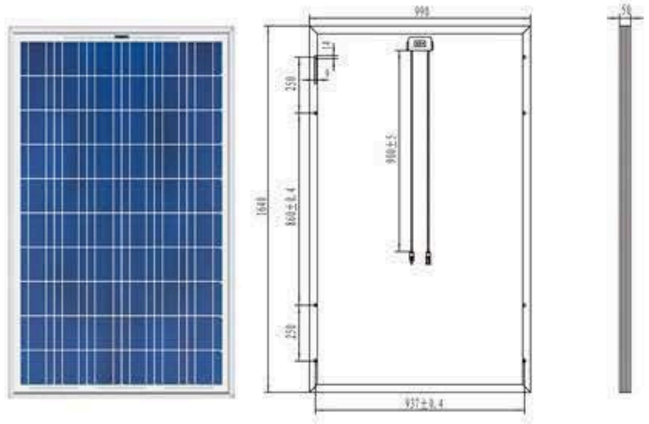
AIO SOLAR

MODEL: AIO-SST-02

240W

POLY-CRYSTALLINE SOLAR PANEL



Warranty: 10 Years

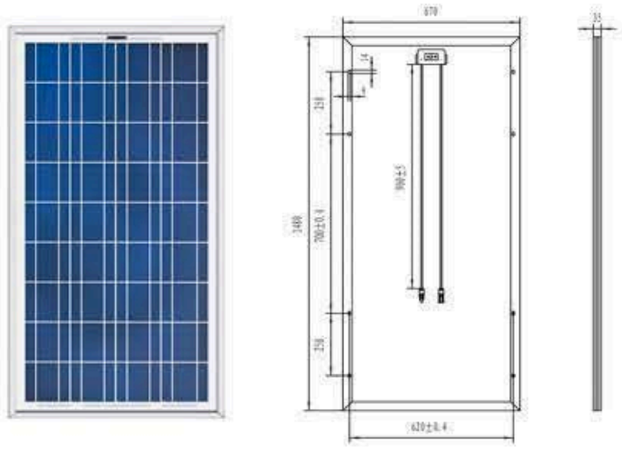
Technical Parameters:

Model	PS220	PS230	PS240	PS250
Voc(V)	37.11	37.16	37.22	37.24
Isc(A)	7.78	8.15	8.69	8.97
Vmp(V)	29.45	29.47	29.65	29.78
Imp(A)	7.47	7.80	8.09	8.39
(Wp)	220	230	240	250
Operating Temperature	-40to+85℃			
Maximum System Voltage	1000 V DC			
NOCT	48℃±2℃			
Current Temperature Coefficient (%/k)	0.06±0.01			
Voltage Temperature Coefficient (mV/k)	-(155±10)			
Power Temperature Coefficient (%/k)	-(0.5±0.05)			
Type of Output Terminal	Junction Box			
Cable	900mm， LAPP(4.0mm²)			
Connection	Standard Plug and Socket			
Solar Cell	156mm*156mm Poly-crystalline Silicon Solar Cell 156mm*156mm			
Type of Solar Cell	Type P			
No. of Cells and Connections	60(6*10)			
Dimension	1640*990*50(mm)			
Weight	21Kg			
Certificates	CE			
Applications	Large and Medium-Sized Solar Power Stations, Household Solar Power Systems, etc			

Eastech Solar

140W

POLY-CRYSTALLINE SOLAR PANEL



Technical Parameters:

Model	PS130	PS135	PS140	PS145	PS150
Voc(V)	22.24	22.18	22.26	22.34	22.48
Isc(A)	7.98	8.31	8.56	8.87	9.03
Vmp(V)	17.74	17.86	17.89	17.91	17.95
Imp(A)	7.32	7.55	7.82	8.09	8.35
Pm(Wp)	130	135	140	145	150
Operating Temperature	-40to+85℃				
Maximum System Voltage	1000 V DC				
NOCT	48℃±2℃				
Current Temperature Coefficient (%/k)	0.06±0.01				
Voltage Temperature Coefficient (mV/k)	-(155±10)				
Power Temperature Coefficient (%/k)	-(0.5±0.05)				
Type of Output Terminal	Junction Box				
Cable	900mm， LAPP(4.0mm²)				
Connection	Standard Plug and Socket				
Solar Cell	156mm*156mm Poly-crystalline Silicon Solar Cell 156mm*156mm				
Type of Solar Cell	Type P				
No. of Cells and Connections	36(4*9)				
Dimension	1480*670*35(mm)				
Weight	12.5Kg				
Certificates	CE				
Applications	Solar Lights, Household Solar Power Systems, etc				

AIO SOLAR

■ **Functions of the Components of Solar Power Systems**

A solar power system consists of solar panels, solar controller and battery (group). If the output power is 220V AC or 110V, the inverter should add to the configuration. The roles of each component:

☆ Solar panel: solar panel, the most indispensable and valuable part of the solar power system, plays a role to convert the sun radiation to electrical energy, to sent to the storage battery, or to promote the workloads.

