Technical specifications	
Item	**Description**
Technology	Solar charger: Two Interleaved Synchronous Buck Converter channels.
	DC-DC converter: Transformer based forward converter
Microcontroller controller	ARM M4 core based 32-bit advanced microcontroller
Charge Controller Efficiency	>95%
DC-DC Converter Efficiency	>90%
Battery	12.8V 120AH LiFePO4. Recommended connection wires: 10 mm sq.
Solar panel maximum V_oc (open circuit solar panel voltage)	85V
Solar panel maximum allowed capacity	750Wp. Recommended connection wires: 4 mm sq.
Load output	110V DC 1.5A. Recommended connection wires: 1.5 mm sq.
Display	128x64 pixel back-lit graphic display which can display 8 rows of about 22 characters each for display of running parameters during operation and the Energy meter values
Keyboard	1 Key
	Single press: LCD back light on
	Double presses quickly: Display energy meter values
	Three presses quickly: Option to reset energy meter
	Long press: System restart
LED indicator Green	Charger status:
	Off: Not charging
	1 Blink every 2sec:
	Ø Low charging (< 5A)
	2 Blinks every 2sec
	Ø High charging (>= 5A)
	Solid ON: Battery fully charged
LED indicator Blue	DC-DC converter status:
	Solid On: Normal output
	1 Blink every 2 seconds: Output overload
	2 Blinks every 2 seconds: DC-DC converter heat sink temperature high (above 70 deg C) / Temperature sensor disconnected.
	3 Blinks every 2 seconds: Output voltage too high shutoff
	DCDC converter is shutoff for all the above faults. It restarts automatically when the fault is removed.
	Charge controller status:
	Off: Normal operation

LED indicator Red	1 Blink every 2sec:
	Ø Battery discharged (Battery voltage below 12.0V). (Charging continues, Load is off). Once the battery voltage rises above 12.8 V, this fault is reset and the output starts coming.
	2 Blinks every 2sec:
	Ø Solar charger heat sink temperature high (Above 70 deg C) / Temperature sensor disconnected. Charging Stop
	3 Blinks every 2sec:
	Ø Solar panel voltage too high. Charging is stopped.
	Solid on: Battery voltage too high
2-stage charging for maximum battery care:	1. Bulk charging mode, till the battery voltage reaches about 14.5V.
	2. Trickle charging mode at 13.6 V. Charging mode is changed to Bulk charging mode if battery voltage goes below 13.0V.
Temperature compensation of charging thresholds	Temperature sensor for battery is provided and the battery temperature is displayed on LCD. However, for LiFePO4, no temperature compensation is recommended by the manufacturer. If this temperature increases above 50 deg C, there is some problem in the battery which should be attended to.
Protections	Battery reverse polarity
	Solar panel reverse polarity
	Output overload
	Output short circuit
	Charge controller overheat
	DC-DC converter overheat
Idle power	By battery charger: Max1.3 W. By DC-DC converter: Max 12W.

* For continuous product improvement, product specifications can change without notice.