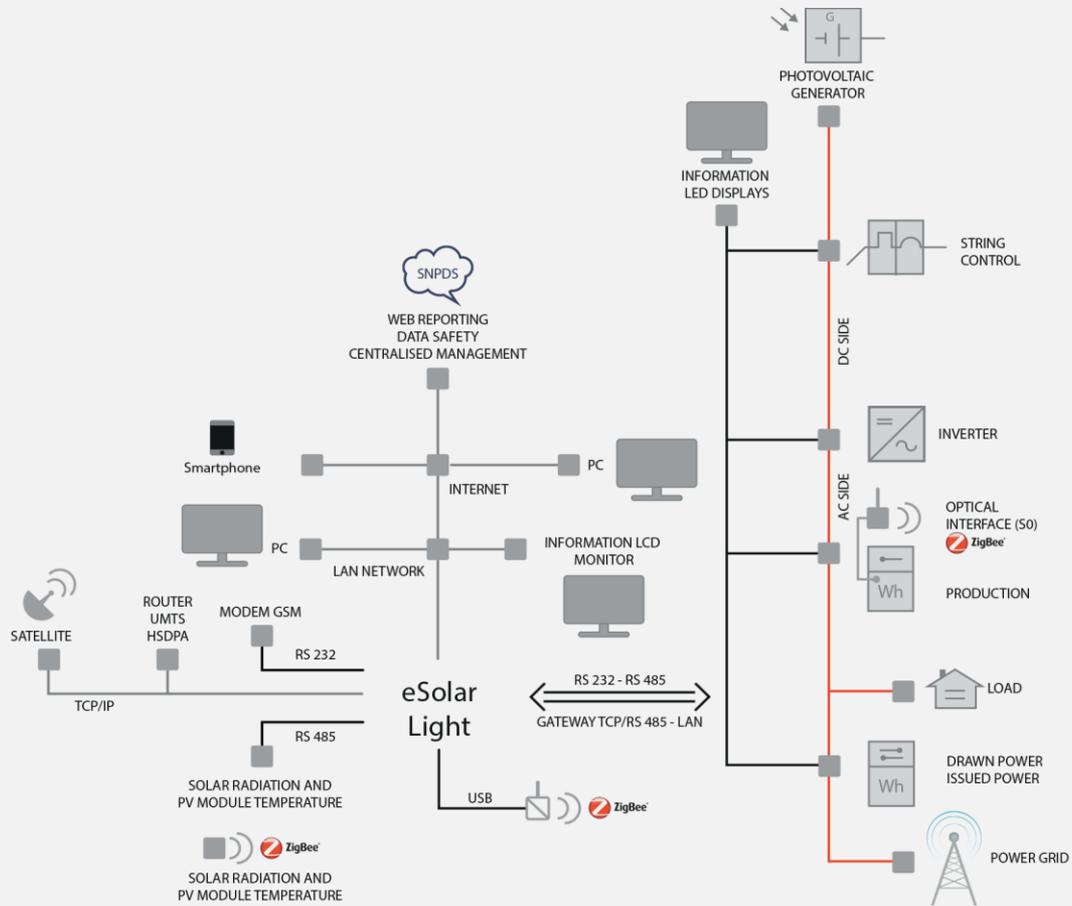
### GENERAL FEATURES



- ⌘ Compatible with various brands of inverters, string controllers and meters (visit [www.sinapsitech.it](http://www.sinapsitech.it) to verify compatibility)
- ⌘ Possibility of communicating with photovoltaic devices over RS232, RS485, TCP/IP and GTW RS485 to TCP/IP connections
- ⌘ Intuitive integrated web interface
- ⌘ Ease of installation and configuration
- ⌘ Support tool for O&M activities
- ⌘ Detailed technical and financial information
- ⌘ Management of historical data with the possibility of exporting data in various formats
- ⌘ Integrated WEBAPP

