

# S O L A R C O N T R O L S Y S T E M



## Solar Control System

**Economic tension and the various ecological problems of the last few decades , linked to the exploitation of oil and its derivatives, had led governments around the world to invest in policies in favor of alternative energy and related technologies.**

**As a naturally consequence, the photovoltaic increasingly asserting with huge investments in solar panels installed all over the planet, that needs activity to control and manage them.**

**SCS® system (based on an important technological innovation) is able to control handling or removal photo-voltaic panels, their energy yield and the possible blocking of production, where necessary.**

**The advantage of SCS® system consists in realizing a specific electronic control that does not require the addition of other power lines or radio frequency signaling, but is based on normal electrical lines of photo-voltaic system.**

SCS System Description:

### The system is composed of the following equipments

Panel Electronic "EP", String Electronic "ES", Master Electronic "ESM"

#### Panel electronic "EP"

The "EP" electronic consists in an apparatus of small dimensions, to lodge on board of the PV panel to it connected: in parallel (fall) or in series, according to the application SCS. "EP" has incombng and going out cables for the connection to the PV panel and the continuation of the series towards other PV forms.

"EP" electronic is able to:

- turn off electrical power to the panel preventing the generation of electric energy towards the inverter
- check the productivity and the electrical yield of the associated panel
- check the attempted removal/theft of the PV panel constantly monitoring the presence and the position in the space (noticing variations of movement in the three axes x,y,z)

Panel Electronic can be defined Autonomous because:

-It doesn't need additional wiring to the normal PV plant

-It doesn't absorb energy from the PV plant, maintening unchanged the productivity of the plant

-It doesn't ask for maintenance in the time

#### String Electronic "ES"

The "ES" Electronic consists in an apparatus of small dimensions ~ (5x10x10) cm, to lodge on bar DIN. Every electronics "ES" has 2 couples of entry stringss and 2 couples of exits strings (in general inverter) for the control of productivity and anti-theft. Said electronics connect him among them on bus RS485 allowing so, with an application type modular, the control of any dimension and power of PV plant. "ES" it doesn't alter energy's flow produced toward the inverter. *String Electronic is able to:*

- monitor and analyze productivity relative to the panel strings attached
- monitor the attempted anti-theft of the attached panels, monitoring the continuity circuit of the strings of the PV panels (day and night)

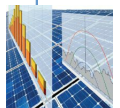
#### Master Electronic "ESM"

The electronics "ESM" it is the heart of "Solar Control System"; it is the plant on which all the data of productivity and state of the plant converge; it is able to send signalings of alarm in formality GSM, GPRS and SMS, to make to play an external siren and interfacciarsi with any central of antifurto. It consists in an apparatus of small dimensions ~ (12x5x28) cm able to develop all the analyses and signalings without software aid of management. .

#### Software of management web (optional)

The software of management furnished, picks up all the demands of market: from the end user to the technician/maintener of plants, the software is able to analyze the whole plant, with attached statistics and logo of data productivity, actually to the detail of the single PV panel.

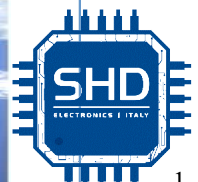
**To succession the various applications of the Solar Control System are illustrated, for all the needs of control of the photovoltaic plant.**



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