

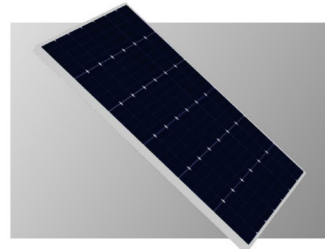
EFX-XJRSO-005-30

EFX-XJRSO solar system product adopts high efficiency solar panel, the efficiency could reach more than 16%. The Associated lead-acid battery or the gel battery is also very good. This system adopts LED light source and the powerful solar system controller. The special constant temperature box and small double opening-door ensure the solar system work more stable.

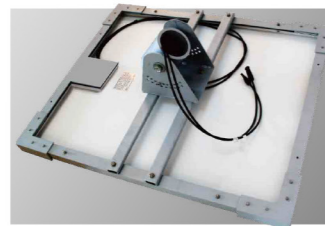
New Solar

The Application of Occasions:
Mainly used for parks, plazas, pedestrian street, street.





Solar Panel



Solar Panel Bracket



Battery

Performance and advantages

Solar Panel

- 1.cover uses embossed glass ,total sun transmission reach 91.42%
- 2.mono-crystal line silicon solar cells reach a efficiency at 16%-17%,to be more efficient in conversion
- 3.work in terrible condition. Temperature of working condition:-30°C ~ 75°C,Humidity of working condition:0 ~ 100%,Max wind speed:>150km/h.

Solar Panel Bracket

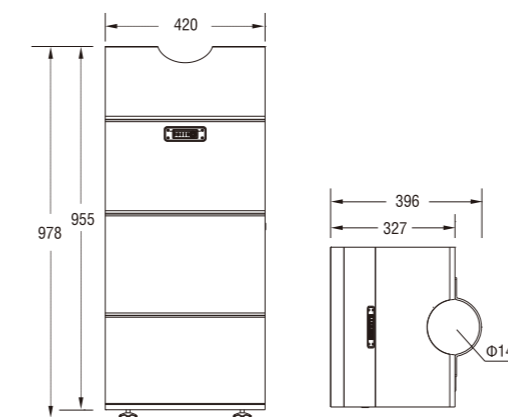
- 1 , solar panel can be adjusted from 0 ~ 70°.It can satisfy all customers from different regions. Precise scale to maintain the consistency of batch installation.
- 2 , Azimuth angle of solar panel can be adjusted 360°.
- 3 , Whole bracket is made of aluminum. Installation are solid, portable and convenient

Battery

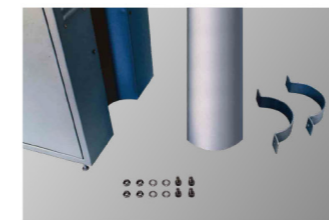
- 1.Normal condition: lead-acid battery with good cost performance and free maintenance
- 2.Low temperature condition: Using colloid storage battery if the temperature is lower than -7°C and underground style is suggested.
- 3.High temperature condition: Using Ni-Cd battery if the temperature is always more than 45°C. However, colloid battery with underground style are best way to keep battery long life.

EFX-XJRSO-A

Box Installed



Product Dimension



Decomposition figure



Anti-stolen bolts



Controller



Battery

Solar Panel

Multi-function box: showing the power storage in battery, temperature- controlling fan installed in box. Box can be put in different height and special lock for anti-stolen.



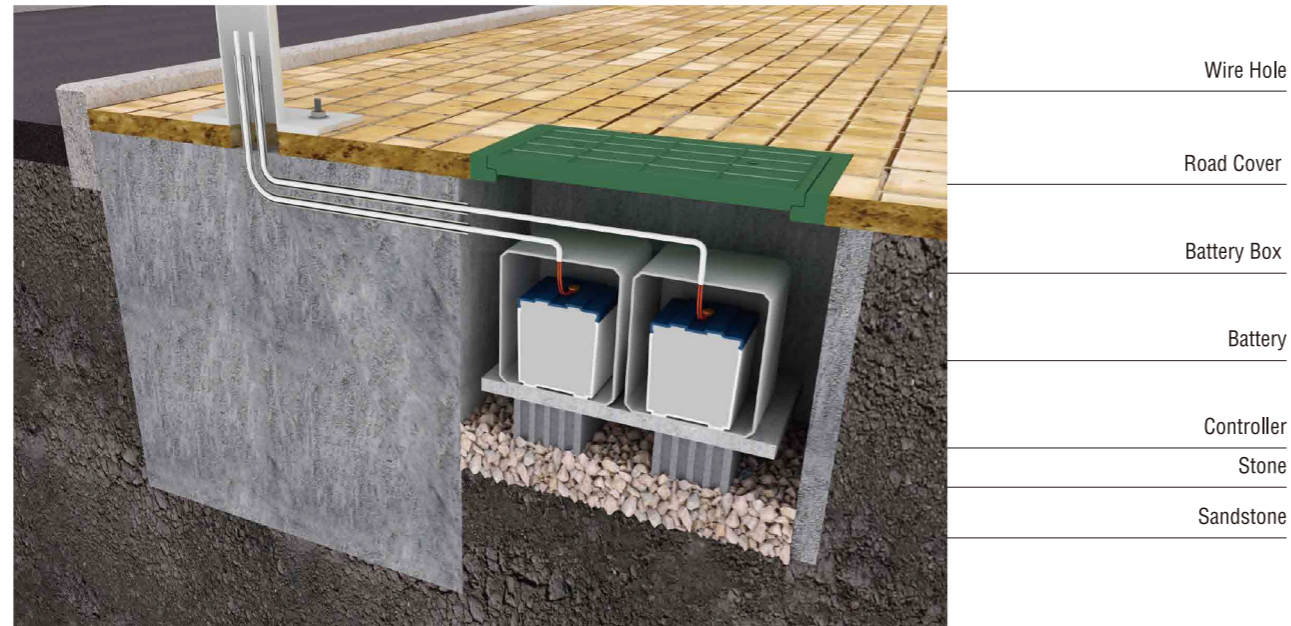
Temperature-controlling device + fan: the fan starts working when temperature of plastic battery box reach 45°C, fan is stopped automatically when temperature decrease to 45°C. Keeping the battery long life.



