

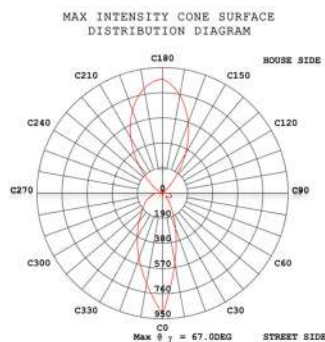
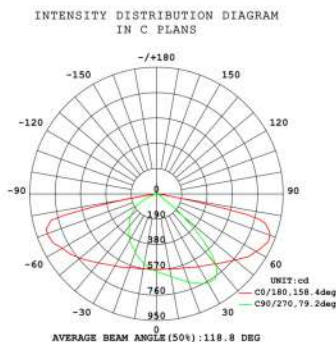
**MODEL: CM6200**



**CM6200-N150**



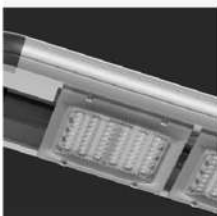
**Photometric Data**



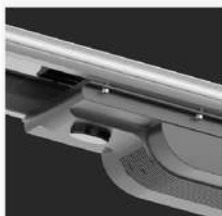
**DESCRIPTION:**

Solar powered all in one LED Street light luminaire, Body made of aluminium alloy / ABS wide beam light distribution.

- LED module can be adjusted separately
- Independent waterproof ADC12 die-casting battery box, Using long-life LiFePO4 battery pack,
- Solar panel adopts M6 high-efficiency mono crystalline Silicon wafers efficiency up to 23.1%
- High corrosion resistant capability
- silicon rubber gasket for dust proof & waterproof
- High lumen LED chip Philips (Lumileds) SMD3030 2D
- Heat resistant and solid conduct wiring
- Ideal for Street lighting, Car Parking and wide range of external application.
- European standard of EN 60598



220LM/W high efficiency LED



Sensor + Magnet switch + Indicators for all status



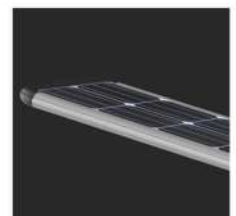
0° - 90° Angle adjustable bracket



Easy maintenance battery pack



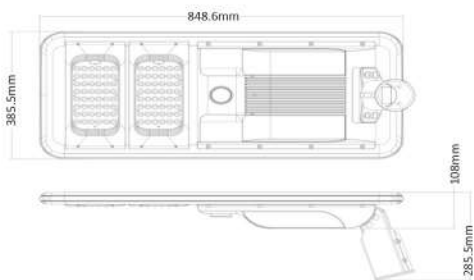
High-strength aluminum alloy frame



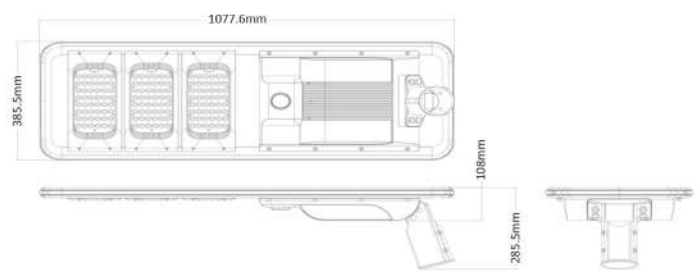
High-efficiency mono solar cells: >21%

Solar Spec	CM6200-N40	CM6200-N50	CM6200-N60	CM6200-N80	CM6200-N100	CM6200-N120	CM6200-N150
Power	40W	50W	60W	80W	100W	120W	150W
Solar Panel	18V/65W	18V/70W	18V/70W	18V/80W	18V/100W	18V/130W	18V/160W
Battery	12.8V/230.4Wh	12.8V/460.8Wh	12.8V/460.8Wh	12.8V/537.6Wh	12.8V/729.6Wh	12.8V/806.4Wh	12.8V/921.6Wh
Working Mode	REMOTE Control / Night Sensor + Microwave Motion Sensor						
Raining Day	3-5 days	3-5 days	3-5 days	3-5 days	3-5 days	3-5 days	3-5 days
Charging Time	6-8Hrs	6-8Hrs	6-8Hrs	6-8Hrs	6-8Hrs	6-8Hrs	6-8Hrs
Temperature in Working	-20 C +60 C	-20 C +60 C	-20 C +60 C	-20 C +60 C	-20 C +60 C	-20 C +60 C	-20 C +60 C
Protection	IP66	IP66	IP66	IP66	IP66	IP66	IP66
Pole Diameter	70-80mm	70-80mm	70-80mm	70-80mm	70-80mm	70-80mm	70-80mm
Install Height	4-7Mtr	5-7Mtr	5-7Mtr	6-8Mtr	7-10Mtr	8-11Mtr	9-12Mtr
Size	848.6x385.5x108mm	1077.6x385.5x108mm	1077.6x385.5x108mm	1077.6x385.5x108mm	1548.68x385.41x108mm	1863x385.5x108mm	1863x385.5x108mm