# ESOLAR LIGHT

## SYSTEM ARCHITECTURE



## ESOLAR DUO

### GENERAL FEATURES

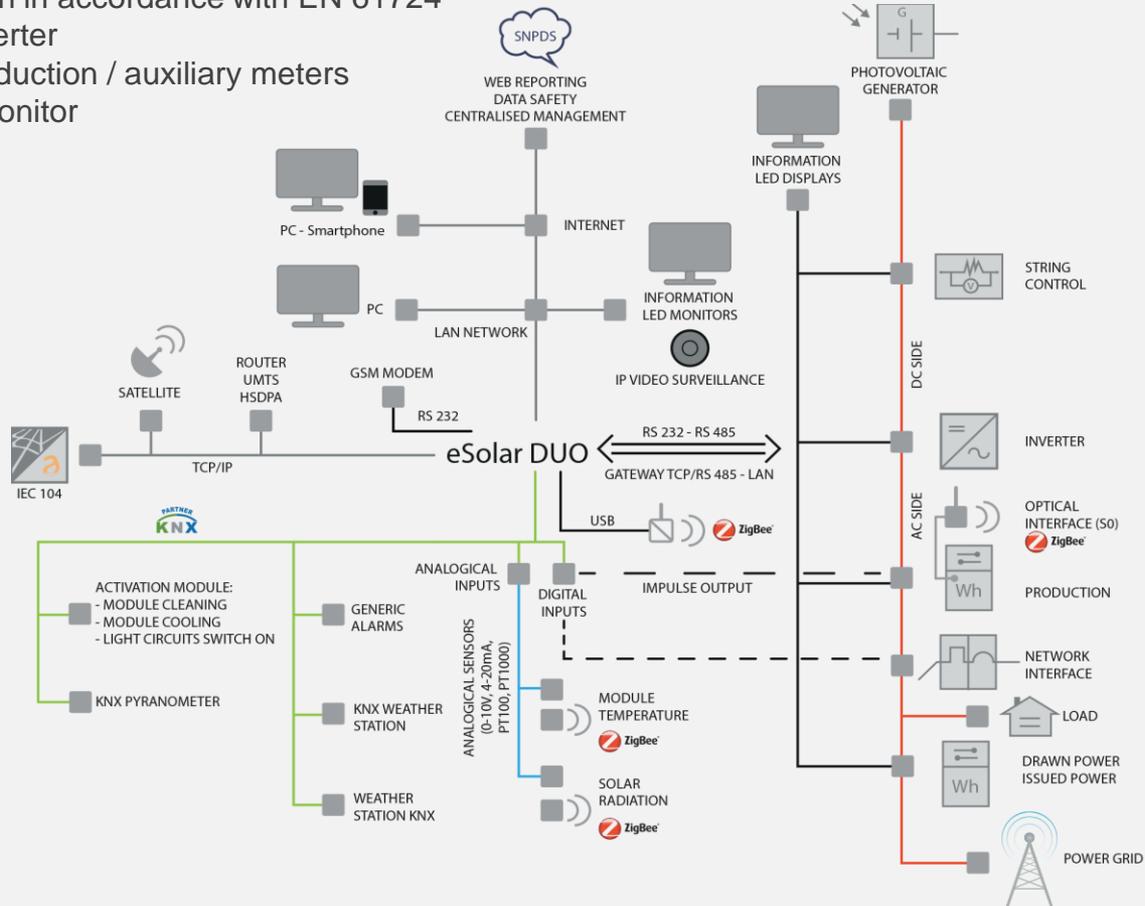


- ⌘ Compatible with various brands of inverters, string controllers and meters (visit [www.sinapsitech.it](http://www.sinapsitech.it) to verify compatibility)
- ⌘ Possibility of communicating with photovoltaic devices over RS232, RS485, TCP/IP and GTW RS485 to TCP/IP connections
- ⌘ Intuitive integrated web interface
- ⌘ Module for detailed PR calculation in accordance with EN 61724 for each individual inverter
- ⌘ Support module for partial production/auxiliary meters
- ⌘ Ease of installation and configuration
- ⌘ Support tool for O&M activities
- ⌘ Detailed technical and financial information
- ⌘ Management of historical data with the possibility of exporting data in various formats
- ⌘ Integrated KNX interface
- ⌘ Integrated WEBAPP