Power storage showing: Device shows the power storage in battery when DISP button is pressed down. It is very convenient for customers to learn whether solar system works well. The signal bulb will be off automatically a few second later.

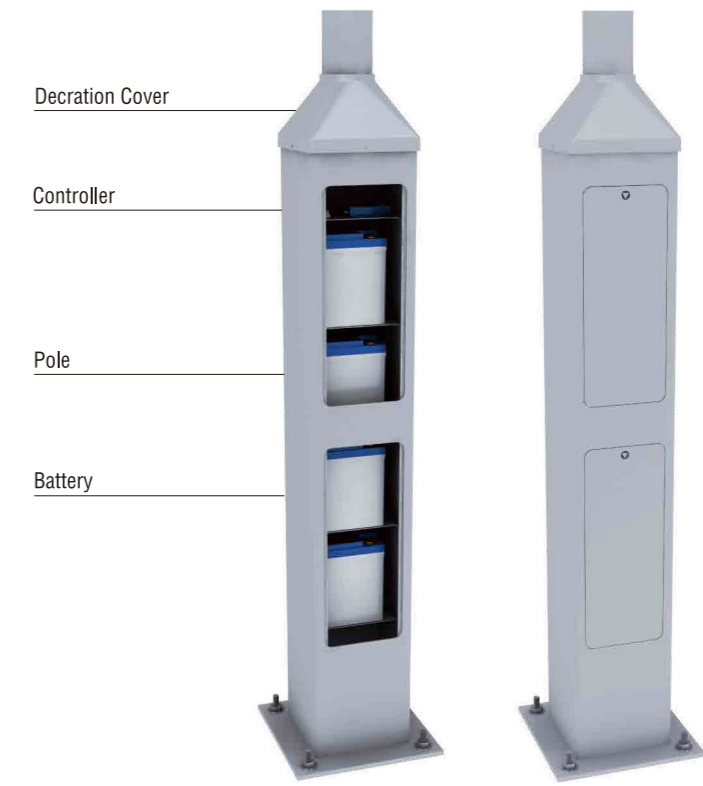
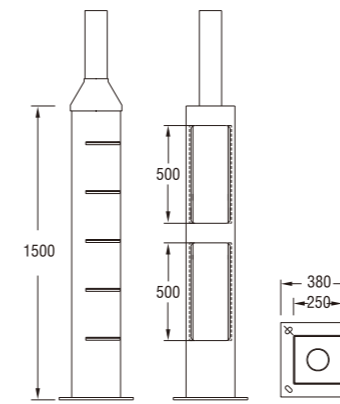
EFX-XJRSO-B

Buried Installation



EFX-XJRSO-C

Pole Installation



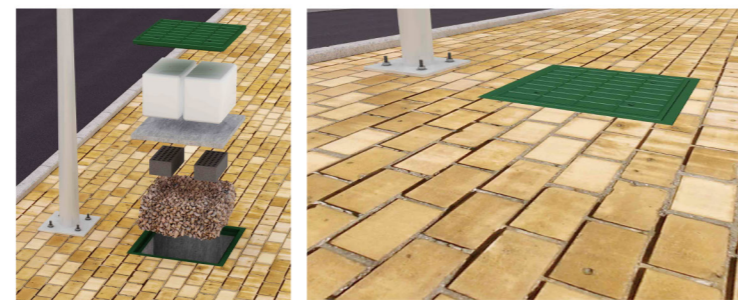
Buried Box

Underground box

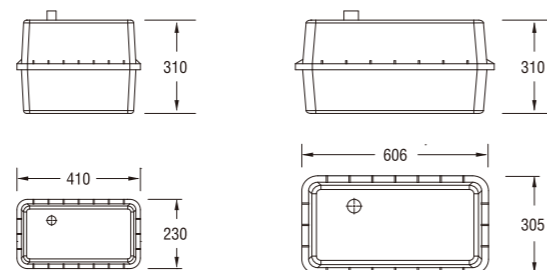
using high quality material, it is resistible to wallop and corrosion. Connecting to the pole ,anti-stolen. Meanwhile, keep water outside.