☆ Solar controller: the role of the solar controller is to control the working state of the system and provide the battery over-charging protection and over-discharging protection for the storage battery. The controller should also have the functions of compensating temperature in areas where large temperature gap exists and having light-control switch, time-control switch for the controller.

☆ Battery: lead-acid battery is the most common one, its function is to store up the absorbed energy from the solar panel and to release energy in usage.

☆ Inverter: the inverter should provide 220VAC, 110VAC power on many occasions. Due to the direct solar energy output are generally 12VDC, 24VDC, 48VDC, in some cases, when comes to a variety of voltage load, DC-DC inverter is needed, e.g. convert the 24VDC power into the power 5VDC (note: that is not a simple step-down).

Projects of off-grid PV systems

Eastech Solar

Solar Grid-connected Power Stations

A grid connected PV system is a system which uses solar cells to convert light into electricity and feeds power into the grid (typically the public electricity grid) by a maximum power point tracking (MPPT), grid-controlled inverter.

In a grid-connected PV system, PV modules, wired together to form a PV array, pass DC electricity through an inverter to convert it into AC power. If the PV system AC power is greater than the owner's needs, the inverter sends the surplus to the utility grid for use by others. The utility provides AC power to the owner at night and during times when the owner's requirements exceed the capability of the PV system. Featured with no-battery requirement and maintenance free, the grid-connected PV power offers consumers both economic and environmental advantages. That will be the main future energy.

AIO SOLAR

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Installation Instruction for Solar

Solar panel is made up of solar cells with high efficiency and high transmission rate, low iron tempered glass, anti-aging EVA, high flame resistant TPT/BBT and anodized aluminum alloy. Its merits: high efficiency, long life, easy installation, high wind-resistant, etc.

Manufactured strictly to IEC61215,JY solar panel has pass the examination in authority test center, and it is now widely used in household solar power systems, PV stations, communication stations, and in the field of petrol, ocean, meteorological, traffic, buildings, etc

Installation

1. Climate Condition:

Install the PV panel in the following conditions:

Ambient temperature:-20℃ - +40℃

Operating temperature:-20℃ - +80℃

Snow Load Capacity: below 2000Pa

Wind Load Capacity: below 3000Pa

Water resistance: don't install the PV panel in a location where it would be immersed in water or continually exposed to water from sprinkler or fountain, etc.

Corrosion resistance: except for corrosive salt area and sulfurous area.

2. Orientation:

Install the PV panels facing south (in Northern Hemisphere) or to north (in Southern Hemisphere).Incorrect orientation will result in loss of power output.

PV panels connected in series should be installed at same orientation and angle. Different orientation or angle may cause loss of output power due to the different radiation on the panels.

Install the PV panels as free as possible from shading. Shading causes loss of output, even though the bypass diodes fitted in PV panels by manufactory can minimize such loss

3.Mounting and Notes:

Fasten the PV panels to the shelves with spring washers and flat washers.

Put the PV panels in a proper grounding way, which should be according to the mounting structures and environment.

Note: Do not install the PV panels near naked flame or flammable materials.

Mounting structure should withstand environment. Select proper material and corrosive treatment.

Use appropriate methods to mount PV panels. Avoid any damages from falling.

Do not disassemble, bend, walk on the panels, please do not impact the panels by sharp objects.

4.Caution

The PV panel has a pair of waterproof connectors (positive and negative). For the connection in series, please connect the positive (+) connector of 1st PV panel to the negative (-) connector of the next panel.

Connect the output cables with load equipments correctly.

Please do not connect the panel's positive connector to its negative one directly. It will be short circuit.

Make sure there is no gap between the connector and insulator.

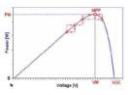
If the gap exists, a fire or an electrical shock may occur.

MODEL: AIO-SST-02

Integrated. Intelligent. Innovative.