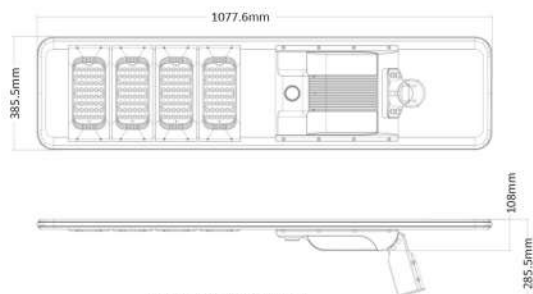
LED Spec	CM6200-N40	CM6200-N50	CM6200-N60	CM6200-N80	CM6200-N100	CM6200-N120	CM6200-N150
Power	40W	50W	60W	80W	100W	120W	150W
LED Type	Philips (Lumileds) 3030 2D						
Voltage	220-240V/60Hz	220-240V/60Hz	220-240V/60Hz	220-240V/60Hz	220-240V/60Hz	220-240V/60Hz	220-240V/60Hz
Luminous Flux	170lm/w	170lm/w	170lm/w	170lm/w	170lm/w	170lm/w	170lm/w
Color Temperature	3000-6500K	3000-6500K	3000-6500K	3000-6500K	3000-6500K	3000-6500K	3000-6500K
Power Factor	>90	>90	>90	>90	>90	>90	>90
CRI	>80	>80	>80	>80	>80	>80	>80
Life Span	50000Hrs						