Battery



Underground box

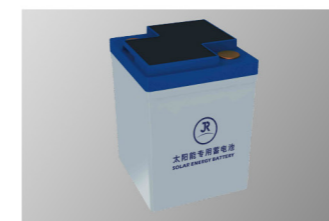


80AH Battery Box

150AH Battery Box



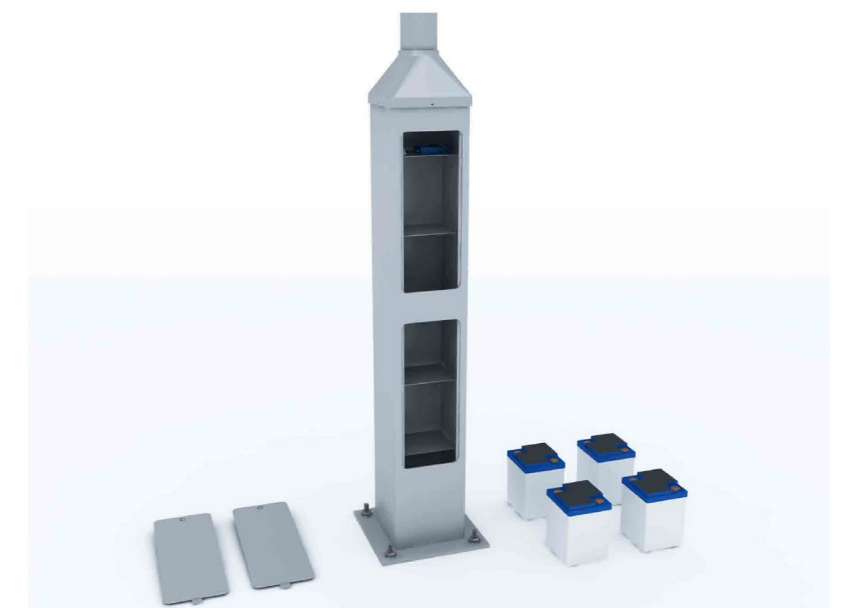
Controller



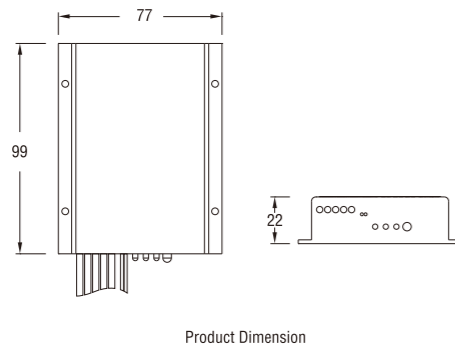
Special battery

Underground box

1. Whole steel structure, galvanized pensu processing.
2. Double door,structure is firm and easy to maintenance
3. The volume is small,looks good.



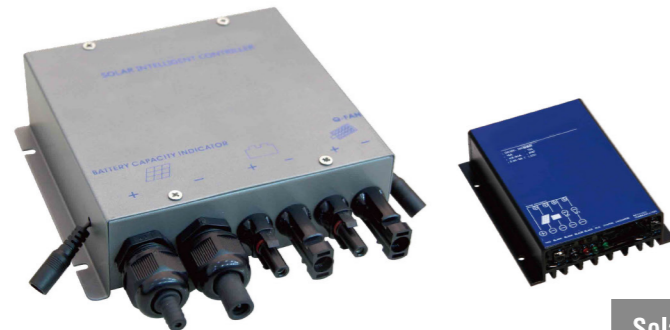
Exploring controller junction by ourselves, easy to process and can avoid mistake through matching junction. It is much humanized.



Distribution of solar radiation

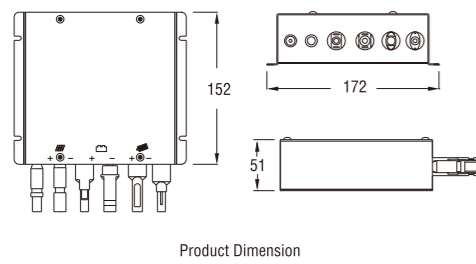
Solar resource means whole radiation of the sun. The radiation of one country or one region is determined by latitude, altitude, cloud. Authority agency reports, max radiation area in China is Qingzang Tableland, reaching 10100MJ/M², min radiation area in China is Sichuan Province, only 3300MJ/M². Generally, the world is divided to 4 areas according to radiation amount, more than 3000h/y; 2400-3000h/y; 1600-2400h/y; less than 1600h/y.

