HP Series Smart Solar Charge Controller
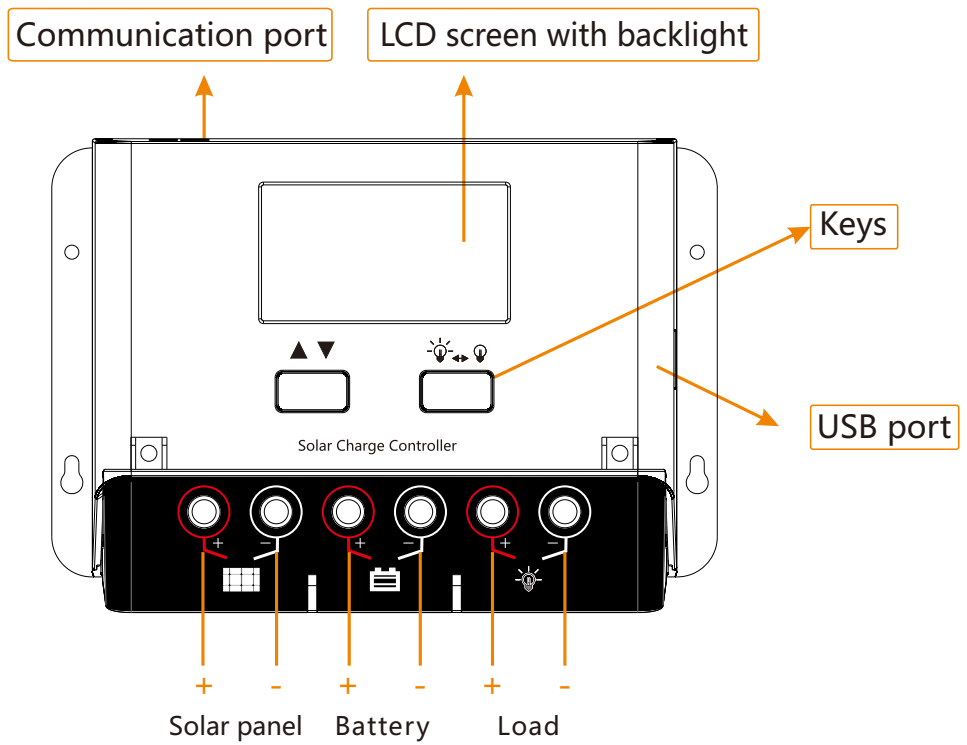
HP2430N/2440N

Auto 12V/24V	LCD DISPLAY	PWM		INPUT 55V Max.	over current		5V 1A	IP30	

Product Features

1. Automatic system voltage identification

2. Charging program options for sealed, GEL and flooded lead-acid batteries and lithium batteries are available.

3. An upgraded 3-stage PWM charging algorithm is adopted. Application of an equalizing charge to the battery periodically or when over discharged can effectively prevent the battery from non-equalization and sulfuration, thus extending the battery's service life (with the exception of GEL and lithium batteries).

4. With temperature compensation employed, charging parameters can be automatically adjusted (with the exception of lithium batteries).

5. A wide range of load working modes facilitate the product's application to different types of street lights and monitoring devices.

6. The product provides overcharge, over-discharge, overload protection, as well as short-circuit and reverse-connection protection.

7. By virtue of an advanced load starting method, large-capacitance loads can be started smoothly.

8. A range of parameter settings and power-down saving functions are available, thus requiring no repeated setting.

9. The product provides a dot matrix graphic LCD screen and a human-machine interface with 2 keys.

10. The user-friendly design of browser and dynamic interfaces ensures convenient and intuitive operations.

11. (An optional communication function) provides a RJ12 data port (output of TTL232 level or bluetooth signals), with the data adopting the standard Modbus protocol, and can be used together with our upper computer monitoring software or mobile phone APP.

12. Boasting an industrial grade design, the product can function well in various tough conditions.

13. It features a backlit display, and the backlight will be turned on with a key pressed and turned off over a period of time.

