PY-HP Series PWM Solar Charge Controller
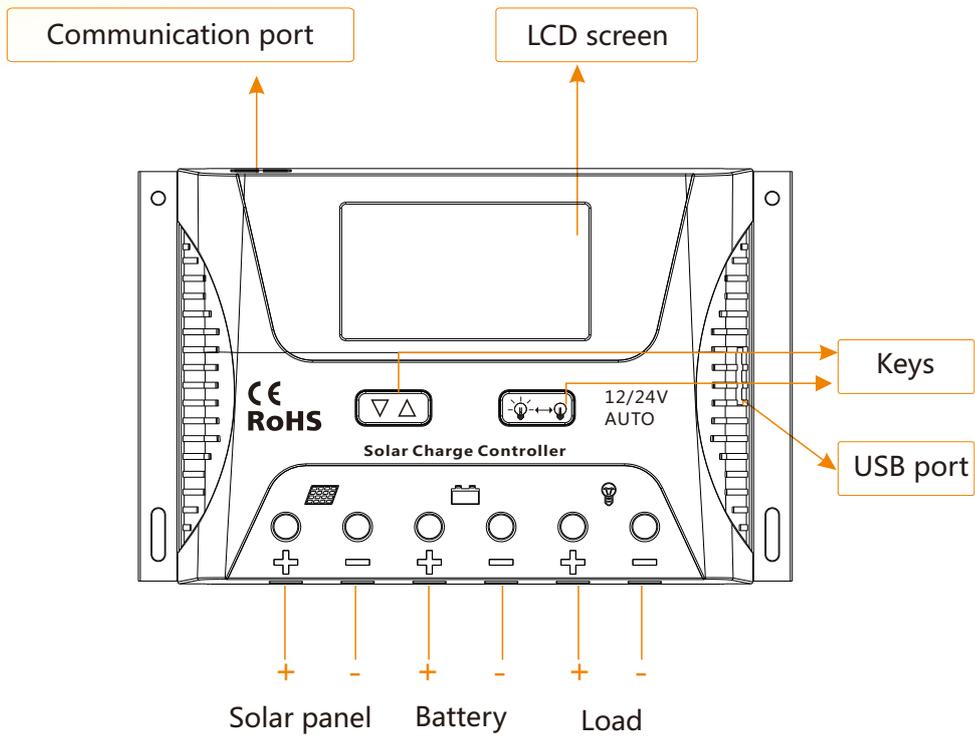
PY-HP2430/PY-HP2440/PY-HP2450/PY-HP2460/PY-HP4830/PY-HP4840

Product Features

1. Except HP4840 /30, 12V/ 24 V system voltages are automatically recognized.

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.

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

13.TVS lighting protection is adopted.

Panel Structure

Communication port

LCD screen

Keys

USB port

CE
RoHS

12/24V
AUTO

Solar Charge Controller

+ − + − + −

Solar panel   Battery   Load

Product Detail

CE
RoHS

12/24V
AUTO

Solar Charge Controller

SOLAR CHARGE CONTROLLER

CE RoHS

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	Charging state	Steady on	Boost charging
FLOAT		Steady on	Floating charging
EQUATIZE		Steady on	Equalizing charging
🔋	Battery	Quick flashing	Battery overvoltage
🔋		Slow flashing	Battery over-discharge
🔋	Battery SOC	4 dashes	100%
🔋		3 dashes	75%
🔋		2 dashes	50%
🔋		1 dash	25%
🔋		0 dash	0%
💡	Load	Steady on	Load turned on
💡		Steady on	Load turned off
💡		Quick flashing	Overload or short-circuit protection

Parameter Details

Model	PY-HP2430/40	PY-HP2450/60	PY-HP4830/40	Remarks
Rated current	30A/40A	50A/60A	30A/40A	
System voltage	Automatic recognition of 12V/24V		48V	
No-load loss	< 13mA/12V; < 15mA/24V		<20mA	
Max. Solar energy input voltage	<55V		<110V	
Max. voltage at the battery end	<34V		<68V	

Battery type	Parameters				Default SLD
	Flooded FLD	Sealed SLD	GEL GEL	Lithium LI	
Overvoltage protection	16.0V				×1/12V; ×2/24V; ×4/48V;
Equalizing charging voltage	14.8V	14.6V	–	–	
Boost charging voltage	14.6V	14.4V	14.2V	14.4V	
Floating charging voltage	13.8V	13.8V	13.8V	–	
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	30days		–	–	
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; ×4/48V;
Light control judgment time	10minutes				

USB function	Yes	No	No	
Operating temperature	-25℃to+55℃ ;			
IP protection degree	IP30			
Net weight	390g	650g	650g	
Protection functions	attery reverse connection protection, solar panel reverse connection protection, reverse charging protection at night			
	Charging overload protection, overcurrent protection , short circuit protection			
Dimensions	164.0×103.5×47.0(mm)	189.27×127.2×54.0 (mm)	189.27×127.2×54.0 (mm)	