Taking Shanghai(low),Athens(middle),Brasilia(high) for example, we recommend following settings according to different climates in these region.



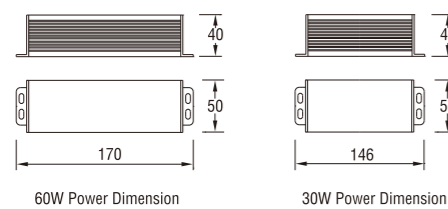
Solar Controller

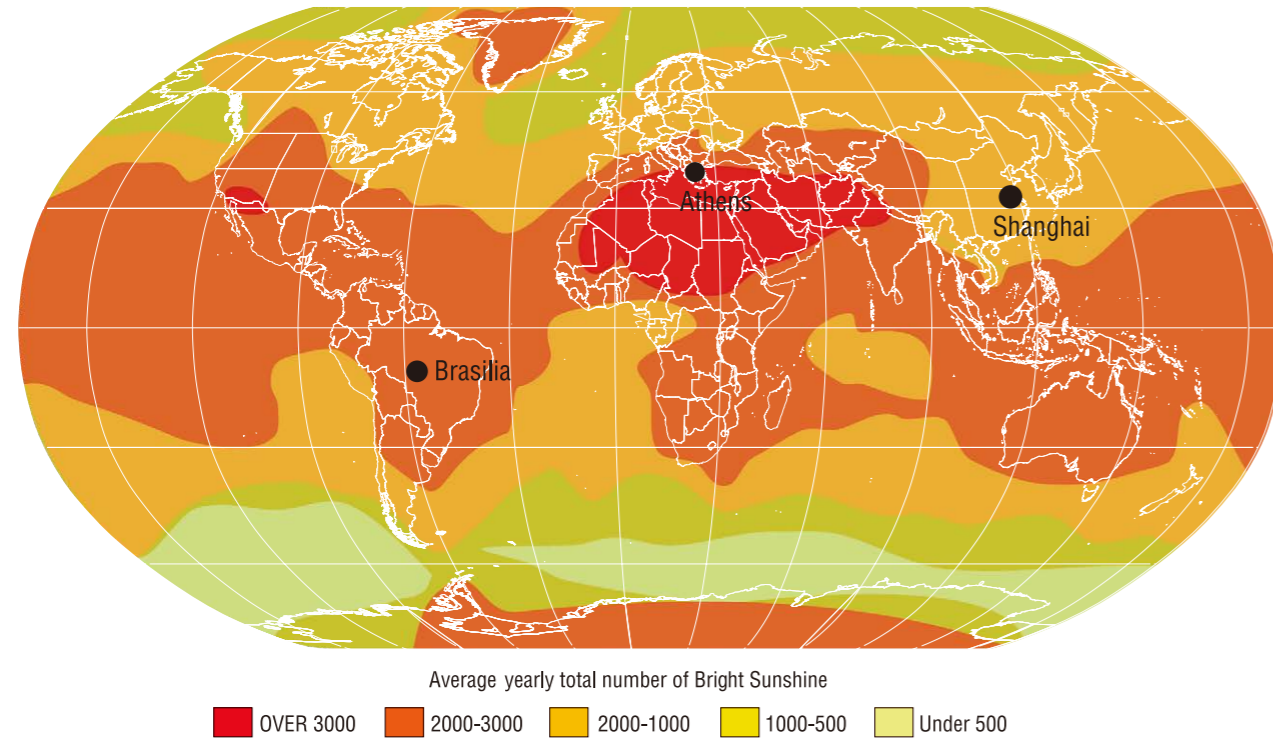
- 1.Perfect protect function: Load short circuit; Reverse discharge protection; Polarity reverse protection; Thunder strike protection;
- 2.Energy saving model: it can separate enactment three ranges of the power to the main and sub light.



Constant Current Driver

Accurate constant current output, ensuring the best efficiency of led light, reducing light decay and protract the lamp life.





Climate Radiation Parameters of Three Cities in the World

City		1	2	3	4	5	6	7	8	9	10	11	12
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Brasilia Brazil Altitude 1160m	Average Highest Temperature	26.9	26.7	27.1	26.6	25.7	25.2	25.1	27.3	28.3	27.5	26.6	26.2
	Average Temperature	21.6	21.8	22	21.4	20.2	19.1	19.1	21.2	22.5	22.1	21.7	21.5
	Average Lowest Temperature	17.4	17.4	17.5	16.8	15	13.3	12.9	14.6	16	17.4	17.5	17.5
	Rainfall	241.4	214.7	188.9	124	39.3	8.8	11.8	12.8	51.9	172.1	238	248.6
Athens Greece Altitude 15m	Average Highest Temperature	13.4	13.9	15.8	19.4	24	28.5	31.6	31.4	28.2	23	18.9	15.2
	Average Temperature	10.2	10.5	12.4	16	20.6	25	27.8	27.6	24.3	19.3	15.4	12
	Average Lowest Temperature	7	7.3	8.6	11.7	15.8	20	22.8	22.6	19.7	15.5	12	8.9
	Rainfall	45.2	47.8	44.3	24.8	14.4	6	5.6	8.1	9.7	47.8	50.8	66.3
Shanghai China Altitude 3m	Average Highest Temperature	7.7	8.6	12.7	18.6	23.5	27.2	31.6	31.5	27.2	22.3	16.7	10.6
	Average Temperature	3.7	4.6	8.5	14.2	19.2	23.4	27.8	27.7	23.6	18.3	12.4	6.1
	Average Lowest Temperature	0.5	1.5	5.1	10.6	15.7	20.3	24.8	24.7	20.5	14.7	8.6	2.4
	Rainfall	39	58.8	81.2	102	115	152	128	133	156	60.5	51.2	34.7