# ESOLAR DUO

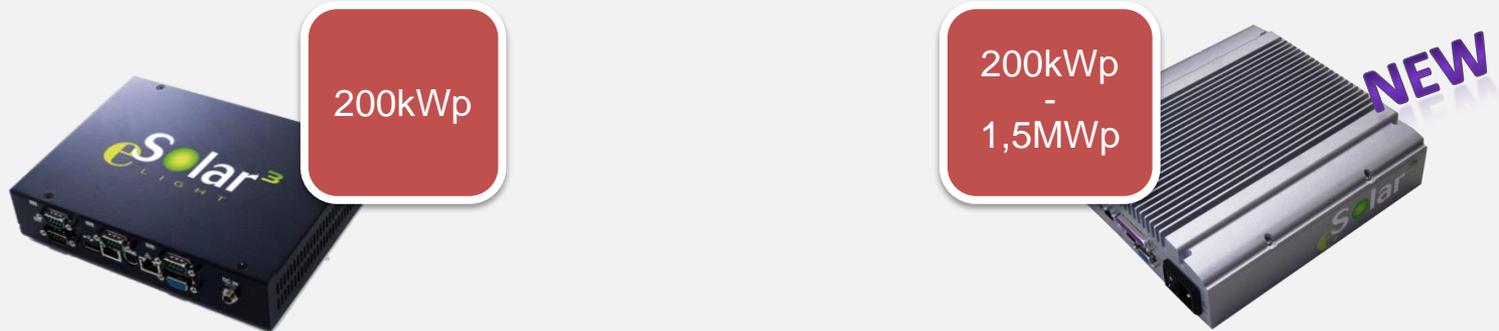
## SYSTEM ARCHITECTURE

- ⌘ Detailed PR calculation in accordance with EN 61724 for each individual inverter
- ⌘ Support for partial production / auxiliary meters
- ⌘ Revamped external monitor



## ESOLAR CUBO LIGHT / ESOLAR CUBO

### GENERAL FEATURES



- ⌘ Compatible with various brands of inverters, string controllers and meters (visit [www.sinapsitech.it](http://www.sinapsitech.it) to verify compatibility)
- ⌘ Possibility of communicating with photovoltaic devices over RS232, RS485, TCP/IP and GTW RS485 to TCP/IP connections
- ⌘ Intuitive integrated web interface
- ⌘ **Management / analysis system for energy efficiency optimization plant consumption's**
- ⌘ **Real time energy flow visualization**
- ⌘ Module for detailed PR calculation
- ⌘ Support module for partial production/auxiliary meters
- ⌘ Ease of installation and configuration
- ⌘ Management of historical data with the possibility of exporting data in various formats
- ⌘ Integrated KNX interface (optional for LIGHT)

## ESOLAR PV PARK

### GENERAL FEATURES



- ⌘ Compatible with various brands of inverters, string controllers and meters
- ⌘ Possibility of communicating with photovoltaic devices over RS232, RS485, TCP/IP and GTW RS485 to TCP/IP connections
- ⌘ I/O over TCP-IP external devices support
- ⌘ **Support up to 800 strings with real-time data acquisition**
- ⌘ Intuitive integrated web interface
- ⌘ Module for detailed PR calculation in accordance with EN 61724 for each individual inverter
- ⌘ Support module for partial production/auxiliary meters
- ⌘ Ease of installation and configuration
- ⌘ Support tool for O&M activities
- ⌘ Detailed technical and financial information
- ⌘ Management of historical data with the possibility of exporting data in various formats