Intelligent Aiming LED Solar Street Light Controller

AIO-CDWY series(A I O - C D W Y 1 0 0)



MPPT Charging

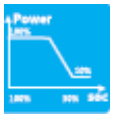
Auto Identification

3-Phrase Charging

36V Input

Built-in LED Driver

IP68



Intelligent Power

PWM Aiming

Full-time Light Control

LED Street Lighting

WARRANTY: 3 YEARS

Integrated. Intelligent. Innovative.

i. Product Features

(1)Brand new intelligent design, automatically identify and adjust output power.

(2)Digital high precision MPPT output, energy-saving stepless adjustment, no obvious light difference.

(3)Auto-adjust working current. It can effectively protect the battery by adjusting output power according to the change of battery voltage.

(4)7 phrase energy-saving pattern output. Every phrase use stepless variable light.

(5)Light control working pattern.

(6)Aluminum alloy shell, anodize appearance, the color would not change.

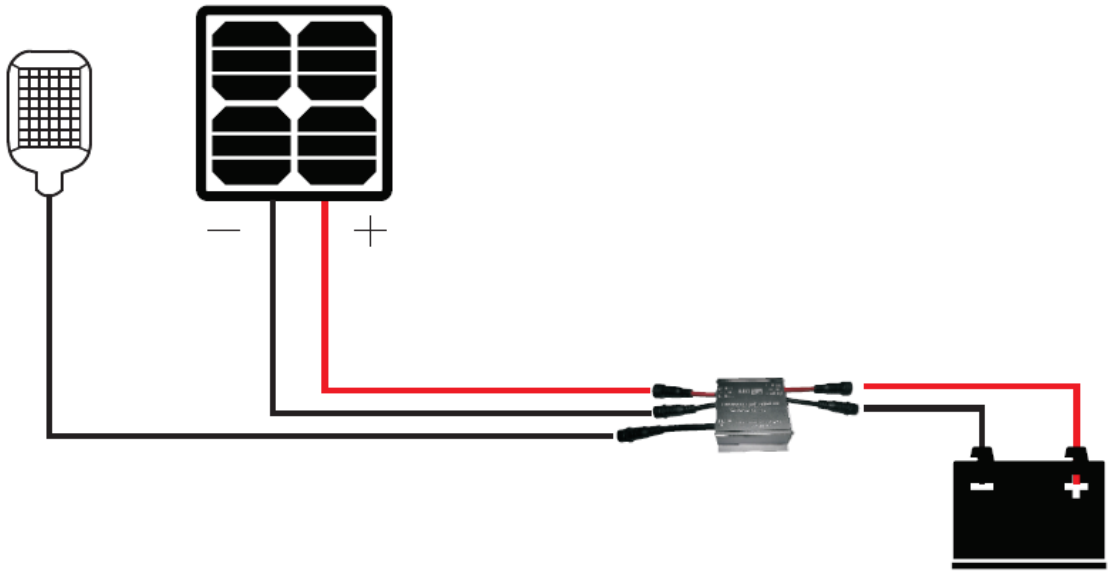
(7)Omniseal design, IP68 waterproof, can be used in any conditions.

(8)Sealed connector design, IP65 waterproof, easy installation.

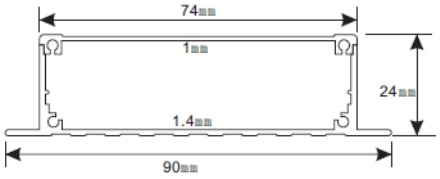
(9)Anti-reverse connection design for the connector. Avoid the reverse connection operation & short circuit when installation.