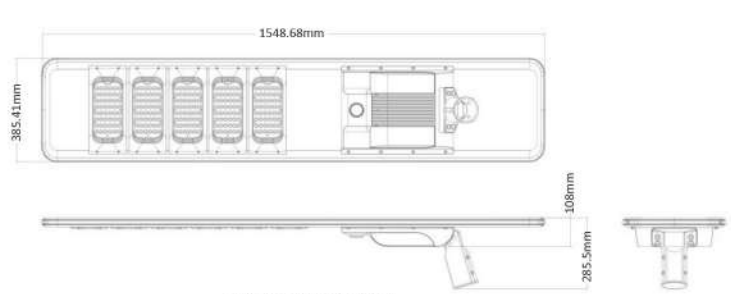
CM6200-N40



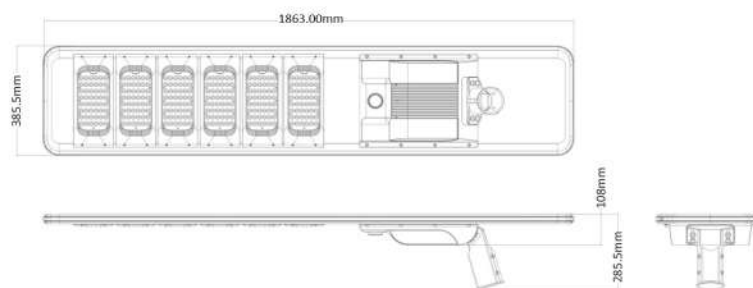
CM6200-N50W/60W



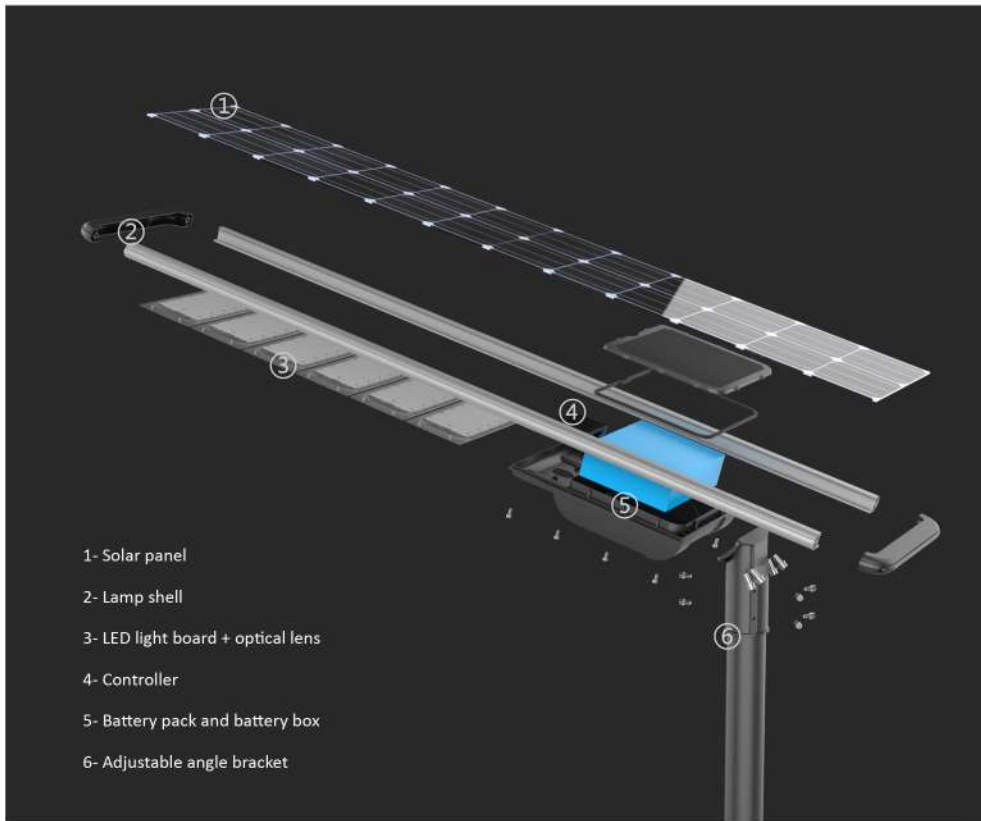
CM6200-N80W



CM6200-N100W



CM6200-N120W/150W



- 1- Solar panel
- 2- Lamp shell
- 3- LED light board + optical lens
- 4- Controller
- 5- Battery pack and battery box
- 6- Adjustable angle bracket



## Controller



### 1. Magnet Power Switch

Before mounted on the pole, take away magnet iron sheet.



### 2. Battery Power Indicators

The 4 blue LEDs in the upper row represent battery power, and 1 indicator led represents 25% power.

- 1 indicator on: 25% power
- 2 indicators on: 25%-50% power
- 3 indicators on: 50%-75% power
- 4 indicators on: 75%-100% power



### 3. Status Indicators LEDs

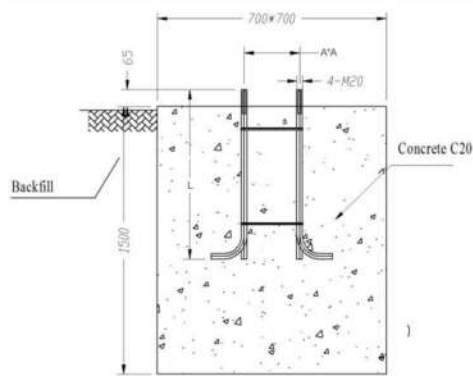
Solar Light Controller Status Indicator		
Indicator Light	Status	Indicator Light description
① Yellow (Motion sensor)	On	Movement Detected
	Off	Without Movement Detected
② Green (LED)	On	LED with output: Light on
	Off	LED without output: Light off
	Flicker	LED Short circuit
③ Blue (Battery)	On	Battery power enough for work
	Off	Battery Without output
	Flicker	Battery undervoltage
④ Red (Solar panel)	On	Battery charged to full power
	Off	Solar panel without output (at night)
	Flicker	Solar panel is charging the battery
⑤ Red & Green & Blue	Cycle light on in sequence	Battery cable plugged in backwards, poor battery connection contact, faulty battery, no battery connected





