

Brief Specifications & Salient features of Microprocessor controlled Solar Charge regulator 12 V 5 Amp for HLS Model 1 to 5, SLS.-& OTHER SMALL PV SYSTEMS 12/24 V DC

Parameter	Details	Remarks
Input #1	PV Panel C-Si Voc 21.5V I sc: ~ 5A, higher rating on request	Crystalline Silicon solar panel
Input # 2	Battery lead acid flooded electrolyte/VRLA as per user requirement	Adaptability As per final selection of user.
Max Input Voltage	25 V DC	By PV array
Type	Microcontroller based Series interrupting	Vd < 0.13 @ Ich~ 4.41A
Reverse current blocking	Schottky diode for Low Vd	Vd < 0.55 @ I ch~ 4.41 A
Self consumption	< 8mA	
PWM Charge circuit topology in brief	i) First connection: controller is set to equalize charge. ii) periodic equalize ~ 30days iii) Hold equalize charge setting ~ 2 Hours. iv) Revert to Normal charging.	All values are settable by software, as per recommendations of battery manufacturer /user of the selected battery.
Indications	i) charge ON (Vpv > Vbat, & I ch> 300~400mA) ii) charge disconnect & reconnect @ set value iii) Battery low./ Batt. disconnect Optional indicators i) load fuse fail ii) Energy Conservation required iii) Energy conservation Not required. iv) Battery reverse polarity	i) Positive charge indicator ii) as recommended by Manufacturer iii) Flashing indicator shows battery is disconnected. i) user warning ii) user comfort iii) use comfort iv) user warning
Protections	i) Over charge regulation ii) Temperature compensation for overcharge regulation @ approx. -2.5 mV/deg C T amb > 27 deg C iii) MOV at PV I/P	i) Limits overcharge ii) Longer life iii) Surge protection

Salient features and benefits

Equalize charging set in service on first connection	Good for battery charging of dry charged lead acid cells for remote sites, where battery may be connected first time to PV system,
Periodic equalize charge feature	Enhances SOC of battery.
Battery disconnect warning	Flashing indicator shows guides user where maintenance corrections are required.
Pre-Programmed user defined factory Settable set points for battery charge & load management without use of any Field potentiometer	High reliability. Dusk-dawn control, built in timer for load control after Dusk ON

The TV point, wiring external to the controller is to be taken from the Load terminals terminated out of a junction box which can be placed near the load center for a small Home Light system.