# ESOLAR CENTRAL

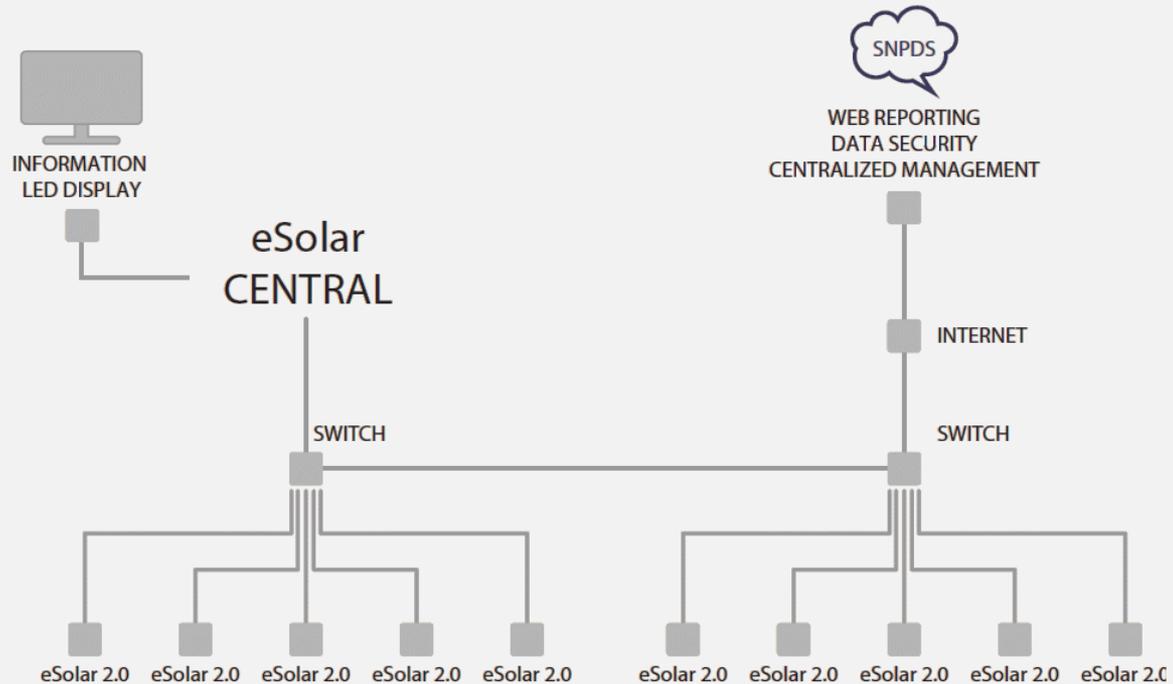
## GENERAL FEATURES



- ⌘ Data acquisition via the eSolar devices installed in the field
- ⌘ Communication with the eSolar devices via TCP/IP
- ⌘ Intuitive integrated web interface
- ⌘ Ease of installation and configuration
- ⌘ Support tool for O&M activities
- ⌘ Detailed technical and financial information
- ⌘ Management of historical data with the possibility of exporting data in various formats
- ⌘ Integrated WEBAPP

# ESOLAR CENTRAL

## SYSTEM ARCHITECTURE



# TECHNICAL FEATURES

## ESOLAR LIGHT / ESOLAR CUBO LIGHT

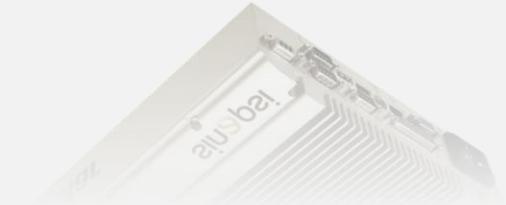
SPECIFICS									
<b>Ordering Code</b>	SIN.ESOLARLIGHT SIN.ESOLAR3LT								
<b>Color</b>	Black								
<b>System I/O Port</b>	<table border="0"> <tr> <td>3 x RS-232 (COM 2/3/4)</td> <td>2 x 10/100Mbps Ethernet</td> </tr> <tr> <td>1 x RS-232/422/485 (COM 1)</td> <td>3 x USB 2.0</td> </tr> <tr> <td>1 x VGA</td> <td>1 x dummy-proof reset button</td> </tr> <tr> <td>1 x PS/2 keyb./mouse via Y-type cable</td> <td>1 x VDC power input connector</td> </tr> </table>	3 x RS-232 (COM 2/3/4)	2 x 10/100Mbps Ethernet	1 x RS-232/422/485 (COM 1)	3 x USB 2.0	1 x VGA	1 x dummy-proof reset button	1 x PS/2 keyb./mouse via Y-type cable	1 x VDC power input connector
3 x RS-232 (COM 2/3/4)	2 x 10/100Mbps Ethernet								
1 x RS-232/422/485 (COM 1)	3 x USB 2.0								
1 x VGA	1 x dummy-proof reset button								
1 x PS/2 keyb./mouse via Y-type cable	1 x VDC power input connector								
<b>Data Backup Slot</b>	1 x type II CompactFlash™ slot								
<b>System Indicator</b>	1 x green LED for system power-on 1 x orange LED for HDD active								
<b>Power Supply</b>	Input rating: Screw type AC 20W adapter Input: AC 90 ~ 264V Output: DC 5V @ 4°								
<b>Operating Temperature</b>	-10°C to 50°C								
<b>Storage Temperature</b>	-20°C to 80°C								
<b>Humidity</b>	10-90% RH (non-condensing)								
<b>Vibration Endurance</b>	2Grms w/ CF (5-500Hz, X, Y, Z directions)								
<b>Weight (Net/Gross)</b>	1.3 kg (2.86 lb)/1.8 kg (3.97 lb)								
<b>Certification</b>	CE								
<b>Dimensions</b>	200 mm (7.8") (W) / 150 mm (5.9") (D) / 44 mm (1.73") (H)								