## Installation

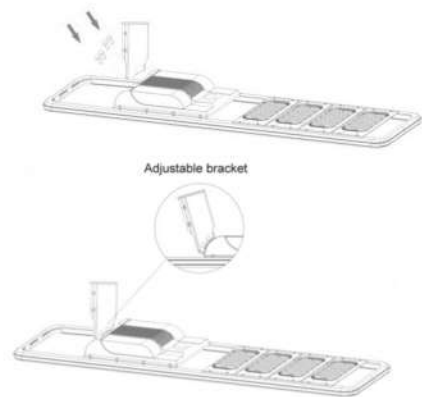
1. Dig a hole according to the size of the foundation cage, put the foundation cage into the hole and fix it with concrete.



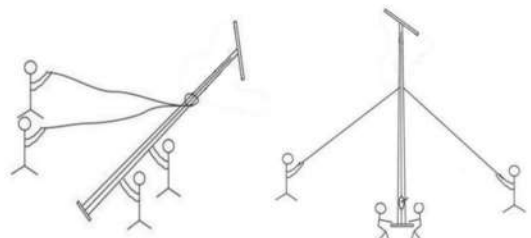
3. Use the supplied screws to fix the lamp on the pole.



2. Use the supplied screws to fix the bracket on the lamp.

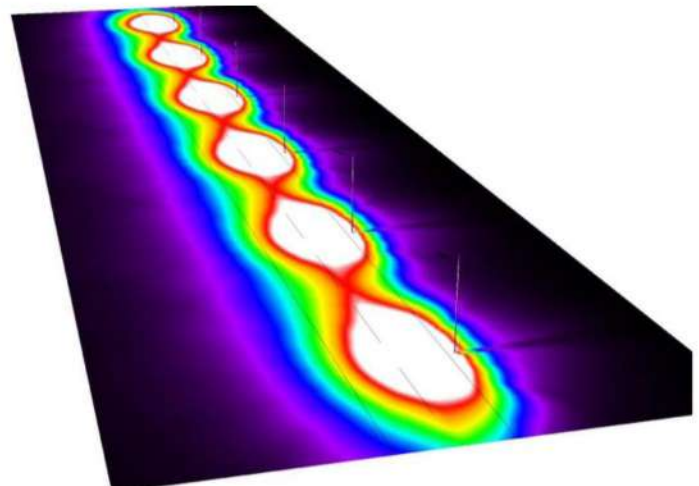
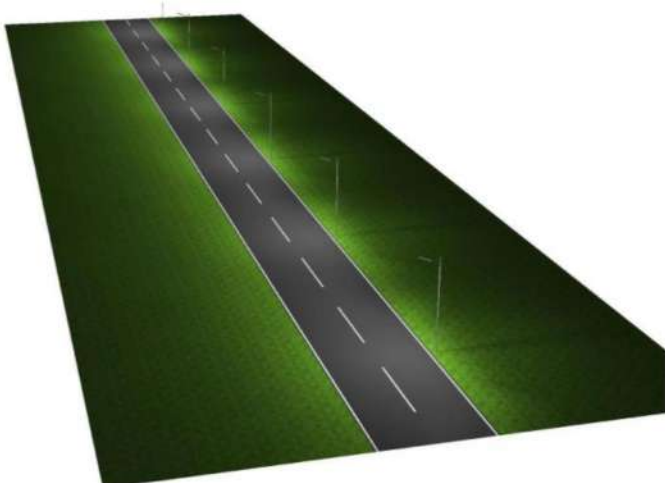


4. Lift the lamp pole by the person or machine, align the bottom flange of the lamp pole with the foundation cage, and then fix the lamp pole with screws.





**Light Distribution Curve**



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# SPECIFICATIONS

Model: IFR32700-6000mAh-4S8P-12.8V-36Ah



Draft	Checked	Approval

## REVISION HISTORY

Date	Contents	Remarks
2021-8-23	1 <sup>st</sup> edition	

# 1. Instruction

This product is a lithium battery pack for energy storage power supply, the pack is composed of 24pcs 32700 LiFePO4 batteries combined in series and in parallel. The battery pack adopt scientific internal structure design, advanced battery production technology, high specific energy, long lifespan, safety and reliability, and wide operating temperature range. It is an ideal green energy storage power product for the photovoltaic industry.

