Operators' Manual (Preliminary)

Please follow exactly these steps to launch your SolarMPPT 100W.

1. Make sure you have a solar panel with maximal 100W and an open circuit voltage of maximal 27V. If over-voltage occurs, the regulator is permanently damaged. For proper usage we recommend to use at least 20W solar cell. The higher the panels' power the faster your battery is charged.
2. Make sure you have a 12V battery usable for solar batteries. Automotive batteries might not be the ideal choice for solar applications due to limited lifetime.
3. The SolarMPPT 100W has an internal fuse of 15A. Once this fuse is shot, the regulator this fuse can only be replace with soldering skills. We recommend to add an additional car battery fuse rated with 10A (fast).
4. Connect the battery to the charge regulator. It is recommended to start with plus (red). After minus(black) is connected a self test will perform. After 2 seconds the State-of-Charge of the battery is displayed.
5. Cover your solar panels with thick black foil. Then attach the solar cables to the regulator.
6. Remove the cover of the solar cells. If the sun is shining the regulator will start to charge your battery up to 13.7V
7. Make sure all your loads are switched off, then connect your load to the solar charge regulator.

Quick Facts (preliminary)	
Input	
Maximum Power	100W
Maximum Input Voltage (Uos)	27V
Output	
Battery charge current	8,2 A
Load shutdown current	10 A (+- 30 %)
Quiescent Current:	<10 mA
MPPT-Efficiency (typ.)	99%
DC/DC Efficiency (typ.)	96%
Ambient Temperature Range	-25°C to 35°C
PCB Dimensions	60mmx 44mm

Error Code Reference:

The errors are numbered and have the following configuration: Every error code has the following configuration:

RED-YELLOW-GREEN (short) – off - Error-Code (long) - off

The error code is the sum of colors: Rot=1 Gelb=2 Green=3

Error Code	Error	Possible Solution
1	Battery Voltage below 8V	Check if battery is below 8V, if yes charge the battery. (If no, send it back)
2	DC/DC Driver Voltage failture	
3	Solar Voltage Divider broken	
4	DC/DC Converter has no abbility to convert Voltage	Disconnect Solar
5	Current sense error	
6	Firmware Version mismatch	
7	Reference voltage unstable	
No light turns on	Supply power missing	Check battery voltage
LEDs are dimmed	MCU Oscillators hangup	Disconnect and reconnect charge regulator

Battery indicator

Battery levels can be factory adjusted

Color	Voltage Range (+- 2%)	Static=standby blinking=charging
Green	>13V	
Green-Yellow	12.7V – 13V	
Yellow	12.3V – 12.7V	
Yellow-Red	12V – 12.3V	
Red	11.6V – 12V	
Red blinking	<11.6V	

Charge characteristics

Charging is performed with maximum power-constant voltage principle.

Battery cutoff voltage (+- 2%)	13.7V
Minimal charge current	150mA

Battery load dump

Battery levels can be factory adjusted.

Voltage (+- 2%)	Function
11.5V	Load disconnect
12V	Connect load

Your local dealer: