

- **Integrated Solar PWM Charge controller with single cell monitoring and controlling (LiFePO4 only) and LCD Display**
- **PWM Controller for LiFePO4**
- **Integrated BMS with Cell-Balancing and Battery protection for LiFePO4**
- **AC Load output 220V/50Hz: up to 900W**
- **DC Load output 24V**
- **Pay as you Go**
- **Surge Arrestor AC output**
- **Surge Arrestor Panel Input**
- **4mm terminals for Panel input**
- **SAE-DC load output**
- **2AC sockets for AC load output**
- **RCD Earth Leakage protection with Air-Breaker function**
- **Grounding Accessories (option on request)**
 - **Ground Rod**
 - **Ground wire**

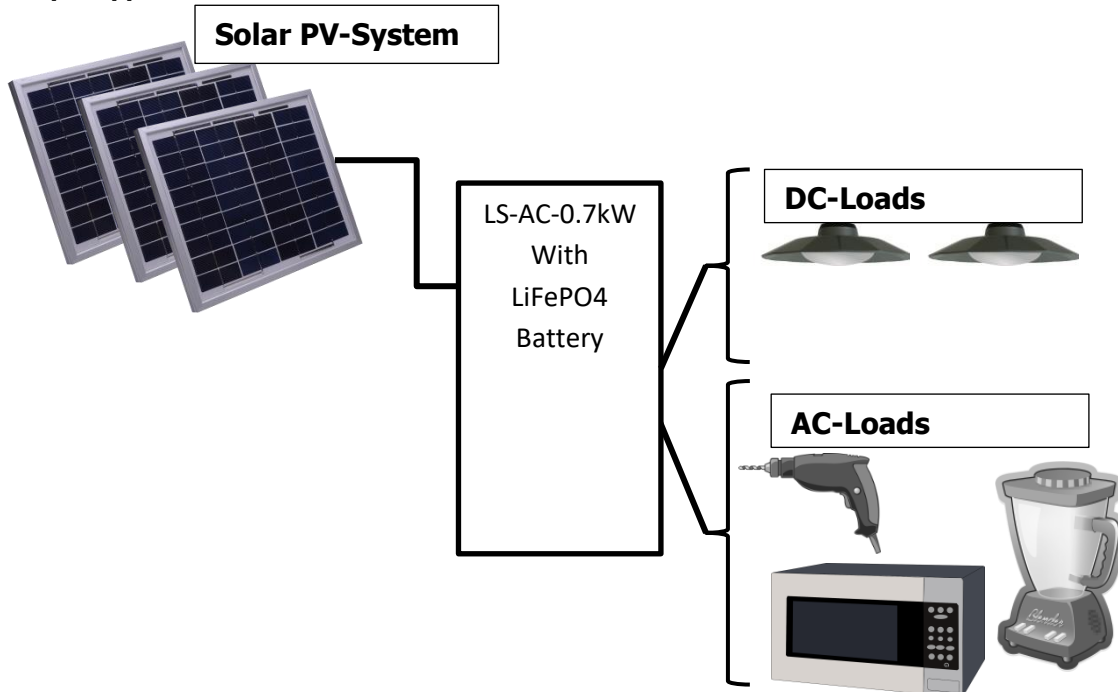


Compact AC Solar Home System with integrated Charge- and Battery-Control/Monitoring Systems for LiFePO4-Battery therefore ideal for solar applications.

The integrated PWM Charge controller and AC inverter with Zimpertec unique single cell monitoring and control for optimizing the battery operation can ensure the best System performance.

The ready to use system makes the product useful for many applications, which can significantly reduce the service, maintenance and installation cost.

Example Application:



Technical Data:

Battery:

LS-AC-900HP-25.6V-1.28kWh-220VAC/50Hz/0.9kW	
Battery type:	LiFePO4 Prismatic cells
Nominal Voltage:	25.6V
Battery capacity	50Ah
Battery Storage	1280Wh
charging limit rating:	<29.2V (<3.65V/cell)
discharging limit rating:	>20V (>2V/cell)
Max. Battery charge and discharge Current: <i>(suitable for Inverter nominal rating)</i>	40A
Battery Peak Discharge Current: <i>(suitable for Inverter peak rating)</i>	180A
Battery Fuse:	125A
Cycle Life at 25°C and 0.5C:	
100% DOD	>3000
80% DOD	>4500
Self-Discharge:	<4%/month at 25°C
Temperature Ratings:	Charging: 0...45°C Discharge: -20...+60°C
Warranty against manufacturing and material failure	3 years

Inverter:

Rated Power	900W
Surge Power	4000W
	2000W for fridge power up max 30 second
Waveform	Pure sine wave (THD<3%)
AC output Voltage	220VAC±5%/50Hz
Inverter Efficiency peak	>86%
Power ratings for Inverter @ 0..40°C	100%
@ 60°C	50%
Protections:	Battery overvoltage, Undervoltage/ overtemperature, overload
AC output:	L/N-double circuit breaker 10A with earth leakage protection 100mA 2 AC output sockets Ground Terminal
USB charger:	5V/2A (2*USB-A terminal at front door)
Warranty against manufacturing and material failure:	3 years

