# SHS 200 MPPT **PAYGo enabled**



SHS 200 - Front view Keypad and LCD screen



SHS 200 - mounted on optional battery box

#### Solar home system

The SHS 200 is a smart solar charge controller and power distribution system designed for off-grid electricity access. It is used with solar panels and a battery to power DC appliances (12V).

# 200W MPPT charge controller

Smart charge controller with four PV inputs of 50Wp. Maximum power point tracking (MPPT) will improve energy harvest by up to 30% compared to PWM charge controllers.

## Smart battery management

Smart multi-stage charging and load disconnect to extend battery life. Internal temperature sensor (compensates charge voltage according to temperature). Optional battery enclosure to prevent user from tampering with battery terminals.

# Fifteen DC load outputs

Compatible with a large range of accessories such as LED lighting, mobile phone charging, TVs, DC fridge, fans, or sound systems.

## **PAYGo enabled**

Low-cost and reliable offline Pay-as-you-go (PAYG) operation through keypad activation. Compatible with most mobile money carriers and various PAYG software platforms.

#### LCD screen

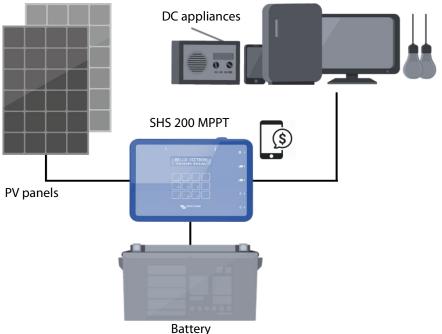
Display parameters such as usage statistics, battery state of charge and agent diagnostics. Easy navigation and adjustable languages (English, French, Swahili).

## Customizable design

Different levels of personalization to distributor brands and last-mile operators.

# **Battery box**

Optional anti-tampering box to prevent direct connection of loads on battery terminals.



# Pay-as-you-go operations

- The customer makes payment by mobile 1) money or cash transfer to unlock his device for a definite period (e.g. one week).
- 2) The customer receives a recharge code on his cell phone by SMS.
- The customer enters the code on the 3) keypad of the device.
- The product is unlocked and can be used 4) until time credited is spent.

#### Example of daily usage

200Wp solar panel / 130Ah battery

- 1 x 50L fridge
- 1 x 24" TV with decoder for 8 hours
- 6 x 3W LED light bulbs for 6 hours
- 1 x radio for 6 hours
- 5 x phone charges per day



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SHS 200 MPPT		
Battery voltage	12Vdc	
Nominal PV power	Up to 200Wp total (36 cells panels)	
Maximum charge / discharge currents	14A / 20A	
Peak efficiency	96%	
Suitable battery capacity	Up to 160Ah	
Compatible battery technologies	Sealed lead-acid, lithium.	
Absorption / float voltages	14.4V /13.75V (configurable)	
Temperature compensation	Yes (automatic)	
Automatic load disconnect	Yes (configurable low state of charge disconnect)	
Operating temperatures	0 to 40°C (derating from 35°C)	
Humidity	90%, non-condensing	
Protections	Battery reverse polarity, battery overvoltage, battery undervoltage, battery overcurrent, load outputs overcurrent.	
PAYGo		
Remote activation	Unlock tokens sent to end-user via SMS to activate the system	
Compatible PAYGo platforms	PaygOps, Angaza, Paygee	
Token technology	Free and secure open-source token system (OpenPAYGO)	
ENCLOSURE		
PV terminals	Barrel model 4 x 5.5mmx2.1mm barrel connectors with an individual current limit of 5A	<u>MC4 model</u> A positive and a negative extension PV cable (1 meter - 14 AWg) terminated with MC4 connector.
Battery cables	Included (14 AWG - 1m) / suitable for M6 battery terminals	
USB outputs	10 USB ports (type A) Voltage: 4.75V-5.25V Overall maximum of 10A across all ports Individual maximum of 1.5A per port Compliant with the USB Battery Charging 1.2 standard	
Standard 12V DC outputs	Voltage: 10.5 to 15V (according to Lighting Global standard) Protection: software overcurrent protection and resettable fuse Port 1 (from top): - Current: Up to 9A - Connector: 5.08mm pin space pluggable screw terminal Port 2 and 3: - Current: Up to 4A - Connector: 5.5mm x 2.1mm barrel connector Port 4 and 5: - Current: Up to 2A - Connector: 5.5mm x 2.1mm barrel connector	
Operating temperatures	0 to 40°C (derating from 35°C)	
Color	Standard: black enclosure and blue keypad Customizable co-branding (minimum order quantity: 1000 units)	
Dimensions (h x w x d)	148 x 204 x 67 mm	
Net weight	0.39kg	
Protection category	IP 41	

