NDS®

All the Energy you Need

SUN CONTROL
MPPT

Mod.: SC300M

User Manual

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SUMMARY:

1. INTRODUCTION:

This User Manual consists of many very important operative and safety instructions, please read and understand it before using the device.

1.1 Safety Notes:

- Before each use please check the device, the connection cable and the connector. If you detect any anomaly do not use it!It is strictly forbidden to open the device. Repairs may only be carried out by qualified personnel using original spare parts.
- DO NOT place the device on easily flammable surfaces or environments (ex.: paper, cloth etc...). The overheating during the use may increase the fire risk.
- During operation, the device must be placed in a well ventilated area.
- If the cables are damaged, they must be replaced by a qualified technician to eliminate the risk of accidents.

1.2 WARNINGS:

- Keep the device out of the reach of children.
- The device must be protected from sunlight or direct heat sources to prevent overheating.
- DO NOT install the unit in a sealed environment, otherwise it may overheat.
- To avoid the risk of electric shock and / or fire, make sure that the power supply and the solar panels are in good condition.
- DO NOT use the device with damaged cables and / or inadequate section.
- DO NOT use the device in an environment with high humidity or in direct contact with splashes of water and / or liquid or in the rain.

2. CHARACTERISTICS:

Product photos in this manual are for reference only and with the purpose of explanation; the product you have purchased may be different.

This automatic device in the standard version is used to charge the service battery 12V (lead acid, GEL, AGM or Lithium) from photovoltaic panels with a nominal voltage of 12V.

Always keep the manual at hand and close to the device for easy reference on essential safety information, use and maintenance.

The information on this manual may change without any notice.
NDS Energy reserves the right to make changes and improvements to the product at any time without any notice or obligation to apply these changes to the devices previously distributed.

SC300M (main characteristics):

- Allows the charge of the service battery, using solar panels with a nominal voltage of 12V.

- Has two separate inputs for two solar panels of maximum power up to 150Wp for each, with a nominal voltage of 12V.

- The system has two outputs, one for the service battery and one for the starter battery, allowing a maintenance charge also on the starter battery.

- Operating Status indication via 2 LEDs (green and yellow), one indicates the charge of the service battery and one indicates the charge of the starter battery. The LEDs flash to indicate the charging phase of the device.

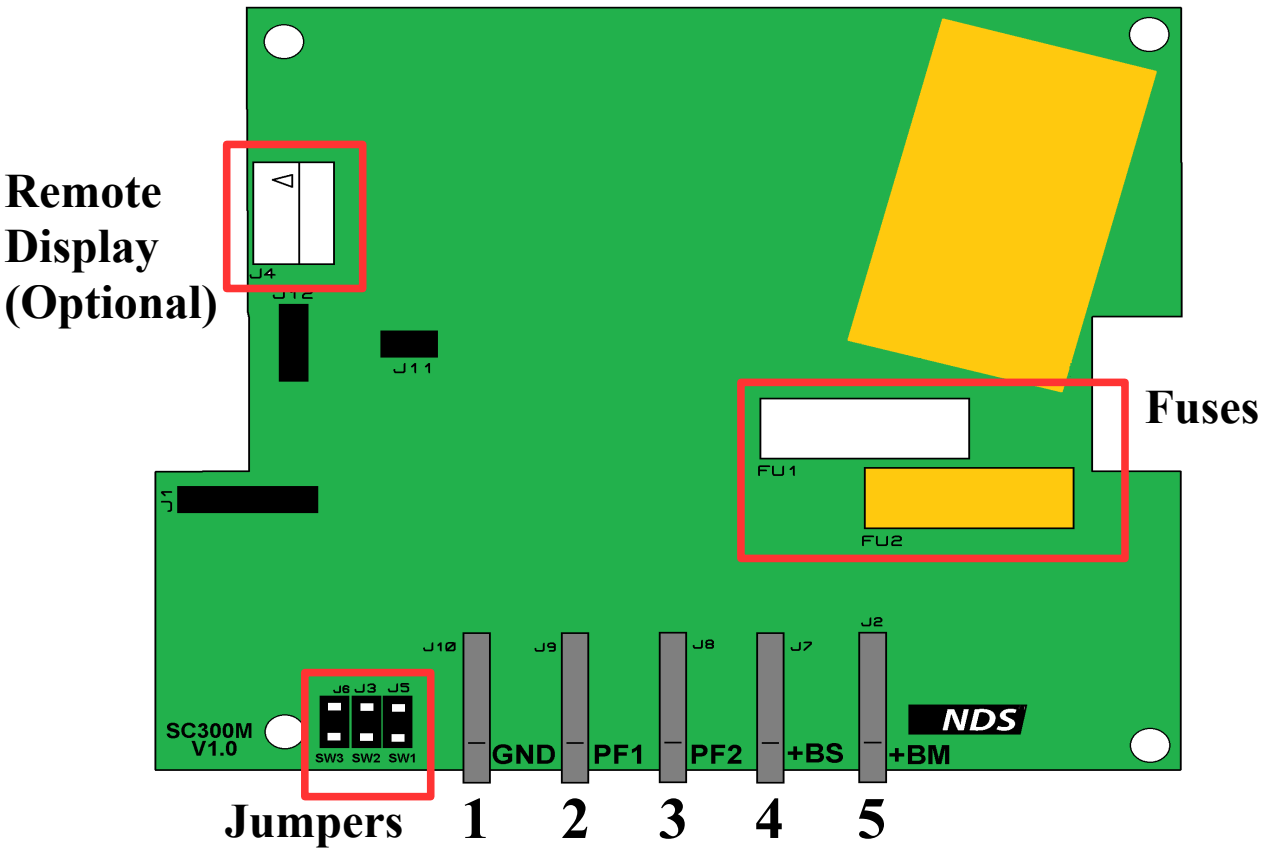
- Selector composed of three jumpers, to choose the proper charging curve according to the type of battery.