# 2. Battery Parameter

Item	Parameter	Remark
Rated capacity	36Ah	Minimum capacity34.83Ah (standard current charge and discharge)
Rated voltage	12.8V	
Rated power	460.8Wh	
Maximum charging voltage	14.4V	Charging voltage: constant current to constant voltage (3.6V/cell)
Charging cut-off current	0.05C	Charging voltage: constant current to constant voltage, C is the rated capacitance value
Minimum discharge voltage	10.8V	Power-off voltage of electrical equipment (2.7V/cell)
Standard charging current	6A	
Standard discharge current	6A	
Maximum continuous charging current	12A	10°C-35°C
Maximum continuous discharge current	12A	0°C-45°C
Cycle-index	2000 times	Standard current charge and discharge 80%DOD
Weight(about)	5.4kg	subject to reality
Working temperature	Charge, 0°C ~ 45°C	Standard current charge
	Discharge, -10°C ~ 55°C	Standard current discharge
Storage temperature	-20 ~ 45°C	≤1 months
	-20 ~ 35°C	≤3 months
	-20 ~ 25°C	≤12 months
	0~25°C	>12 months, <15 months
Factory state	About 70%SOC (whole pack voltage: 13.0-13.2V)	

### 3. BMS

Item	Character	Parameter
<b>Output voltage</b>	range	9.2V-14.4V
<b>Working current</b>	range	$\leq 20\text{A}$
<b>Operating temperature</b>	range	$-20^{\circ}\text{C} \sim +85^{\circ}\text{C}$
<b>Self-consumption</b>	Self-consumption in working state	$\leq 20\mu\text{A}$
<b>Internal resistance</b>		$\leq 20\text{m}\Omega$
<b>Overcharge protection</b>	Protection voltage	$3.90\pm 0.05\text{V}$
	Recovery voltage	$3.80\pm 0.1\text{V}$
	Over voltage protection delay	$0.5\text{S} \sim 2\text{S}$
<b>Over discharge protection</b>	Protection voltage	$2.0\pm 0.1\text{V}$
	Recovery voltage	$2.3\pm 0.1\text{V}$
	Over voltage protection delay	$10\sim 300\text{ms}$
<b>Short circuit protection</b>	protection delay	$200\sim 500\mu\text{s}$
	Recovery conditions	Disconnect the load, automatic recovery
<b>Temperature protection</b>	Over temperature protection (detecting cell temperature)	/
	recovery temperature/time	/
<b>Charge balance</b>	Charge balance start voltage	$3.6\pm 0.05\text{V}$
	Balance current	$72\pm 10\text{mA}$



## 4. Cell Specifications

NO.	Items	Specifications	Test tools	Comments
1	Max Charge voltage	3.55±0.05V	voltage meter	
2	Min Discharge voltage	2.1±0.05V	voltage meter	
3	Rated capacity	6.0Ah	Secondary batteries testing equipment	Minimum capacity5.88Ah
4	AC Impedance	≤10mΩ	Impedance test equipment	AC impedance 1KHz
5	Standard Charge	0.5C <sub>5</sub> A CC charge to Max Charge voltage, then CV charge till charging current decline to ≤0.01C0.5C <sub>5</sub> A CC	Digital voltage meter; Secondary batteries testing equipment	CC=Constant Current CV=Constant Voltage
6	Charge time	Standard: 7.5hours (Ref.)	Secondary batteries testing equipment	
7	Standard discharge	0.5C <sub>5</sub> A CC discharge to Discharge ending voltage 0.5C <sub>5</sub> A CC	Digital voltage meter; Secondary batteries test equipment	
8	Cell Dimension	H: 70.5±0.5mm Dia.: 32.5±0.2mm	Digital Calipers	Accurate sizes to ±0.01mm
9	Cell pairing conditions	Capacity difference: 50mAh Voltage difference: 10mV Internal resistance difference: 3mΩ		About 10%SOC

## 5. Packing & Appearance

1. The sketch, sizes, color of marking should match GB/T191-2000 requests.
2. Mark: Model and specification of product;
3. Measure up marking;
4. Manufacturing date;
5. Other markings (color.etc).
6. Appearance inspection: scratch, flaw, crack, and leakage are not allowed