Climate Data Of Shanghai, Athens, Brasilia From 1970 To 2008

Peak sunlight of Brasilia, Athens, Shanghai

City	1	2	3	4	5	6	7	8	9	10	11	12	Year average
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Brasilia	5.37	5.60	5.20	5.32	5.09	5.04	5.23	5.74	5.84	5.52	5.17	4.94	5.33
Athens	2.14	2.88	4.00	5.37	6.43	7.46	7.36	6.62	5.21	3.44	2.18	2.58	4.57
Shanghai	2.63	3.09	3.53	4.28	4.84	4.58	5.17	4.78	4.07	3.36	2.79	1.73	3.81

22year Acera Monthly Averaged Insolation Incident On A Horizontal Surface(kWh/m2/day)

Reference Table

Taking Shanghai(low), Athens(middle), Brasilia(high) for example, we recommend following settings according to temperature, sunshine, radiation, rainy day, lighting power, working hours every night.

Power (W)	Configure	Peak Radiation (Hour)	Slope Angle (°)	Continuously Raining Working Days (Day)	Working Time per Day (Hour)
30	High	3.81	45	3-5	6-10
	Mid	4.57	50	3-5	6-10
	low	5.33	20	3-5	6-10
60	High	3.81	45	3-5	6-10
	Mid	4.57	50	3-5	6-10
	low	5.33	20	3-5	6-10

	Configure	Power of Solar Cell Panel Parameter	Quantity	Cell Storage Parameter	Quantity
30	High	150Wp/35V	1	12V-80AH	2
	Mid	130Wp/35V	1	12V-80AH	2
	low	100Wp/35V	1	12V-80AH	2
60	High	150Wp/17V	2	12V-150AH	2
	Mid	130Wp/17V	2	12V-150AH	2
	low	100Wp/17V	2	12V-150AH	2