- Designed to be connected to the touch screen display, in order to monitor the charging data and set automatically the charging curve.

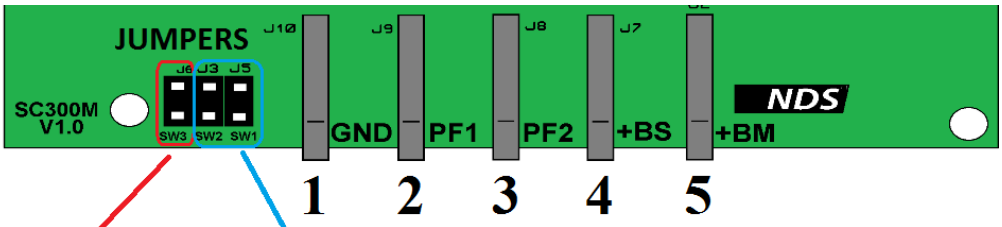
3. INSTALLATION:

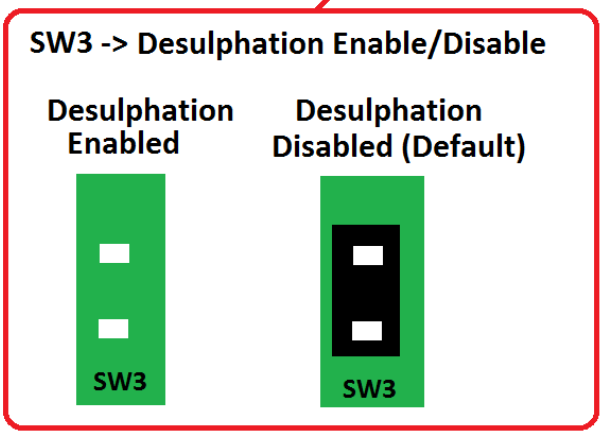
To make the electrical connections in comfort and set the proper charging curve, it is advisable to open the cover of the device, pressing with moderation and caution the side tabs, using a small screwdriver

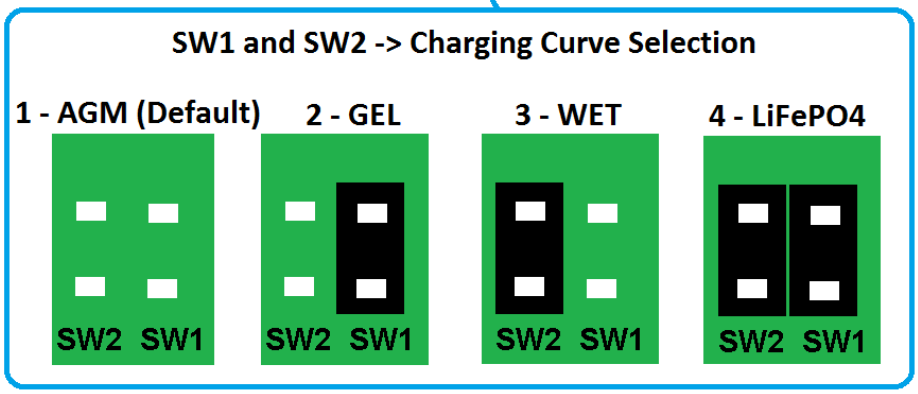
After removing the cover you have the full view of the PCB and the FASTON to connect the device to the solar panels and batteries; so you can also select the charging curve and replace the fuses (if necessary).