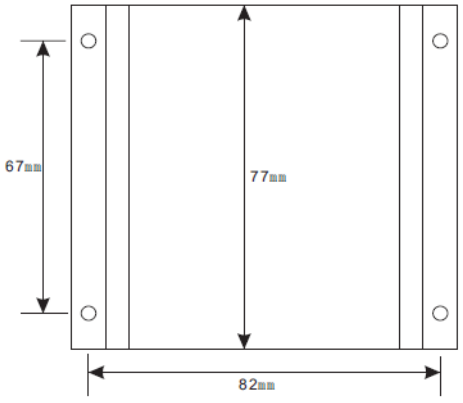
ii. Product Sketch

iii. Product wiring drawing



iv. Product Dimension





v. Product Specification

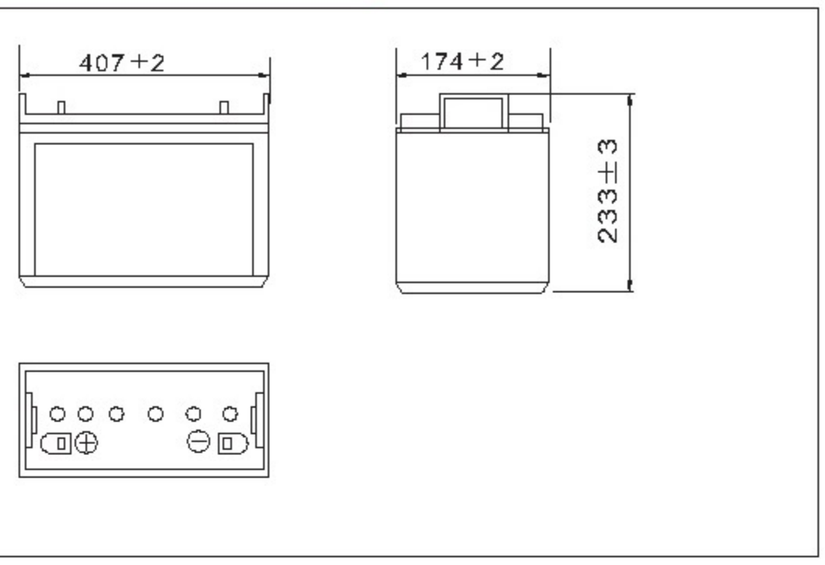
Item	Parameter Values
Model	AIO-CDMY100
System Voltage	12V / 24V
Output Power	0 – 100w / 12V or 24V
Output Current	0 – 5A
Consumption Without Load	0.08W
Charging Current	10A
Solar Input Voltage	18V/36V
Constant Current Driver Typical Efficiency	90% - 96%
Over Voltage Protection	16.0V ; ×2/24V
Charging Limited Value Voltage	14.5V / 12V 29V / 24V
Balanced Charging Value Voltage	15.2V ;×2/24V(25℃)
Floating Charge Voltage	13.2V – 14.0V ; ×2/24V(25℃)
Over-discharge Return Voltage	12V / 12V ; 24 / 24V
Over-discharge Voltage	10.6V / 12V ; 21.2V / 24V
Temperature Compensation	-4.0mv/℃/2V
Load Output Voltage	12V / 12V ; 24 / 24V
Over Temperature Protection Environment Temperature	Environment Temperature:80℃（load decrease consumption）
Over Temperature Protection Environment Temperature	Internal temperature:120℃（load turn off）
Light-control Voltage	9V / 12V ; 18 / 24V
Light-control Delay	30 Seconds
Working Temperature	-35℃ -- +65℃
Waterproof Grade	IP68
Weight	240g
Dimension	77×90×24mm

AIO SOLAR

Eastech Eastech Solar

NP12-120(12V120AH)

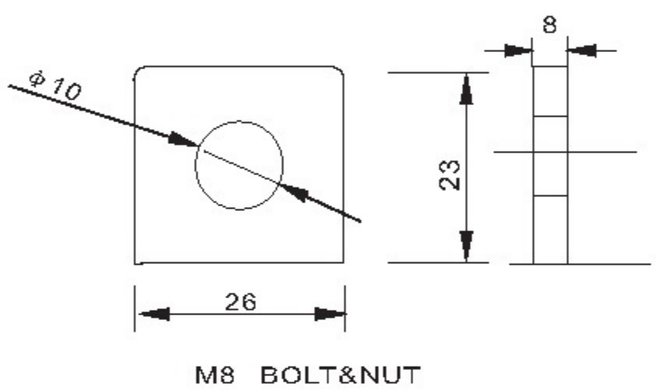
Outer dimensions (mm)



Specifications

Nominal Voltage		12V
Rated capacity (10 hour rate)		120 Ah
Dimensions	Total Height	233 mm (9.17 inches)
	Height	209 mm (8.23 inches)
	Length	407 mm (16.0 inches)
	Width	174mm (6.85 inches)
Weight Approx		36.20 Kg (79.64 lbs)