Reference Pole



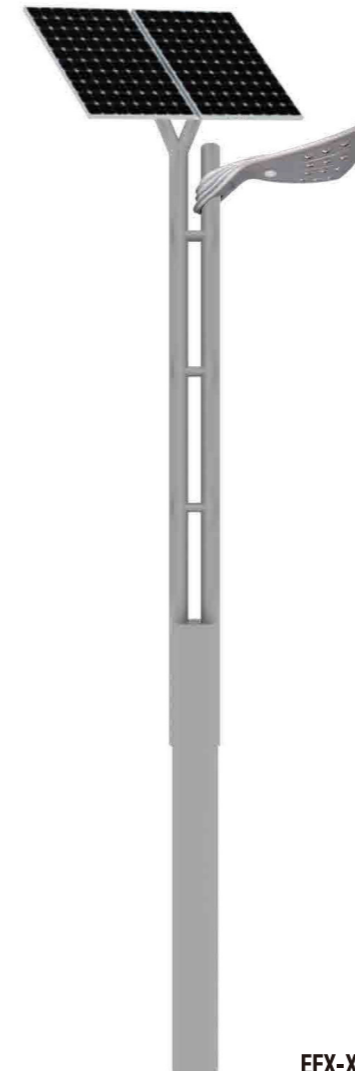
EFX-XJRSO-01



EFX-XJRSO-02



EFX-XJRSO-03



EFX-XJRSO-04



EFX-XJRSO-05



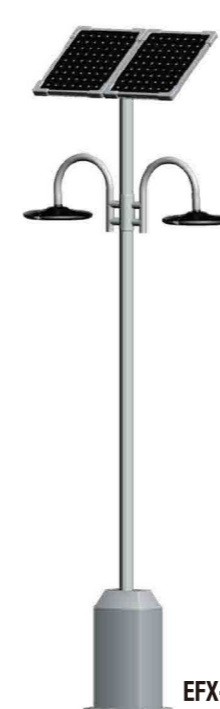
EFX-XJRSO-06



EFX-XJRSO-07



EFX-XJRSO-08



EFX-XJRSO-09



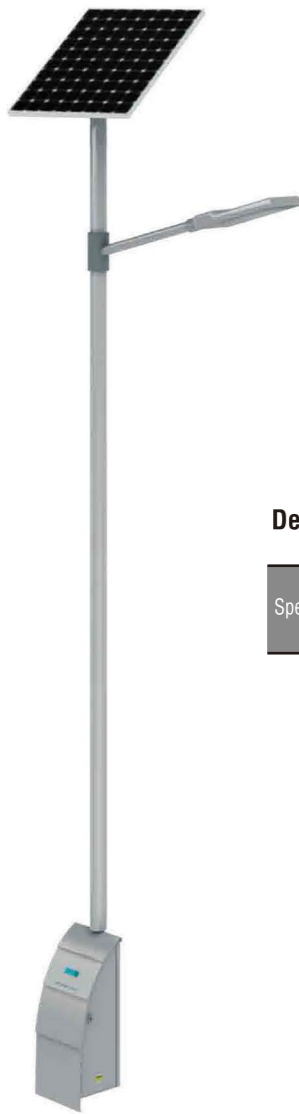
EFX-XJRSO-10



EFX-XJRSO-11



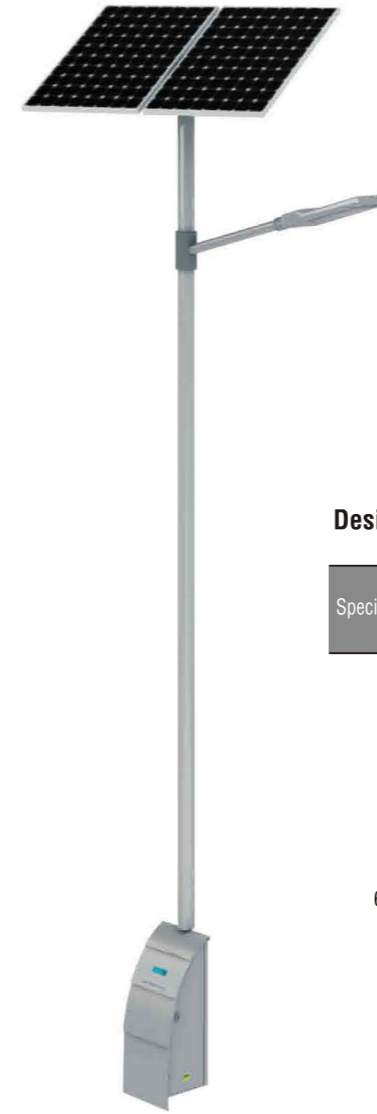
EFX-XJRSO-12



EFX-XJRSO-005-30

Design of 30w solar light for ShangHai Area