14. TVS lighting protection is adopted.

Panel Structure

Communication port

LCD screen with backlight

Keys

USB port

Solar Charge Controller

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Solar panel Battery Load

Product Detail
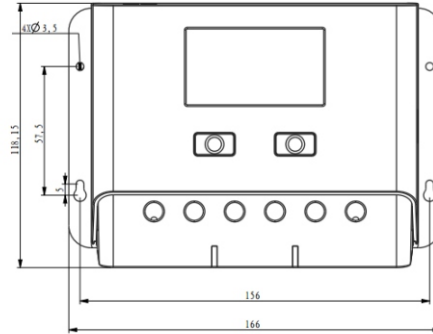
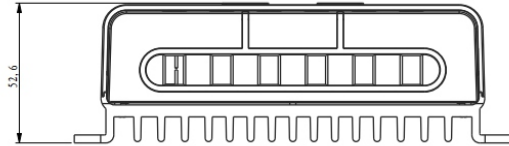Solar Charge Controller

Solar Charge Controller

Installation Instructions and Precautions

1. The controller shall be installed securely, and its dimensions are as follows:

HP2430N/2440N External dimensions: 166.0×118.2×52.6(mm)

Installation dimensions: 156×57.5 (mm)

2. Installation hole diameter: 3.5 (mm)

State Indicators

LCD Icon	Indicated Object	State	Meaning
☀	Day recognition	Steady on	Day time
🌙	Night recognition	Steady on	Night time
▦	Solar panel	Steady on	Solar panel indication
BOOST		Steady on	Boost charging
FLOAT	Charging state	Steady on	Floating charging
EQUATIZE		Steady on	Equalizing charging
🔋	Battery	Quick flashing	Battery overvoltage
🔋		Slow flashing	Battery over discharge
🔋		4 dashes	100%
🔋		3 dashes	75%
🔋	Battery SOC	2 dashes	50%
🔋		1 dash	25%
🔋		0 dash	0%
💡		Steady on	Load turned on
💡	Load	Steady on	Load turned off
💡		Quick flashing	Overload or short-circuit protection

Parameter Details

Model	HP2430N/2440N				Remarks
Rated current	30A/40A				
System voltage	Automatic recognition of 12V/24V				Default: automatic identification
	Manual setup				
Rated power	12V/450W 24V/900W		12V/600W 24V/1200W		
No-load loss	< 22mA/12V；< 16mA/24V				The higher the system voltage, the lower the no-load loss.
Max. Solar energy input voltage	<55V				
Max. voltageat the battery end	<34V				
Battery type	Parameters				Default SLD
	Flooded FLD	Sealed SLD	GEL GEL	Lithium LI	
Overvoltage protection	16.0V				×1/12V；×2/24V；
Equalizing charging voltage	14.8	14.6	-	-	
Boost charging voltage	14.6	14.4	14.2	14.4	
Floating charging voltage	13.8	13.8	13.8	-	
Charging recovery voltage	13.2V				
Over-discharge recovery voltage	12.5V (settable with the keys)				
Over-discharge voltage	11.0V (settable with the keys)				
Equalizing charging interval	30 days		-	-	
Equalizing charging time	1H		-	-	
Boost charging time	2H			-	
Temperature compensation	-3.0mV/℃/2V			-	
Light control voltage	Light control on 5V, light control off 6 V (light control on plus 1 V)				×1/12V；×2/24V；
Light control judgment time	10 minutes				
USB function	Yes				
Bluetooth function	optional				
232 Serial port communication function	optional				
Operating temperature	-25℃to+55℃；				
Over temperature protection	When temperature is above 60℃ , charging function is turned off, and the function is recovered when temperature is below 55℃ ; When temperature is above 70℃ , load starting function is turned off, and the function is recovered when temperature is below 60℃				
IP protection rating	IP30				
Net weight	700g				
Protection functions	Battery plate reverse connection protection, a battery reverse connection protection, charging battery board short circuit protection, charging the battery open circuit protection, charging over current protection, overload protection, load short-circuit protection controller and over temperature protection.				
Dimensions	166.0×118.2×52.6(MM)				