

SD02

Visualization & control system for PV plants

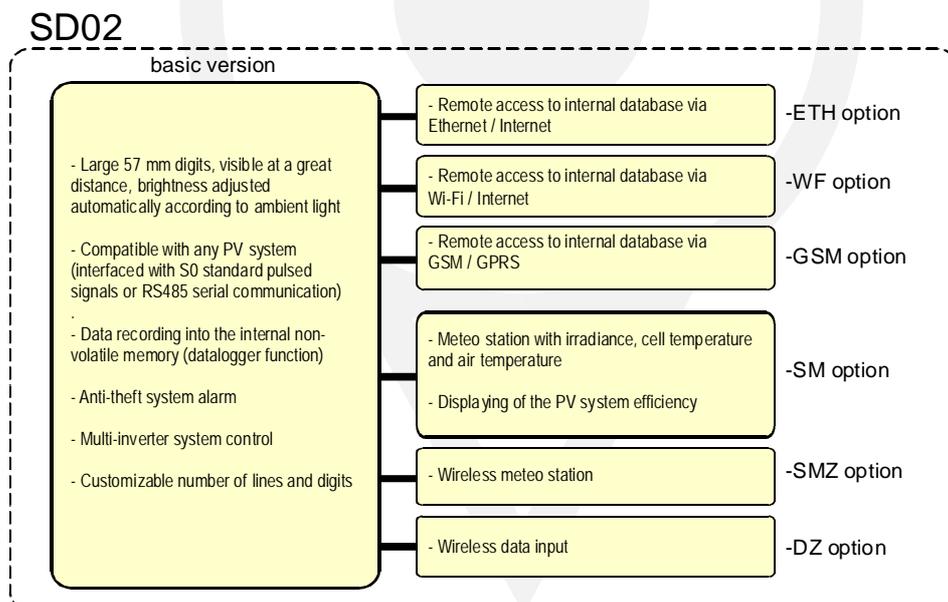


The SD02 unit belongs to the SmartDisplay product line, a series of intelligent displays characterized by the presence in a single device of advanced features as datalogging, alarm and remote control. SD02 uses its giant digits to visualize the main variables of a photovoltaic system and at the same time it is able to store data, making them externally available via standard communication interfaces.

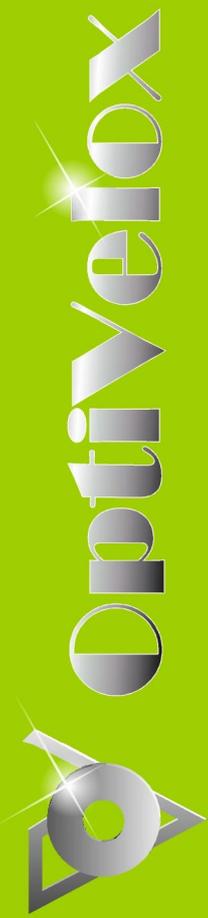
SD02 can send warning messages in case of poor performance of the PV plant or in case of tampering of the same. Thanks to the modular implementation, the unit can be customized with the number of lines requested by the user, displaying up to 8 different values simultaneously.

SD02 can easily be applied to any existing photovoltaic plant; it is sufficient to use a simple standard pulse signal generated for example by an energy meter. Alternatively SD02 can read the production data via a RS232/485 serial interface directly from one or more inverters (1) or via ZigBee wireless link.

The block diagram below shows the main functions of the SD02 unit depending on the requested options:



(1) Note: the list of inverters supported by the SmartDisplay family is under upgrading, see the website for the latest version.



Ordering codes:

SD02 - - - -

Lines of values	
1÷8	1...8 lines

Digit color	
R	Red
G	Yellow
V	Green
B	Blue
X	Lines of different colors

Options	
ETH	Ethernet remote access
WF	Wi-Fi remote access
GSM	GSM/GPRS remote access
SM	Meteo Station (RS485)
SMZ	Meteo Station (wireless)
DZ	Wireless data input

Layout	
1...	Standard image code
X	Custom

Example:

SD02- 4 - R - 1 - WF - GSM

Display with 4 red lines on layout code 1 (please see the website for the available standard layouts). Wi-Fi/Internet and GSM remote access enabled.

Depending on the number of lines chosen, unless otherwise specified at time of order, the factory combinations of variables displayed are the following:

- 1 (Active Power)
- 2 (Active Power, Active Energy)
- 3 (Active Power, Active Energy, CO2 avoided)
- 4 (Active Power, Active Energy, CO2 avoided, TEP)

Different combinations can be set at any time via software by the user choosing the values from the following table:

	Visualizable values
1	Active Power (kW/100)
2	Active Energy (kWh)
3	CO2 avoided (kg)
4	Income (eur, \$)
5	Days of production (N)
6	Irradiance (W/m2)
7	Cell Temperature (°C/10)
8	Air Temperature (°C/10)
9	Overall Efficiency (%)
10	Equivalent oil barrels (N/10)
11	Equivalent oil ton (N/10)
12	Daily Energy (kWh/10)
13	Aux Power (kW/100)
14	Daily Max Power (kW/100)

Note:

- X options require the addition of other information to the ordering code. For example, an image file to customize the background.



Technical specifications

VALUES DISPLAYED

Pre-selectable via software (any line can be associated with any value shown in the table)

METEO DATA INPUT

RS485 interface or ZigBee wireless link

POWER AND ENERGY DATA INPUT

Standard pulse interface (S0 DIN 43864 / class A IEC 62053-31) or RS232/485 interface or ZigBee wireless link

DISPLAY

LED 7 segment, 57 mm digit height, ~30 m visibility

LINES NUMBER

Customizable from 1 to 8

NUMBER OF CHARACTERS PER LINE

Selectable from 3 to 6

POWER SUPPLY

12 Vdc (10,8...13,2 Vdc)

20 mA (typ. central unit)

100...450 mA (for each line depending on brightness)

BRIGHTNESS ADJUSTMENT

Pre-selectable via software or automatically set according to the environmental light

TEMPERATURE RANGE

-10°...55°C operative (RH max 85% at 25°C)

-20°...60°C storage

DEGREE OF PROTECTION

IP54

DIMENSIONS

966 mm x 666 mm x 38 mm

MECHANICAL STRUCTURE

Aluminum with anti-glare front acrylic

Vesa 200 x 200 standard wall mount

WEIGHT

~9 kg