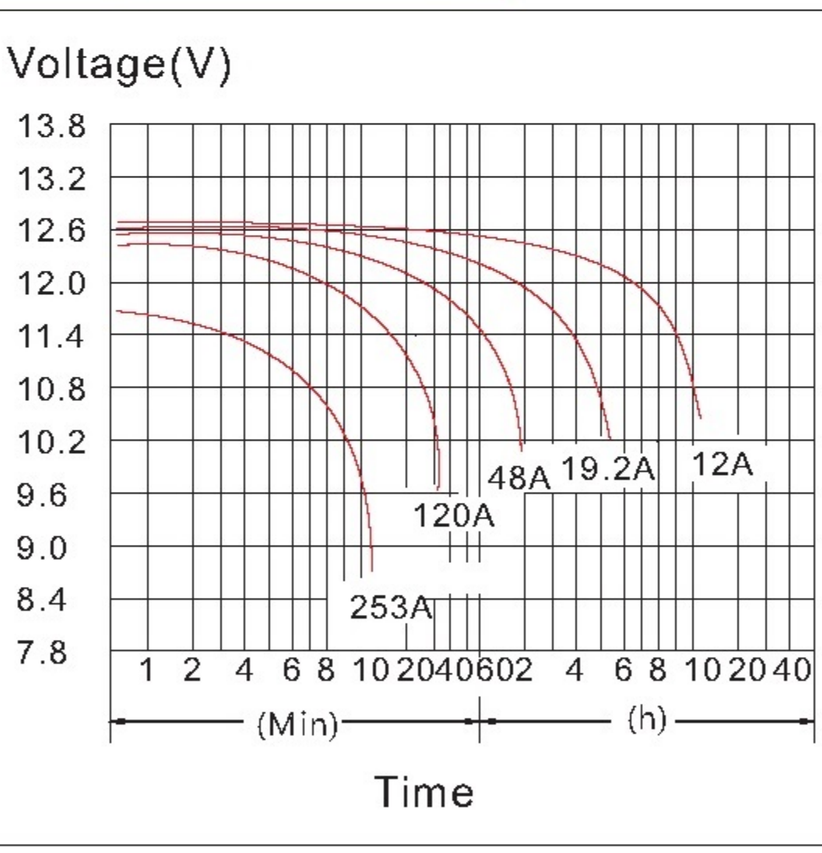
Terminal Type (mm)



Characteristics

Capacity 25℃(77℉)	10 hour rate(12.0 A) 5 hour rate(19.2 A) 1 hour rate(72 A)	120 AH 96 AH 72 AH
	1.5 hour discharge to 10.5V	48 A
Internal Resistance	Full charged Battery at 25℃(77℉)	5.0 mΩ
Capacity affected by Temperature (10hour rate)	40℃(104℉) 25℃(77℉) 0℃(32℉) -15℃(5℉)	102% 100% 85% 65%
Self-Discharge at 25℃(77℉)	Capacity after 3 month storage Capacity after 6 month storage Capacity after 12 month storage	91% 82% 64%
Terminal	T11	
Charge (constant Voltage) Cycle	Initial Charging Current less than 40 A Voltage 14.40-14.80V(Time14~16h)	
Charge (constant Voltage) Float	Voltage 13.50-13.80V	

Discharge Curves 25℃(77℉)



WARRANTY: 2 YEARS

WARRANTY: 2 YEARS

Constant Current(Amp) and Constant Power(Watt) Discharge Table at 25℃(77℉)

Time		5min	10min	15min	30min	1h	2h	3h	4h	5h	8h	10h	20h
9.60V	A	384	253	204	136.8	72.0	42.0	30.8	24.0	19.8	14.04	12.60	6.80
	W	3967	2704	2189	1471	778	461	343	270	225	161	146	79.1
10.20V	A	374	228	192	130.8	67.7	40.1	30.0	23.4	19.4	13.68	12.36	6.60
	W	3954	2551	2151	1468	765	462	347	272	227	160	145	77.4
10.50V	A	360	204	168	122.4	65.5	39.1	29.3	23.0	19.2	13.56	12.12	6.60
	W	3933	2325	1919	1409	759	454	341	270	225	159	143	78.0
10.80V	A	347	193	156	112.8	63.4	38.2	28.6	22.7	18.7	13.20	12.00	6.48
	W	3894	2221	1800	1307	738	447	337	268	221	156	143	77.2
11.10V	A	335	180	144	100.8	61.2	37.2	27.6	22.1	18.2	12.84	11.40	6.12
	W	3803	2090	1679	1179	720	440	328	263	218	154	137.6	74.2

NOTE: FOR REFERENCE ONLY