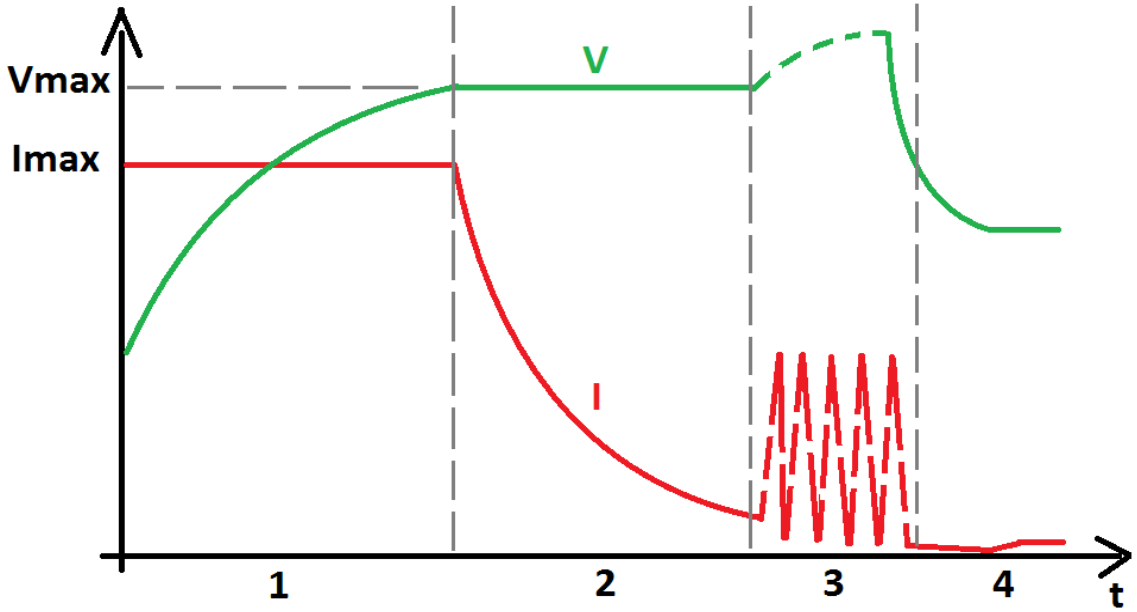


4. CHARGING CURVE SELECTION:

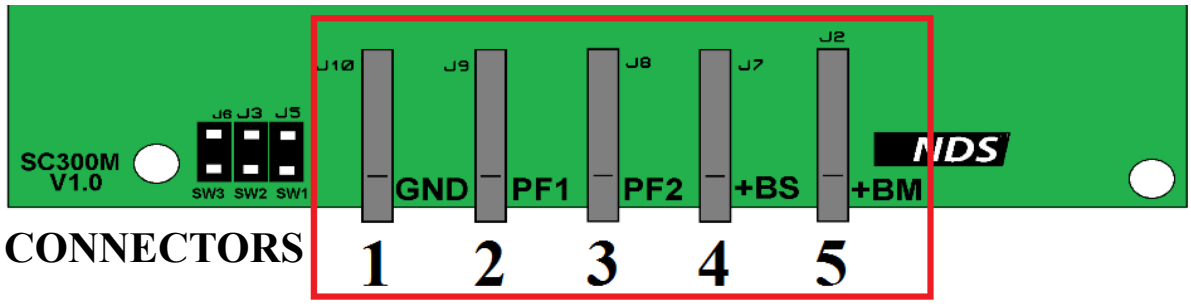








5. CONNECTIONS:



PIN n°1: Service Battery negative pole (GROUND) (and negative cable of the photovoltaic panels)

PIN n°2: Positive cable of the photovoltaic panel n°1 (PF1)

PIN n°3: Positive cable of the photovoltaic panel n°2 (PF2)

PIN n°4: Service Battery positive pole (or positive common pole if there is a Power Switch or an iManager)