Regulator ZIMPERTEC: Type: LI-CC-AC

a) Solar PWM Charge Charger with integrated BMS:

PV Open Circuit Voltage	Voc Max. 48 VDC
PV Power	Max. 1000Wp (1*66cell panels in series) Vmpp ca.36V
PV Charge Current	Max 30A
Panel Terminals:	2 set MC4 compatible terminals
Display:	LCD display
PAYG	Keypad for PAYG application
End of Charge Voltage:	3.55V/cell (28.4V for Battery Pack) Single cell controlling
BMS	Single cell monitoring with cell balancing and temperature control

b) DC Load output ZIMPERTEC: (internal Inverter connection)

Voltage:	Battery voltage range: 22V to 28.4V
Low Battery disconnect:	2.75V/cell (22V for Battery Pack) Ca. 4% SOC
Nominal Load Current:	Load2:40A (suitable for nominal Inverter power) Load1: 10A
Electronic Fuse: (overcurrent shut off, with self-reconnect after delay time)	Load2: ca. 45A →Inverter only Load1: ca. 10.5A
Protection:	Short Circuit, Overload, Inductive Load protection
Connection:	Wire to Inverter 10mm ²
Load1 connection:	SAE connector
Warranty against manufacturing and material failure:	3 years

Case ZIMPERTEC:

Box type:	Steel box with Door and wire outlet (powder coated)
Dimensions	Ca. 70*46*33cm
Weight	36.6kg
Protection	IP20

Environment:

Humidity	5% to 95% non-condensing
Operating Temperature	0 to 45°C (50°C with charging limitations and AC power limit)
Storage Temperature	-15 to 60°C

Safety Equipment:

Surge Arrestor AC output	Din Rail type: Nominal Discharge Current $\geq 5kA$
Earth Leakage protection with Air-Breaker function	220V/10A, Fault current detection 100mA (other options available)
Solar Panel input: Surge Arrestor DC	Din Rail type: Nominal Discharge Current $\geq 5kA$
Solar Panel input: DC Air-Breaker	DC circuit breaker 40A
Load1 output: DC Air-Breaker	DC circuit breaker 10A
Load2 output: DC Inverter supply Air-Breaker	DC circuit breaker 125A ¹⁾

Option on request:

Ground pin	1.5m, round, zinc plated steel, with wire connection lug
Grounding Wire connection	7m, 16mm ² , ring lug both ends for connection to System and Ground Pin
Box Design:	Option: Add 4 legs for to let System stand on ground + fixing hole to wall All Wire Glands will be at side wall, Wire Glands to be specified according customer wire requirements.

Inverter Compliance: EN55022 Class A; EN61000-3-2, 3; EN60950-1: 2006+A11:2009; E8*72/245/EEC, 95/54/EC

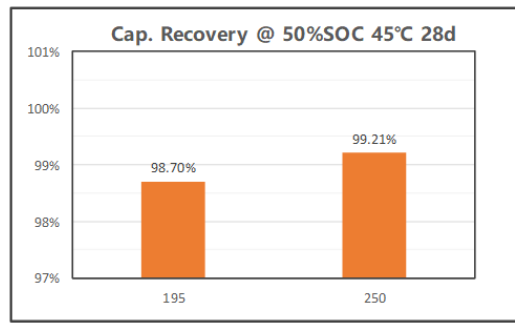
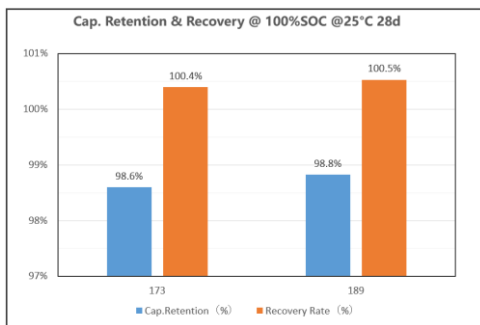
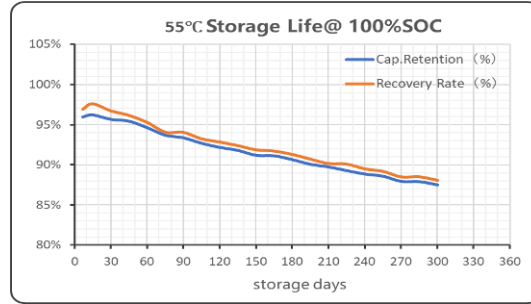
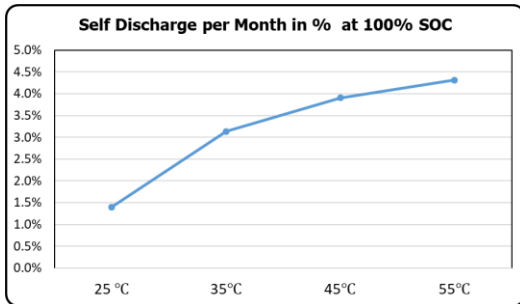
Charge Controller: 2014/30/EU Electromagnetic compatibility