# TECHNICAL FEATURES

## ESOLAR DUO / ESOLAR CUBO / ESOLAR PV PARK

SPECIFICS							
<b>Ordering Code</b>	SIN.ESOLARDUO / SIN.ESOLAR3 / SIN.ESPVP						
<b>Construction</b>	Aluminum and Heavy-duty steel						
<b>Color</b>	Silver						
<b>System I/O Port</b>	<table border="0"> <tr> <td>2 x 9-pin D-Sub male connector, COM1, 3 for RS-485</td> <td>2 x RJ-45 connector for 10/100Base-T Ethernet</td> </tr> <tr> <td>1 x 9-pin D-Sub male connector, COM4 for RS-232</td> <td>3 x USB 2.0 connector</td> </tr> <tr> <td></td> <td>1 x VAC power input connector</td> </tr> </table>	2 x 9-pin D-Sub male connector, COM1, 3 for RS-485	2 x RJ-45 connector for 10/100Base-T Ethernet	1 x 9-pin D-Sub male connector, COM4 for RS-232	3 x USB 2.0 connector		1 x VAC power input connector
2 x 9-pin D-Sub male connector, COM1, 3 for RS-485	2 x RJ-45 connector for 10/100Base-T Ethernet						
1 x 9-pin D-Sub male connector, COM4 for RS-232	3 x USB 2.0 connector						
	1 x VAC power input connector						
<b>Data Backup Slot</b>	1 x type II CompactFlash™ slot						
<b>System Indicator</b>	1 x green LED for system power-on 1 x orange LED for HDD active						
<b>Power Supply</b>	Input rating: VAC100-240 universal/0.5° Max power consumption, 70W Typical power consumption, 16W						
<b>Operating Temperature</b>	-10°C to 50°C						
<b>Storage Temperature</b>	-20°C to 80°C						
<b>Humidity</b>	10-90% RH (non-condensing)						
<b>Vibration Endurance</b>	2Grms w/ CF (5-500Hz, X, Y, Z directions) - 0.5Grms w/ HDD (5-500Hz, X, Y, Z directions)						
<b>Weight</b>	2.15 kg						
<b>Certification</b>	CE						
<b>Dimensions</b>	225mm (8.86" )(W) / 225mm (8.86") (D) / 51mm (2.01") (H)						



# TECHNICAL FEATURES

## ESOLAR CENTRAL

SPECIFICS	
Ordering Code	SIN.ECEN
Color	Silver
System I/O Port	2 x 9-pin D-Sub male connector, COM1, 3 for RS-485 1x 9-pin D-Sub male connector, COM4 for RS-232 2 x RJ45 connector for 10/100Base –T Ethernet 3 x USB 2.0 connector 1 x VAC power input connector
Data Backup Slot	1 x type II CompactFlash™ slot
System Indicator	1 x green LED for system power-on 1 x orange LED for HDD active
Power Supply	Input rating: VAC100-240 universal/0.5°A Max power consumption, 70W Typical power consumption, 16W
Operating Temperature	-20°C to 50°C
Storage Temperature	-20°C to 80°C
Humidity	10-90% RH (non-condensing)
Vibration Endurance	2Grms w/ CF (5-500Hz, X, Y, Z directions) 0.5Grms w/HDD (5-500Hz,X,Y,Z directions)
Weight (Net/Gross)	2.15 Kg
Certification	CE
Dimensions	225 mm (8,86") (W) / 225mm (8.86") (D) / 51 mm (2.01") (H)