PIN n°5: Start Battery positive pole

It is recommended to use cables with section of at least 4-6mm²

6. HOW IT WORKS:

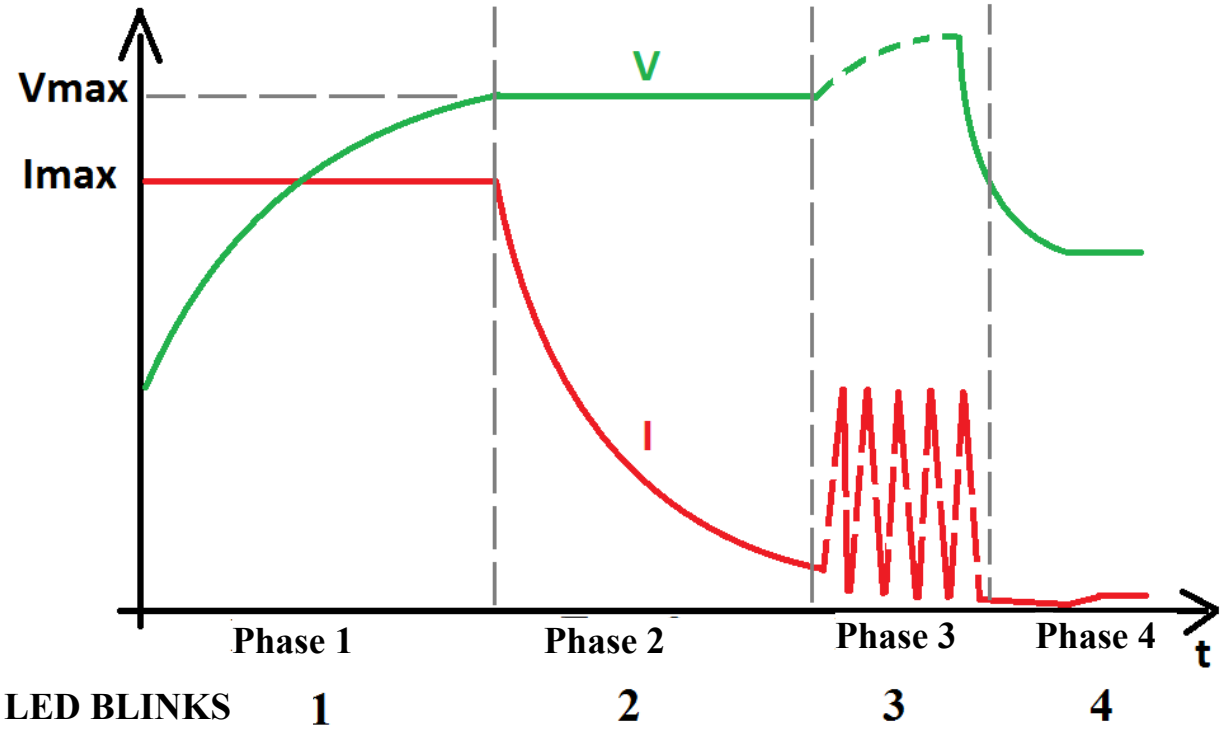
Just after the installation, the device is ready for use.

It is recommended to properly select the most suitable charging curve for the service battery, by setting the jumpers that correspond to the construction technology of the battery. Jumper SW3, if inserted, allows to eliminate the Desulphation phase from the charging curve, useful if you have an onboard control units and appliances sensitive to voltages above 15V.

The green LED flashes to indicate that the the service battery is charging, only if the photovoltaic panels produce a higher voltage than the battery. The number of LED blinks, followed by a pause, indicates the charge phase running and ranges from 1 to 4 blinks.

If the photovoltaic panels generate electricity and the service battery is charged between 80 % and 100 % , if the starter battery has a voltage lower than 12.5V and therefore needs a refresh, the system activates the charge with a maximum current of 4A also on the starter battery, in order to restore the missing charge.

When the photovoltaic panels do not have more energy to be delivered due to lack of sunlight, the system terminates the charge and switch in stand-by mode, in this phase the LEDs do not flash and the overall consumption is reduced to the minimum.



7. TECHNICAL FEATURES:

Descripton	Technical Features
Open circuit voltage for each photovoltaic panel (Vos)	16V - 27V
Input number	2
Maximum peak power for each input	150Wp
Activation voltage for start battery charging	< 12,5V
Nominal voltage for each battery	12V
Stand-by current consumption	5mA
Dimensions	L123 x W108 x H50 mm
Weight	0.40kg (without cables)

If your Recreational Vehicle is in storage for a long time, we recommend disconnecting the ground wire of the device to clear completely any current consumption that can inadvertently discharge the battery service.

8. NOTES:

9. WARRANTY

The manufacturer guarantees the proper functioning of the SC300M and undertakes to make free replacement of parts that deteriorate for construction defects within 24 months from the date of purchase, as evidenced by the validation card (to be filled in all its parts and send back to the manufacturer) .
The defects resulting from improper installation, use, tampering or negligence shall not be covered by warranty.

Furthermore, we assume no liability for any direct or indirect damages.

The SC300M returned, even if under warranty, must be shipped “Freight paid” and returned on as “Freight collect”.

The certificate of warranty shall be valid only if accompanied by a official receipt or delivery document. Any dispute will be judged by the Court of Pescara.

Mod...... **S/N:**.....

Purchased Date .....

Stamp and signature of the dealer

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