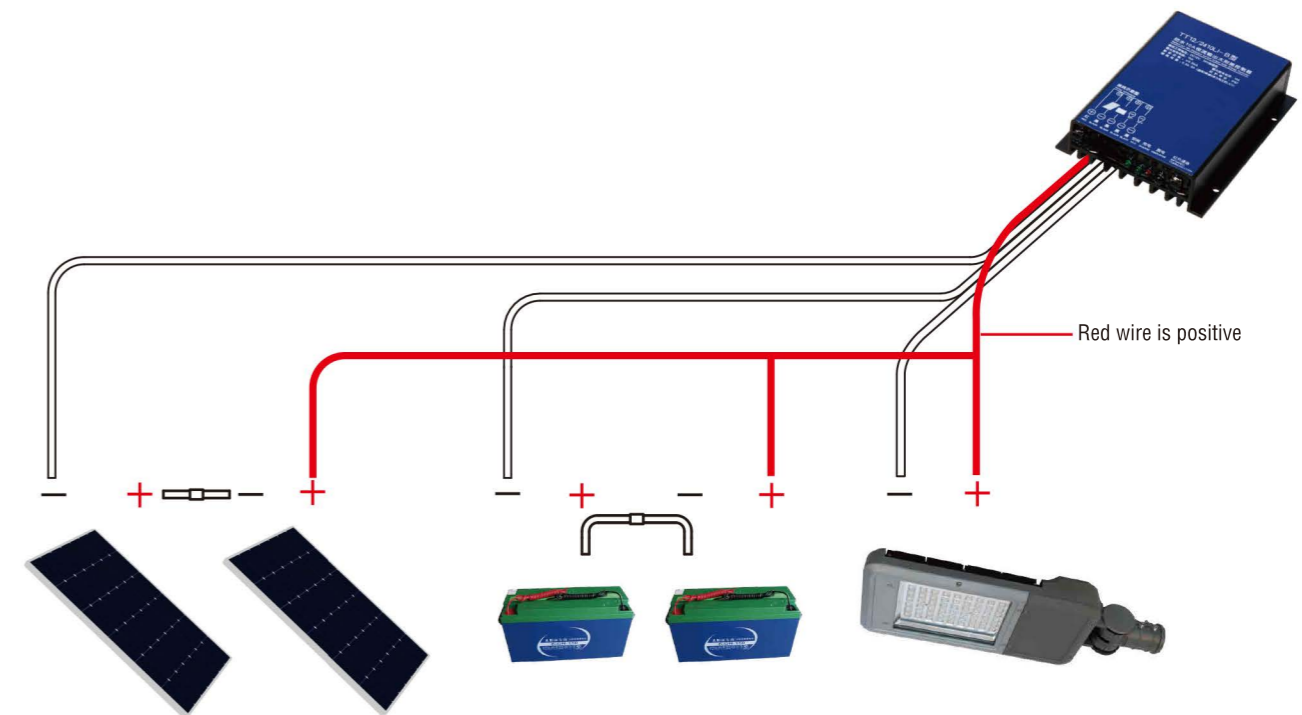
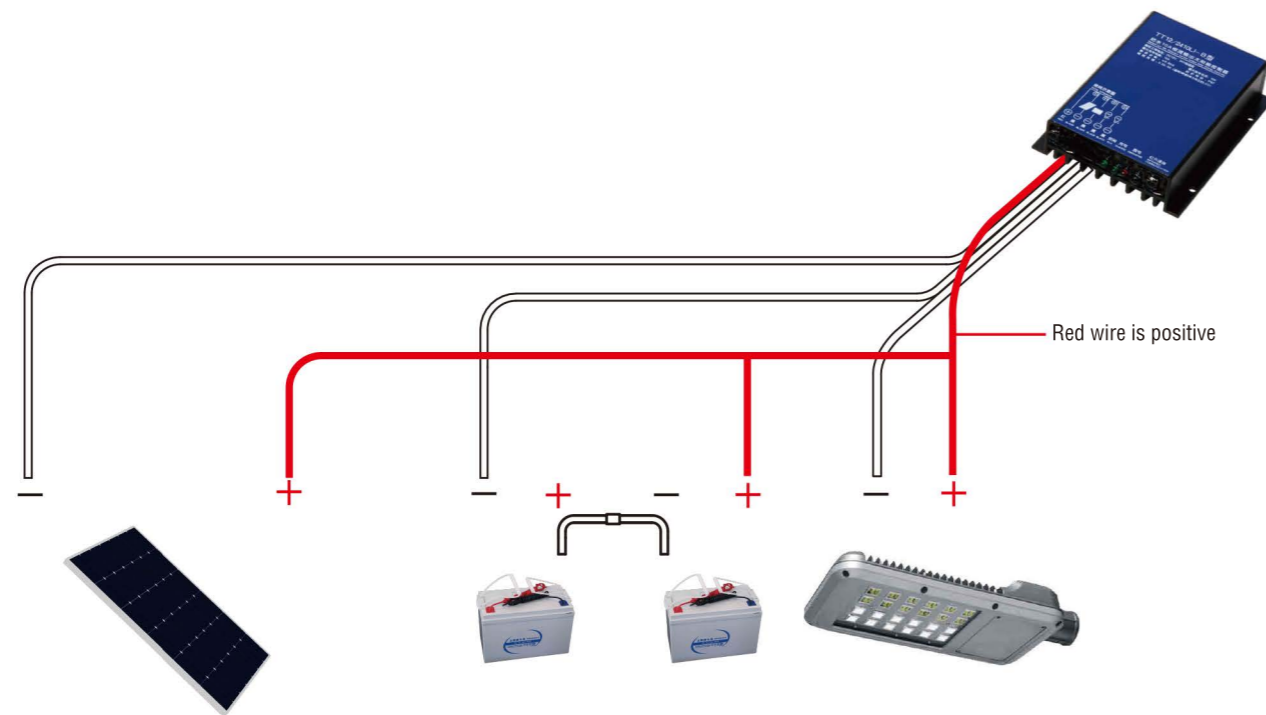
Specifications	Performance	Parameter	
30W	Head of road lamp	EFX-XJRA1-30-24	
	Lead-acrd battery	12V80AHx2	
	Component of solar Battery	150W/35 Mono-Crystalline Silicon Solar Cells	
	Height Of Pole	5m	
	Light Height	3.68m	
	Controller	Light Control, Time Control, Overvoltage, Undervoltage, Short Circuit, Lighting Stroke Protection	
	Contant current module	Vin: 20-30V	Lout: 350mA±5%