# SINAPSI DATA SERVICE

## GENERAL FEATURES

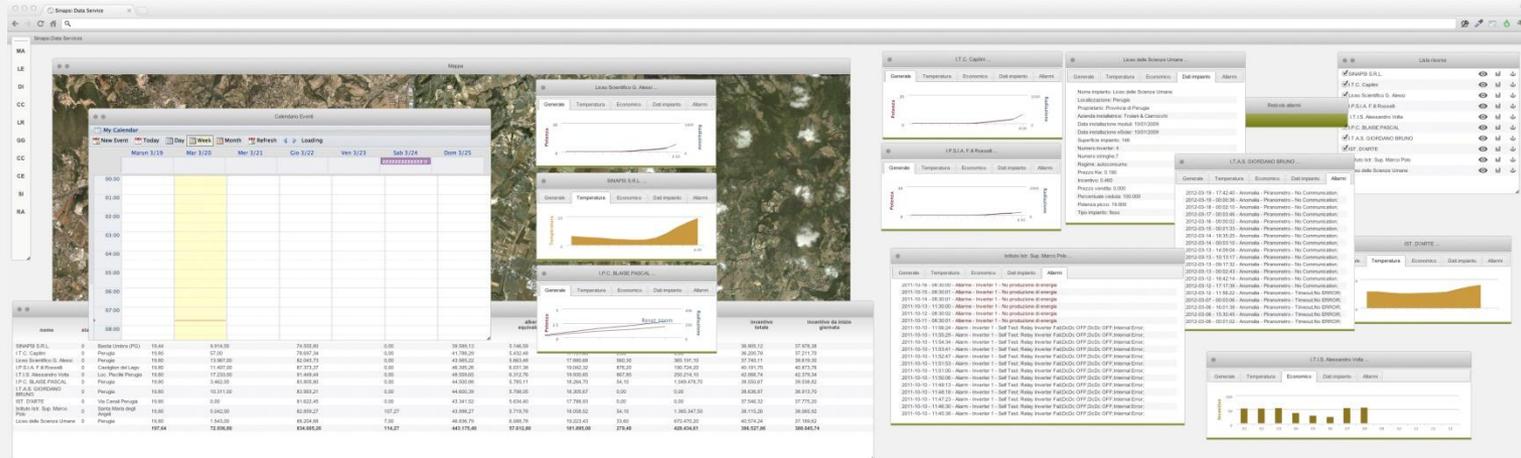


- ⌘ Hosted cloud-service provided for the centralized management of the systems
- ⌘ The SINAPSI DATA SERVICE includes the centralization, archiving, management and analysis of the data collected in the field, as well as personalized reports and MULTISCREEN mode display.
- ⌘ Multiple user/profile access via Web Browser, with complete control over the user permissions for accessing the various functions offered by the platform.
- ⌘ The DATA SERVICE acquires the data from the ESOLAR devices and copies it for consultation and backup purposes
- ⌘ Visualisation of the system's status and functionality, with the respective geographic location and monitoring of the system's fundamental parameters
- ⌘ Document management and reporting
- ⌘ Exporting of multi-format data to management platforms belonging to third parties, via multiple data usage modes in various formats
- ⌘ Customisable data viewing mode with the possibility of Web, Smartphone and Web TV access. This solution allows users to control all the system's fundamental data, and allows companies to enhance their image in an innovative and technological manner.





# SINAPSI DATA SERVICE SOFTWARE MODULES



- Report and export module
- Generating and sending of reports to specific users
- Integrated archive of reports generated, with the possibility of subsequent consultation
- Multi-format exporting, with the possibility of selecting the parameter to be exported for the period in question
- Personalized access
- Possibility for the administrator to manage the system access records

# SINAPSI DATA SERVICE

## SOFTWARE MODULES



- Data service exchange module
  - Allows the data contained in SNPDS to be used with other data management systems
  - Allows for integration with third party management systems
- Remote backup
  - SNPDS allows for the data from various devices to be backed up according to different acquisition optimisation policies, thus allowing for resets to be performed in the event that a device is damaged or needs to be replaced

Grazie per la vostra attenzione



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