Battery: UN38.3

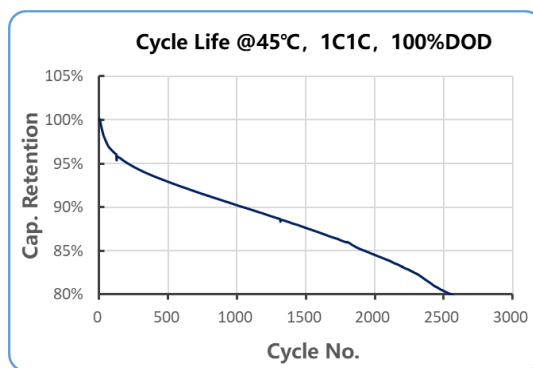
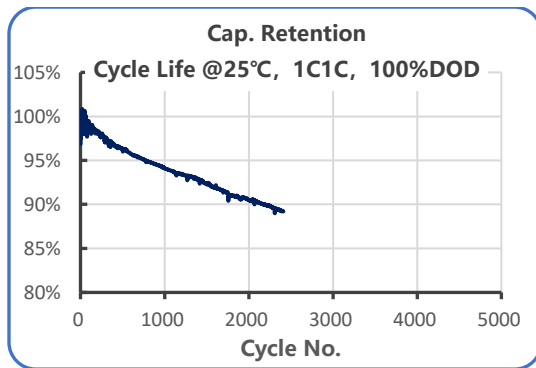
¹⁾ to be adjusted according load conditions in application

Battery information:

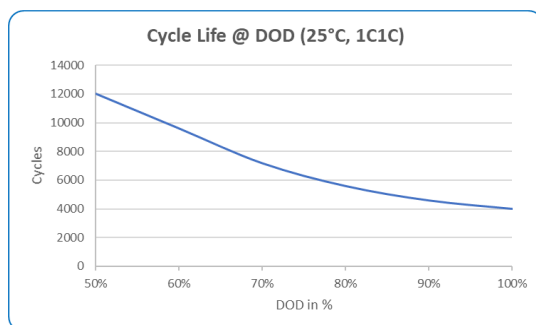
Self-discharge / Graph of variation of capacity versus storage time



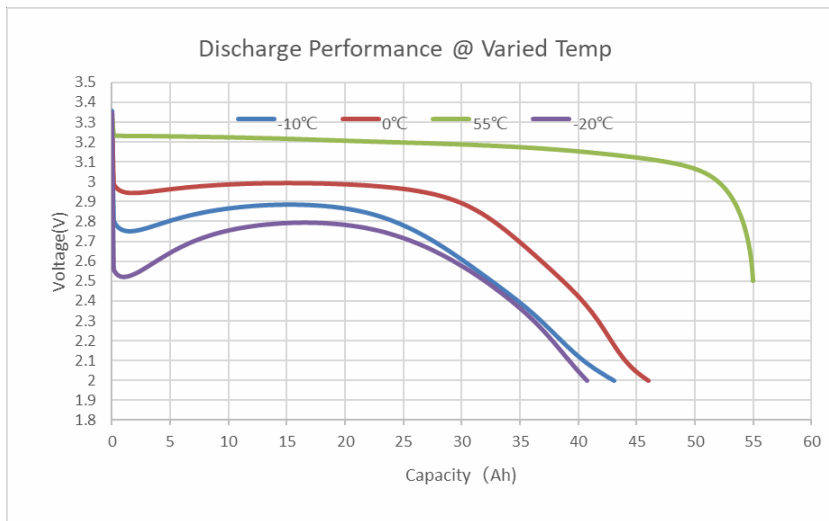
Cycle Live versus Temperature:



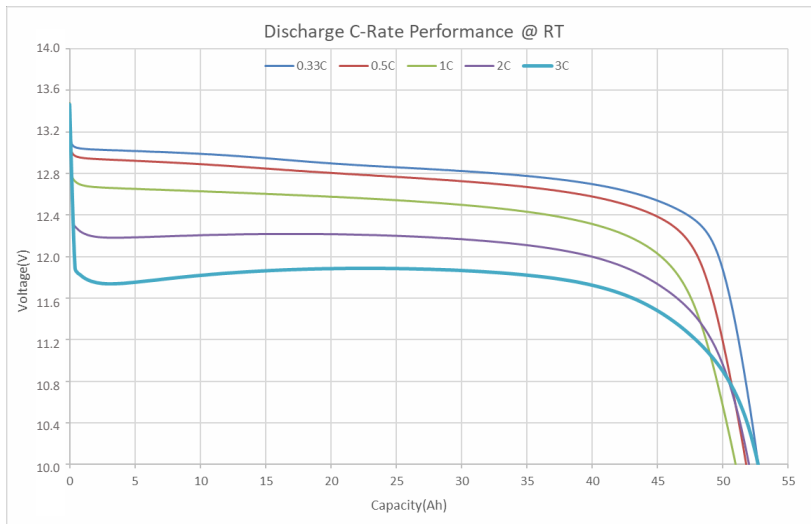
Cycle Live versus Deep of Discharge (DOD)



Graph of variation of capacity versus ambient temperature



Capacity versus Discharge Rate (at 25°C per cell)



Charge Performance versus Charge Rate