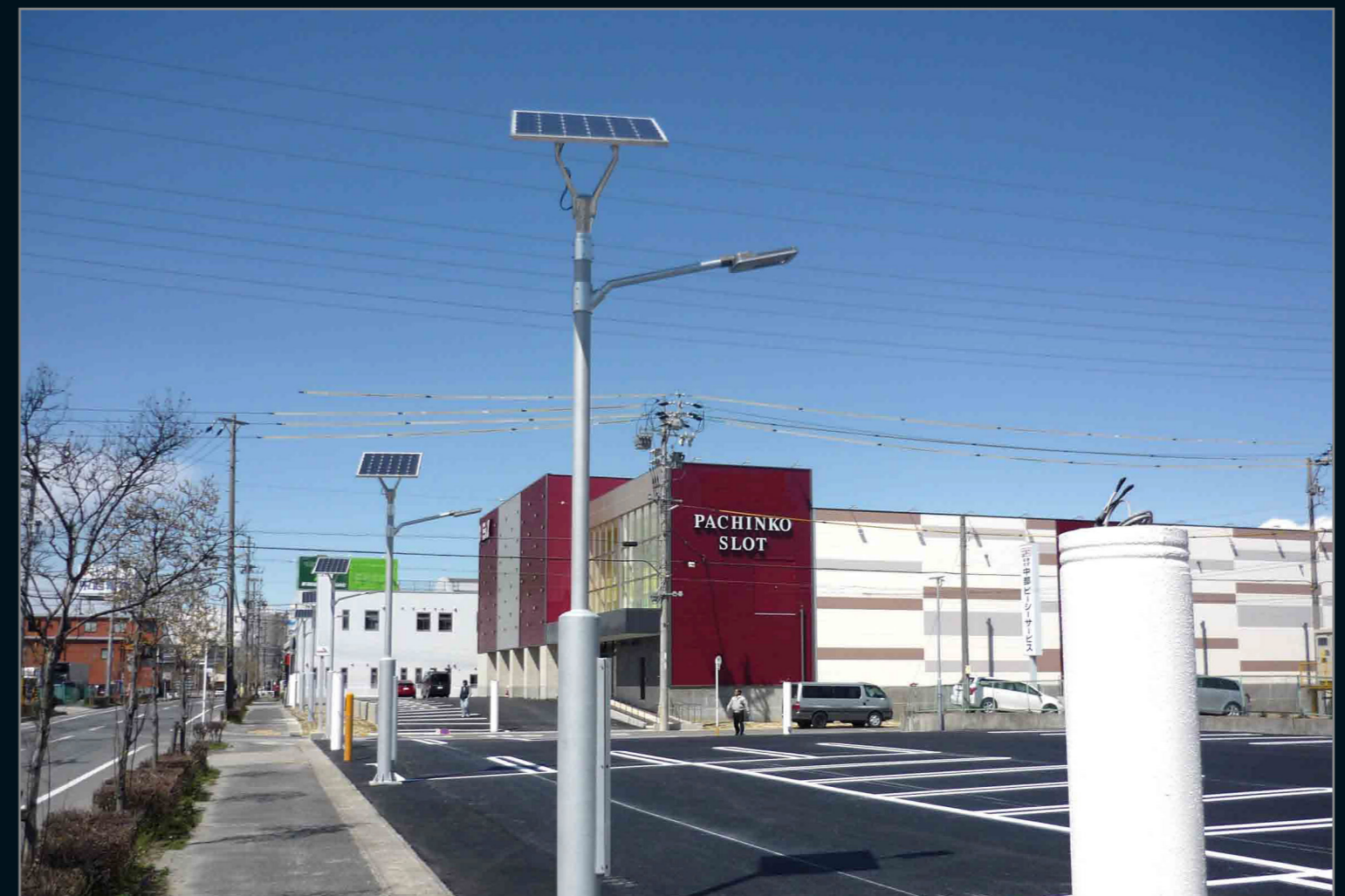
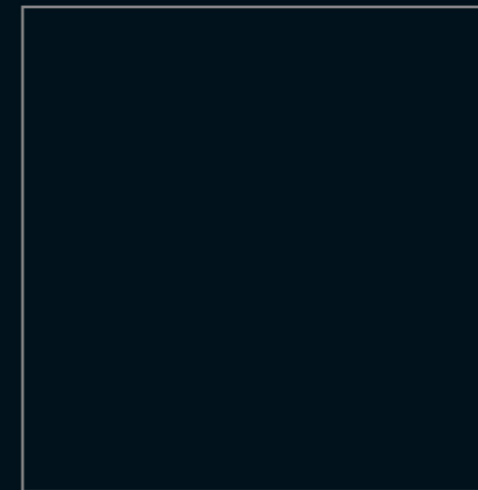
EFX-XJRSO-005-60

Design of 60w solar light for ShangHai Area

Specifications	Performance	Parameter	
60W	Head of road lamp	EFX-XJRA1-60-24	
	Lead-acrd battery	12V150AHx2	
	Component of solar Battery	150W/35x2 Mono-Crystalline Silicon Solar Cells	
	Height Of Pole	6m	
	Light Height	4.68m	
	Controller	Light Control, Time Control, Overvoltage, Undervoltage, Short Circuit, Lighting Stroke Protection	
	Contant current module	Vin: 20-30V	Lout: 700mA±5%



LED Solar Light Series



www.eco-fx.co.uk

EcoFX
LED lighting solutions

Office 1, 192 Shoreham Street
Sheffield S1 4SQ, UK
T: +44(0) 114 321 9610
E: enquiries@eco-fx.co.uk

Global Partner

Eco-FX
Smarter LED Lighting Solutions
Australia