## 6. Battery pack performance check and test

NO.	Item	Test Method and Condition	Test tool	Criteria
1	Battery capacity	a. (Standard charging) Charge to the highest voltage with standard charging current and constant voltage voltage, and stop charging when the current drops to the charging cut-off current. b. Set aside for 30 minutes. c. (Standard discharge) Discharge with standard discharge current to the lowest discharge voltage. d. Measure battery capacity	Secondary batteries test equipment	Battery capacity $\geq$ rated capacity (can be discharged to BMS protection if necessary)
2	Cycle life	a. Charge to the highest voltage with standard charging current and constant voltage voltage. When the current drops to the charging cut-off current, stop charging. b. Set aside for 30 minutes. c. Discharge to 80% DOD with standard discharge current. d. Set aside for 30 minutes. e. Record the discharge capacity and repeat	Secondary batteries test equipment	After rated cycles $\geq$ 80% of rated capacity
3	Self discharge	a. After standard charging, store at $25\pm 5^{\circ}\text{C}$ for 28 days, and then discharge with standard discharge current to BMS protection b. Measure and record the discharge capacity	Secondary batteries test equipment	Measured capacity $\geq$ 90% of rated capacity, self-discharge $\leq$ 10%
4	Temperature characteristics	a. Under the condition of $25\pm 5^{\circ}\text{C}$ , after standard charging, standard discharge under the following temperature conditions, measure and record the battery capacity: $25\pm 5^{\circ}\text{C}$ , $-10^{\circ}\text{C}$ , $60^{\circ}\text{C}$ b. Calculate the percentage based on the discharge capacity at $25^{\circ}\text{C}$	Secondary batteries test equipment; Thermotank	$25\pm 5^{\circ}\text{C}$ , 100%-10%, $\geq 60^{\circ}\text{C}$ , $60^{\circ}\text{C}$ , $\geq 85\%$

## 7. Battery pack mechanical characteristics

NO.	Item	Test Method and Condition	Test tools	Criteria
1	Vibration Test	After standard charge, vibrate cell in 1.6mm amplitude and frequency varied at 1 Hz/min. between 10 to 55 Hz and return in within 30 minutes per axis of X,Y,Z axes	Secondary batteries test equipment; Vibration platform	No fire No smoke No explosion
2	Altitude simulation	Batteries should be stored at a pressure of 11.6 kPa or less for at least 6 hrs at ambient temperature ( $20.5^{\circ}\text{C}$ ).	Digital voltage meter; Vacuum box	No fire No venting No leakage
3	High temperature and high humidity test	Keep battery under condition at $40^{\circ}\text{C}\pm 2^{\circ}\text{C}$ temperature & 90%-95%R.H.for 2hours.	Thermomer; Hygrometer	Discharge time $\geq 36\text{m}$ , no distortion, no explosion
4	Drop test	Under the condition of $25\pm 5^{\circ}\text{C}$ , after standard charging, the battery is dropped from a height of 100cm to the hardwood, and the X, Y and Z planes are dropped once each.		No fire No explosion

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## 8. Standard test conditions

Unless otherwise specified, all tests should be conducted within one month of delivery under the following conditions: Temperature:  $20\pm 5^{\circ}\text{C}$  Humidity:  $60\pm 15\%\text{RH}$  Barometric:  $86\text{kpa}-106\text{kpa}$ .

## 9. CAUTIONS IN USE

Please read the manual carefully before using it to ensure properly use.

1. Do not make the battery exposure or thrown into fire.
2. Never reverse charge the battery.
3. Never short circuit the battery.
4. Avoid excessive physical shock or vibration.
5. Do not disassemble or deform the battery.
6. Never allow the battery to get wet or be immersed in water.
7. Do not use different types together.
8. Keep away from children.
9. Charge at the appropriate conditions.
10. Never use the faulty charger to charging.
11. Never keep charging more than 24 hours.

## 10. Storage

1. Store the battery in cool, dry and well-ventilated conditions.
2. Store the battery in a individual room, separate from the other carriage.
3. Regulations vary for different countries. Dispose of in accordance with local regulations.
4. Please store the battery in the adequate temperature as mentioned in specifications and recharge if keep in storage more than 6 months.